Marlborough

Retirement System
Audit Report
January 1, 2016 - December 31, 2020

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 | RICHARD MacKINNON, Jr. | JENNIFER F. SULLIVAN

October 7, 2022

The Public Employee Retirement Administration Commission (PERAC) has completed a review of the audits of the Marlborough Retirement System conducted by the firm of Roselli, Clark & Associates, Certified Public Accountants (RCA). RCA 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, 2016 to December 31, 2020.

We conducted an inspection of the work papers prepared by RCA. 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 performed 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 RCA 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 procurements of investments complied with 23B and that management fees paid were in accordance with contracts, 4) that travel expenses were properly documented and accounted for, 5) that retirement contributions are accurately deducted, 6) that retirement allowances were correctly calculated, and 7) that required member documentation is maintained.

To achieve these objectives, we inspected certain records of the Marlborough Retirement Board in the above areas. Specifically, we reviewed the minutes of the Board meetings for compliance with fiduciary oversight, verified cash balances, examined a sample of investment procurements and recalculated management fees charged. We tested a sample of travel expenses for Board approvals, supporting documentation and proper accounting. 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

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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 with the exception of those related to our supplemental work which are detailed in the findings presented in this report.

It should be noted that the financial statements included in this audit report were based on the work performed by RCA 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, 2020, December 31, 2019, December 31, 2018, December 31, 2017, and December 31, 2016.

In closing, I wish to acknowledge the work of Roselli, Clark & Associates who conducted these examinations, and the PERAC examiners who conducted limited procedures to supplement the field work and express my appreciation to the Marlborough Retirement Board and staff for their courtesy and cooperation.

Sincerely,

John W. Parsons, Esq.
Executive Director

EXPLANATION OF FINDINGS AND RECOMMENDATIONS

1. Regular Compensation:

Our testing found that retirement deductions were not taken from pay code 729 SBET (Special) Education Stipend or pay code 950 Retroactive payments made to members of the School Department.

We also noted that retirement deductions were not taken from pay code 710 After School Programs. Further investigation found that five out of eight employees working in After School Programs are regularly scheduled.

Recommendation: Stipends paid for working in Special Education Programs ought to be included in regular compensation and retirement deductions should have been taken. Retroactive payments should be reviewed to determine if they are related to regular compensation and if so, then deductions must be taken. Those working in the Special Education and After School Programs with "pre-determined, non-discretionary, and guaranteed payments" should have deductions taken on this pay.

MRB needs to review these pay codes and have the School Department set up different codes for after school pay, one pensionable and one not pensionable. The Board should review members identified in the testing with the School Department and make any necessary corrections.

Board Response:

The Board has reviewed all pay codes with the member units. New pay codes have been established for after school programs and special education stipends that will include retirement withholdings for all eligible members.

2. Annual Investment Manager Reviews:

We read the Board meeting minutes from January 2016 through March 2022 and did not find any annual due diligence meetings with the investment managers, in accordance with 840 CMR 16.07(2), during this period.

Recommendation: MRB must meet with their investment managers at least on an annual basis. These meetings need to be documented in the minutes.

Board Response:

The Board is in the process of scheduling annual meetings with their investment managers. These meetings will be properly recorded in the meeting minutes.

FINAL DETERMINATION:

PERAC Audit staff will follow up in six (6) months to ensure appropriate actions have been taken regarding all findings.

SUPPLEMENTARY INFORMATION

SCHEDULE OF ALLOCATION OF INVESTMENTS OWNED

(percentages by category)

	AS OF DECEMBER 31, 2020	
	MARKET VALUE	PERCENTAGE OF TOTAL ASSETS
Cash	$2,283,197	1.1%
Equities	27,771,271	13.1%
Pooled Domestic Equity Funds	56,654,292	26.7%
Pooled International Equity Funds	40,848,370	19.3%
Pooled Domestic Fixed Income Funds	62,581,375	29.5%
Pooled International Fixed Income Funds	5,928,109	2.8%
Pooled Alternative Investment Funds	8,989,306	4.2%
Pooled Real Estate Funds	6,975,593	3.3%
Grand Total	$212,031,513	100.0%

For the year ending December 31, 2020, the rate of return for the investments of the Marlborough Retirement System was 14.98%. For the five-year period ending December 31, 2020, the rate of return for the investments of the Marlborough Retirement System averaged 9.77%. For the 36-year period ending December 31, 2020, since PERAC began evaluating the returns of the retirement systems, the rate of return on the investments of the Marlborough Retirement System was 8.51%.

The composite rate of return for all retirement systems for the year ending December 31, 2020 was 12.82%. For the five-year period ending December 31, 2020, the composite rate of return for the investments of all retirement systems averaged 10.38%. For the 36-year period ending December 31, 2020, since PERAC began evaluating the returns of the retirement systems, the composite rate of return on the investments of all retirement systems averaged 9.32%.

SUPPLEMENTARY INFORMATION (Continued)

ADMINISTRATION OF THE SYSTEM

The System is administered by a five-person Board of Retirement consisting of the City Auditor 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:	Diane M. Smith		
Appointed Member:	Daniel J. Stanhope	Serves until a successor is appointed	
Elected Member:	William S. Taylor	Term Expires:	12/31/2023
Elected Member:	Gregory P. Brewster, Chairperson	Term Expires:	11/17/2023
Appointed Member:	Robert K. Gustafson	Term Expires:	1/31/2024

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 Marlborough Retirement Board has adopted Supplemental Regulations which are available on the PERAC website at https://mass.gov/Marlborough-retirement-board-regulations.

SUPPLEMENTARY INFORMATION (Continued)

ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Sherman Actuarial Services as of January 1, 2021.

The actuarial liability for active members was	$102,745,875
The actuarial liability for non-vested terminated members was	2,643,327
The actuarial liability for retired members was	146,382,858
The total actuarial liability was	$251,772,060
System assets as of that date were (actuarial value)	198,863,212
The unfunded actuarial liability was	$52,908,848
The ratio of system's assets to total actuarial liability was	79.0%
As of that date the total covered employee payroll was	$38,068,187

The normal cost for employees on that date was 9.0% of payroll

The normal cost for the employer (including expenses) was 3.1% of payroll

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

Investment Return: 7.50% per annum

Rate of Salary Increase: 3.75% per annum

SCHEDULE OF FUNDING PROGRESS AS OF JANUARY 1, 2021

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)
1/1/2021	$198,863,212	$251,772,060	$52,908,848	79.0%	$38,068,187	139.0%
1/1/2019	$175,456,238	$233,863,309	$58,407,071	75.0%	$35,950,698	162.5%
1/1/2017	$153,613,129	$200,936,067	$47,322,938	76.4%	$32,561,714	145.3%
1/1/2015	$144,721,256	$204,799,867	$60,078,611	70.7%	$33,257,157	180.6%
1/1/2013	$119,783,323	$180,896,754	$61,113,431	66.2%	$31,830,126	192.0%
1/1/2011	$109,779,783	$160,425,169	$50,645,386	68.4%	$30,462,000	166.3%

SUPPLEMENTARY INFORMATION (Continued)

MEMBERSHIP EXHIBIT

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Retirement in Past Years										
Superannuation	16	16	7	26	27	36	25	18	24	19
Ordinary Disability	0	0	0	1	1	0	0	0	0	0
Accidental Disability	1	3	1	4	2	0	0	2	1	0
Total Retirements	17	19	8	31	30	36	25	20	25	19
Total Retirees, Beneficiaries and Survivors	343	349	346	368	385	410	421	432	444	453
Total Active Members	677	712	693	685	657	633	660	688	679	650
Pension Payments										
Superannuation	$5,376,543	$5,709,790	$5,860,641	$6,253,636	$6,807,922	$7,403,072	$8,147,770	$8,424,249	$9,019,160	$9,217,434
Survivor/Beneficiary Payments	414,809	421,255	449,498	437,367	445,729	455,936	520,586	555,230	554,189	559,731
Ordinary Disability	100,710	102,150	82,010	103,261	118,970	118,837	105,016	89,482	84,642	85,362
Accidental Disability	1,210,555	1,178,575	1,179,726	1,314,041	1,396,885	1,255,922	1,257,196	1,341,987	1,344,164	1,739,620
Other	521,362	525,278	728,287	625,882	634,435	779,489	969,969	1,459,568	980,600	925,219
Total Payments for Year	$7,623,979	$7,937,048	$8,300,163	$8,734,188	$9,403,942	$10,013,256	$11,000,536	$11,870,516	$11,982,756	$12,527,367

SUPPLEMENTARY INFORMATION (Continued)

LEASED PREMISES

The Marlborough Retirement Board leases space for its offices located at 289 Elm Street, Unit 111 in Marlborough. They signed an initial one-year lease which expired on September 30, 2019. The first amendment extended the lease for three years from October 1, 2019 through September 30, 2022. The second amendment to extend the lease for three years ending September 30, 2025 was signed June 28, 2022. The landlord is Sandra and Anthony Antico Real Estate, LLC.

The following schedule displays the minimum lease obligations on non-cancelable operating leases as of December 31, 2020:

For the year ending:	Annual Rent
2021	$24,300
2022	25,500
2023	26,700
2024	27,900
2025 (9 months)	21,600
Total future minimum lease payments required	$126,000

A security deposit and last month's rent of $4,200 total has been paid to the landlord. An additional $600 will be paid for the second amendment.

ROSELLI, CLARK & ASSOCIATES
Certified Public Accountants

RCA
CPA

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM

Basic Financial Statements and
Additional Information

Year Ended December 31, 2020

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

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DECEMBER 31, 2020

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INDEPENDENT AUDITORS' REPORT

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2020, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the System as of December 31, 2020, and the respective changes 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, and the schedules listed under the required supplementary information section in the accompanying table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Roselli, Clark & Associates
Woburn, Massachusetts
September 16, 2021

MANAGEMENT'S DISCUSSION AND ANALYSIS

Our discussion and analysis of the Marlborough Contributory Retirement System's (the "System") financial performance provides an overview of the System's financial activities for the calendar year ended December 31, 2020. You should read it in conjunction with the basic financial statements, footnotes and required supplementary information that follows this discussion.

Financial Highlights

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. The System's actuary estimates that the System is approximately 84% funded at December 31, 2020.

The System's fiduciary net position increased over $24.5 million in 2020 to approximately $212.0 million. Current year additions of over $40.7 million exceeded deductions of approximately $16.2 million. The current year increase in fiduciary net position was approximately $1.1 million lower than the prior year. The System's investment performance for 2020, net of investment management fees, was approximately 14.2% versus 17.6% in 2019. The 2020 net investment return for the System exceeded its long-term expected discount rate, which is currently 7.50%.

Overview of the Financial Statements

The basic financial statements are comprised of the Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Notes to Financial Statements and Required Supplementary Information. The basic financial statements are prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP; specifically, GASB Statement No. 67, *Financial Reporting for Pension Plans.*

The Statement of Fiduciary Net Position reports the System's assets, deferred outflows of resources, liabilities, deferred inflows of resources and fiduciary 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. Over time, the increase or decrease in fiduciary net position serves as a useful indicator of the System's financial health and condition.

The Statement of Changes in Fiduciary Net Position reports additions to and deductions from the System during the year. This statement reflects contributions by members and participating employers along with deductions for retirement benefits, refunds, withdrawals and administrative expenses. Investment income, including realized and unrealized gains/losses, during the year is also presented.

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

This report also includes Required Supplementary Information following the Notes to the Financial Statements that consist of the schedules of changes in net pension liability and related ratios, investment returns and contributions and the notes to the schedule of contributions.

Financial Analysis

The condensed comparative Statements of Net Position for the two most recent years are as follows:

	December 31, 2020	December 31, 2019	Dollar Change	Percent Change
Assets:				
Cash and cash equivalents	$ 22,540	$ 260,274	$ (237,734)	-91.3%
Investments, at fair value	209,748,316	187,298,315	22,450,001	12.0%
Receivables and other assets	2,369,214	1,216,404	1,152,810	94.8%
Total Assets	212,140,070	188,774,993	23,365,077	12.4%
Liabilities	103,315	1,254,537	(1,151,222)	-91.8%
Fiduciary Net Position	$ 212,036,755	$ 187,520,456	$ 24,516,299	13.1%

Total assets at December 31, 2020 approximated $212.1 million and principally consisted of investments recorded at fair value. Total asset increased by approximately $23.4 million in 2020, which was due primarily to a positive investment portfolio performance of approximately 14.2%. Receivables and liabilities consist primarily of open trades receivable and payable at both December 31, 2020 and 2019.

The condensed comparative Statements of Changes in Fiduciary Net Position for the two most recent years are as follows:

	Year Ended December 31, 2020	Year Ended December 31, 2019	Dollar Change	Percent Change
Additions:				
Contributions	$ 13,838,541	$ 13,395,657	$ 442,884	3.3%
Investment income, net	26,862,806	27,828,614	(965,808)	-3.5%
Total Additions	40,701,347	41,224,271	(522,924)	-1.3%
Deductions:				
Benefits and refunds to Plan members	15,903,278	15,376,680	526,598	3.4%
Administrative and other expenses	281,770	276,697	5,073	1.8%
Total Deductions	16,185,048	15,653,377	531,671	3.4%
Change in Fiduciary Net Position	$ 24,516,299	$ 25,570,894	$ (1,054,595)	-4.1%

Fiduciary net position increased approximately $24.5 million in 2020, which was primarily the result of net investment income of approximately $26.9 million for the year.

Contributions to the System's Fiduciary Net Position primarily include employer and employee contributions in addition to transfers from other retirement systems. Contributions for 2020 totaled nearly $13.9 million versus $13.4 million in 2019.

Employer contributions represent the largest source of System contributions. In 2020, employer contributions totaled approximately $9.2 million, or 67% of total contributions, which was higher than the prior year's ratio of 65%. Employer contributions are actuarially determined. Employee contributions

totaled approximately $3.6 million in 2020, which was approximately $185,000 greater than the prior year. This increase was due primarily to the effect of normal pay raises on the System's membership.

Other contributions decreased over $176,000 year-over-year, which was primarily a function of timing and employment trends/movements.

Investment income is presented net of associated investment management expenses. In 2020, the System reported approximately $26.9 million in net investment income versus approximately $27.8 million in 2019. The System's money-weighted rates of return for 2020 and 2019 were approximately 14.2% and 17.6%, respectively.

Deductions to the System's Fiduciary Net Position primarily include pension benefits to members and beneficiaries, refunds to inactive members, transfers and reimbursements to other Massachusetts public retirement systems and administrative expenses. Total deductions in 2020 were approximately $532,000 greater than 2019 total deductions.

Pension benefits to members and beneficiaries represents the largest deduction from Fiduciary Net Position for the System. Pension benefits to members and beneficiaries represented approximately 92% and 90% of total 2020 and 2019 deductions, respectively. Pension benefits to members and beneficiaries increased approximately $820,000, or 6%, in 2020. This increase was due to a greater average number of beneficiaries paid year-over-year coupled with the normal annual cost-of-living adjustments paid by the System.

The increase in pension benefits to members and beneficiaries was offset by an approximate $293,000 decrease in refunds, transfers and reimbursements to other Massachusetts public retirement systems, which is a function of timing and employment trends/movements.

Administrative expenses were relatively consistent year-over-year.

Overall Financial Position

The System's positive investment performance in 2020 permitted it to maintain an approximate 84% funded ratio at December 31, 2020. The System's 30-year investment return as published by PERAC significantly exceeds the discount rate used by the System in its actuarial studies. Provided the System continues to garner strong investment performances, it is possible that the System will achieve fully funded status on or before the expected date included in latest actuarial valuation of 2029.

The System maintains all of its investments in pooled funds. Some of these funds invest in private companies or real estate. The determination of the value of these investments is subjective and the ultimate amount of gains and losses in some of these funds will not be determined until the underlying assets (i.e., the real estate or stock in the private companies) are sold. Furthermore, these types of investments are not as liquid as investments in savings accounts, money markets, certificates of deposits, government securities or debt and equity securities in publicly held U.S. corporations. You should refer to Notes 2 and 4 to these financial statements.

Although the System has been successful in garnering the yields necessary to achieve fully funded status in the required time frame, the System (like so many other institutional investors) has experienced a great deal of volatility in its investments. Management believes that the volatility in the worldwide markets may continue for the foreseeable future, particularly as U.S. and global governments and markets address the COVID-19 pandemic. Accordingly, management intends to actively monitor the System's investment positions to best maximize returns while mitigating risk as best as it can.

Contacting the System's Financial Management Personnel

Our discussion and analysis is designed to provide the Marlborough Retirement 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 Marlborough Retirement Board at 289 Elm Street, Unit 111, Marlborough, MA 01752.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2020

Assets:	
Cash and cash equivalents	$ 22,540
Investments, at fair value	209,748,316
Receivables:	
Contributions	41,247
Open trades	2,246,000
Investment income	81,967
Total Assets	212,140,070
Liabilities:	
Accounts payable and accrued expenses	76,725
Open trades	26,590
Total Liabilities	103,315
Net Position Restricted for Pensions	$ 212,036,755

See accompanying notes to basic financial statements.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
YEAR ENDED DECEMBER 31, 2020

Additions:	
Employer contributions	$ 9,190,898
Employee contributions	3,635,847
Other contributions	993,497
Total contributions	13,820,242
Investment income:	
Interest and dividends	2,593,996
Net appreciation in fair value of investments	25,122,570
Less investment management fees	(853,760)
Total net investment income	26,862,806
Other income	18,299
Total Additions	40,701,347
Deductions:	
Benefits and refunds to Plan members:	
Benefits to retirees and survivors	14,890,287
Member refunds	116,752
Transfers and reimbursements to other systems	896,239
Administrative expenses:	
Operations payroll and related personnel costs	203,740
Other	78,030
Total Deductions	16,185,048
Change in Fiduciary Position	24,516,299
Net Position Restricted for Pensions:	
Beginning of the year	187,520,456
End of the year	$ 212,036,755

See accompanying notes to basic financial statements.

1. DESCRIPTION OF THE PLAN

General – The Marlborough Contributory Retirement System (the "System") is a cost-sharing, multiple employer defined benefit pension plan established and administered by the Marlborough Retirement Board under the provisions of Chapter 32 of the Massachusetts General Laws ("MGL") to provide pension benefits for participants. The System is a component unit of the City of Marlborough, Massachusetts (the "City"). The City and the Marlborough Housing and Community Development Authority (the "Authority") contribute to the System.

Employees of the City (with the exception of teachers and certain administrative personnel employed by the School Department who participate in a separate plan) and the Authority are covered by the System. Participation in the System is mandatory immediately upon the commencement of employment for all permanent, full-time employees.

At December 31, 2020, membership in the System consisted of:

Retirees and beneficiaries currently receiving benefits	453
Active plan members	650
Inactive plan members	251
Total membership	1,354

Plan Benefits – Massachusetts contributory retirement system benefits are uniform from one public pension system to another. For employees with service dates beginning before April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive three-year average annual rate of regular compensation. For those employees who began their service after April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive five-year average annual rate of regular compensation. Benefit payments are based upon a participant's age, length of creditable service, level of compensation and group classification.

The retirement allowance consists of two parts – an annuity and a pension. Participants' accumulated total deductions and a portion of the interest they generate constitute the annuity. The differential between the total retirement benefit and annuity is the pension.

Participants who resign from service and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total contributions. In addition, depending upon the number of years of creditable service, such employees may be entitled to receive interest, which has accrued on those contributions. A vested employee who has not reached their eligible retirement age and elects to leave their accumulated total deductions ion on deposit may apply for benefits upon reaching their eligible retirement age.

Survivor benefits are extended to eligible beneficiaries of participants whose death occurs prior to or following retirement.

Retirement Requirements – In order to receive retirement benefits, participants must meet one of the following two categories:

1) Normal Retirement – Generally, normal retirement occurs between ages 65 and 67. However, most participants with a hire date before April 2, 2012, may retire after twenty years of creditable service or at any time after attaining age 55. For most participants hired on or after April 2, 2012, they must attain the age of 60 before they can retire. Participants with hire dates subsequent to January 1, 1978 must have a minimum of ten years' creditable service in order to retire at age 55 or 60, as applicable. Participants become vested after ten years of creditable service. Benefits commencing before age 65 are generally provided at a reduced rate. However, members working in certain occupations may retire with full benefits earlier than age 65.

2) Disability Retirements – The System provides for both an ordinary and accidental disability retirement. An ordinary disability retirement is where a participant is permanently incapacitated from a cause unrelated to employment. An accidental disability retirement is where the disability is the result of an injury or illness received or aggravated in the performance of their duty.

   The amount of benefits to be received in such cases is dependent upon several factors, including the age at which the disability retirement occurs, the years of creditable service, average compensation and veteran status. In addition, certain provisions are in place relative to death benefits for beneficiaries of employees who die in active service.

Public Availability of Financial Statements – The Marlborough Retirement Board issues a publicly available financial report that includes financial statements and required supplementary information for the System. That report may be obtained by writing to the Marlborough Retirement Board, 289 Elm Street, Unit 111, Marlborough, MA 01752.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting – The financial statements of the System have been prepared on the accrual basis of accounting in accordance with generally accepted accounting principles in the United States of America, or GAAP. Employer contributions are recognized when due and the employer is legally required to provide the contributions. Member contributions are recognized in the period in which the contributions are due. Investment income is recognized in the period earned. Benefits and refunds are recognized when due and payable in accordance with the terms of the pension plan.

Use of Estimates – The preparation of financial statements in conformity GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents – Cash and cash equivalents include cash on hand, demand deposits and short-term holdings with original maturities of three months or less from the date of acquisition.

Investments – The carrying amounts of the System's investments approximate their fair value. When actively quoted observable prices are not available, the System generally uses either implied pricing from similar investments or valuation models based on net present values of estimated future cash flows (adjusted as appropriate for liquidity, credit, market and/or other risk factors).

The System categorizes its fair value measurements within the fair value hierarchy established by GAAP. This hierarchy is based on valuation inputs used to measure the fair value of the asset or liability. The three levels of the hierarchy are as follows:

- *Level 1* – Inputs are quoted prices in active markets for identical investments at the measurement date.
- *Level 2* – Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the investment through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.
- *Level 3* – Inputs reflect the System's best estimate of what market participants would use in pricing the investment at the measurement date.

The remaining investments not categorized under the fair value hierarchy are shown at net asset value ("NAV"). These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed. Investments at NAV are commonly calculated by subtracting the fair value of liabilities from the fair value of assets.

Recently Issued Accounting Pronouncements Not Yet Adopted – In June 2017, the Governmental Accounting Standards Board ("GASB") issued GASB Statement No. 87, *Leases*. As amended, this Statement redefines the manner in which long-term leases are accounted and reported. The provisions of this Statement are effective for financial reporting periods beginning after June 15, 2021 (calendar year 2022). The System is currently evaluating whether adoption will have a material impact on the financial statements.

3. SYSTEM ADMINISTRATION

The System is administered by a five-person Board consisting of the City Auditor, two members who are elected by the participants in or retired from the service of the System, one member appointed by the City Mayor and one member appointed by the other members of the Board.

At the time of this report, the Board was comprised as follows:

		Term Expires
Ex-Officio Member:	Ms. Diane Smith (City Auditor)	No specified date
Appointed Member:	Mr. Daniel Stanhope	No specified date
Elected Member:	Mr. Gregory Brewster (Chairman)	November 17, 2023
Elected Member:	Mr. William Taylor	December 31, 2023
Board Appointed Member:	Mr. Robert Gustafson	April 28, 2024

The Board is required to meet at least once a month and keep a record of its proceedings. The Board annually submits a financial statement of condition for the System with the Commissioner of the Massachusetts Public Employee Retirement Administration Commission, or PERAC. All retirement allowances are approved by the Board. Expenses incurred by the System must be approved by at least two members of the Board.

4. DEPOSITS AND INVESTMENTS

MGL and PERAC regulations require the System to invest funds only in preapproved investment instruments, which include, but are not necessarily limited to, bank deposits, money markets, certificates of deposit, U.S. obligations, repurchase agreements, certain corporate bonds, equities and investment pools.

Custodial Credit Risk: Deposits – Deposits are subject to the risk of bank failure. The System may be unable to recover the full amount of its deposits in any one bank institution in the event of a bank failure. The System's policy for custodial credit risk of deposits is to rely on Federal Deposit Insurance Corporation insurance coverage for the first $250,000 of deposits held at each financial institution. At December 31, 2020, the System had bank deposits of $118,874 exposed to custodial credit risk as these deposits were uninsured and uncollateralized.

Custodial Credit Risk: Investments – Custodial credit risk for investments is the risk that in the event of a 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 the outside party. The System's policy for custodial credit risk of investments intends that all investments are either insured and/or registered in the name of the System. At December 31, 2020, the System was not exposed to custodial credit risk on its investments.

Investment Policy – The investment of the System's funds is the responsibility of the Board. The Board adopted an investment policy statement in July 2015. The investment objective is to grow the System's investments over time while protecting the investment values from undue volatility or risk of loss. The System's investment policy seeks a long-term investment return of 7.5%. The System's investment policy requires diversification within its investment portfolio. The System's portfolio target weights at the broad asset class level and long-term expected rates of return for each of these assets classes were as follows:

Asset Class	Target Allocation	Long-Term Rates of Return
U.S. equities	33%	6.49%
International equities	9%	7.16%
Emerging markets equities	3%	9.46%
Fixed income - core	25%	1.68%
Fixed income - high yield	10%	4.76%
Real estate	5%	4.37%
Hedge fund, GTTA, risk parity	10%	3.60%
Private equity	5%	11.04%

Investment Management – Meketa Investment Group provided investment advisory services to the System throughout all of 2020.

Custody of Investments – Comerica Bank is the custodian of the System's investment portfolio. Comerica Bank held the investment securities of the system at December 31, 2020 and provided investment transaction and reporting services for all of 2020.

Fair Value Measurements: Investments – The following table presents the System's investments carried at fair value on a recurring basis at December 31, 2020:

Investments by Fair Value Level	December 31, 2020	Fair Value Measurements Using Level 1	Level 2	Level 3
Pooled debt securities:				
Domestic fixed income funds	$ 62,581,375	$ 41,717,172	$ -	$ 20,864,203
International fixed income funds	5,928,109	5,928,109	-	-
Total pooled debt securities	68,509,484	47,645,281	-	20,864,203
Equity securities	27,771,271	27,771,271	-	-
Pooled domestic equity funds	56,654,292	56,654,292	-	-
Pooled international equity funds	40,848,370	40,848,370	-	-
Total investments by fair value level	193,783,417	$ 172,919,214	$ -	$ 20,864,203
Investments measured at NAV:				
Real estate funds	6,975,593			
Private equity and venture capital funds	8,989,306			
Total investments measured at NAV	15,964,899			
Total investments measured at fair value	$ 209,748,316			

Investments Measued at NAV by Asset Class	Fair Value	Unfunded Commitments
Real estate funds	$ 6,975,593	$ 3,662,588
Private equity and venture capital funds	8,989,306	6,856,482
	$ 15,964,899	$ 10,519,070

Investments measured at NAV generally include investments in which the System is a general partner in a private equity, venture capital, real estate investment fund or similar investment vehicle. The value of these investments are recorded at values determined in good faith by the general partners of the private equity and venture capital firms after consideration of pertinent information, including current financial position and operative results, price-earnings multiples and available market prices of similar companies' securities, the nature of the 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. In addition, fair values of real estate funds are generally based on independent, third-party appraisals. By their very nature, these investments are illiquid and typically cannot be resold or redeemed. Distributions from each fund will be received as the underlying investments are liquidated. It is expected that the underlying assets for the funds will be liquidated over an average of ten years.

Credit Risk: Investments – This is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. As previously noted, MGL and PERAC have enacted regulations to reduce this risk. In evaluating its credit risk, the System relies on credit ratings assigned by nationally recognized credit rating agencies such as Moody's Investor Services, Inc. and Standard and Poor's Financial Services. The System voluntarily self-imposes certain investment restrictions; however, those can be changed at the Board's discretion. None of the System's investments were subject to credit quality ratings from leading credit rating agencies.

Concentration of Credit Risk: Investments – The following investments held by the System at December 31, 2020 represent approximately 63.6% of the System's total investments:

Rhumbline Advisers S&P 500 Pooled Index Fund	16.3%
SSGA U.S. Aggregate Bond Index Fund	15.1%
Rhumbline Advisers MSCI EAFE Index Fund	11.6%
Frontier Capital Appreciation Fund, L.P.	10.7%
Primus High Yield Bond Fund, L.P.	9.9%

Interest Rate Risk: Investments – Debt securities are subject to interest rate risk. Debt securities may be adversely affected by changes in interest rates, which may negatively affect the fair value of individual debt instruments. The System does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Rate of Return – The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The 2020 money-weighted rate of return was approximately 14.2%.

5. FUNDING

Employer Contributions – Under MGL, participating employers are assessed their share of the total retirement cost based on an independent actuarial study. Employer contributions totaled $9,190,898 in 2020.

Employee Contributions – Employee contribution rates vary based on when an employee commenced their creditable service. Active members contribute 5%, 7%, 8% or 9% of their gross regular compensation depending on when their creditable service commenced. Employees hired after January 1, 1979 contribute an additional 2% of their regular gross compensation over $30,000.

Cost of Living Adjustments – Cost-of-living adjustments granted between 1981 and 1997 and any increase in other pension benefits imposed by the Commonwealth of Massachusetts during those years are the financial responsibility of the Commonwealth. The Commonwealth is expected to continue funding the cost-of-living amounts granted over this period for the duration of their selected retirement option. Cost-of-living adjustments granted after 1997 must be approved and funded by the System. Cost-of-living adjustments cannot exceed the greater of CPI or 3%. The System approved a 3% cost-of-living adjustment on the first $12,000 of pension benefits.

6. NET PENSION LIABILITY

The System is statutorily required to adopt the funding schedule that will fully amortize the unfunded actuarial accrued liability by June 30, 2040. As of the latest actuarial valuation, the System has selected a funding schedule that amortizes the unfunded actuarial accrued liability to $0 by June 30, 2029.

The components of the System's net pension liability at December 31, 2020 (dollar amounts in thousands) were as follows:

Total pension liability	$ 251,772
Plan fiduciary net position	212,037
Net pension liability	$ 39,735
Plan fiduciary net position as a percentage of total pension liability	84.2%

The total pension liability was determined by an actuarial valuation as of January 1, 2021 and rolled back to December 31, 2020. The significant actuarial assumptions used in this valuation report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Mortality is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the group, pre-retirement versus post, disabled and beneficiaries, with Scale MP-2018; improvements until 2025.

Discount Rate – The discount rate used to measure the total pension liability at December 31, 2020 was 7.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions were made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially-determined contribution rates and the member rate. Based on those assumptions, the System'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.

Expected Real Rate of Return – The long-term expected rate of return on System investments was determined using a building-block method in which best-estimate ranges of expected future 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 rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the System's target allocation as of the date of the latest actuarial valuation have been summarized in the investment policy table in Note 4.

Sensitivity Analysis – The following illustrates the net position liability at December 31, 2020 calculated using the current discount rate of 7.5%, as well as the projection of that the net position liability would be if it were calculated using a discount rate that in 1.0% lower or higher than the current rate (dollar amounts in thousands):

Current	Net Pension Liability At		
Discount Rate	1% Decrease	Current Rate	1% Increase
7.50%	$ 67,201	$ 39,735	$ 16,448

7. LEGALLY REQUIRED RESERVE ACCOUNTS

Net position restricted for pensions at December 31, 2020 was comprised of the following legally required reserves:

Description	Amount	Purpose
Annuity savings fund	$ 37,800,682	Active members' contributions balance
Annuity reserve fund	13,778,619	Retired members' contributions balance
Military service fund	31,002	Members' contributions while on military leave
Pension reserve fund	160,426,452	Remaining net fiduciary net position
	$ 212,036,755	

8. COMMITMENTS AND CONTINGENCIES

Facility Lease – In 2018, the System entered into a one-year facility lease with a third party for its office. In August 2019, the facility lease was amended and extended for an additional three years through September 30, 2022. Future minimum annual rental expense obligations due under this facility lease are as follows:

Calendar Year	Lease Payment
2021	$ 24,300
2022	18,900
	$ 43,200

General – The System is subject to a variety of claims that arise from time to time in the ordinary course of business. Although management of the System currently believes that resolving claims against the System, individually or in aggregate, will not have a material adverse impact on the System's financial position or its results of operations, these matters are subject to inherent uncertainties and management's views of these matters may change in the future.

COVID-19 – The COVID-19 pandemic has resulted in global economic slowdowns and disruptions that have and could continue to affect U.S. and global markets and economies. The System's ability to meet its long-term investment return objectives and targets is highly dependent on these markets and economies. The global response to the COVID-19 pandemic is beyond the System's control and the likelihood and extent of further market volatility cannot be predicted.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
(dollar amounts are in thousands)

	2020	2019	2018	2017	2016	2015	2014
Total pension liability:							
Service cost	$ 4,259	$ 4,105	$ 3,861	$ 3,730	$ 7,805	$ 4,422	$ 4,272
Interest	17,725	17,281	15,168	14,838	16,126	15,238	14,605
Differences in expected and actual experience	5,818	-	9,442	-	(23,742)	(2,304)	-
Changes in assumptions	-	-	14,504	-	-	9,560	-
Benefit payments, including refunds	(15,903)	(15,376)	(14,708)	(13,908)	(12,703)	(11,334)	(10,367)
Net change in total pension liability	11,899	6,010	28,267	4,660	(12,514)	15,582	8,510
Total pension liability - beginning of year	239,873	233,863	205,596	200,936	213,450	197,868	189,358
Total pension liability - end of year (a)	$ 251,772	$ 239,873	$ 233,863	$ 205,596	$ 200,936	$ 213,450	$ 197,868
Plan fiduciary net position:							
Contributions - employer	$ 9,190	$ 8,771	$ 8,425	$ 8,468	$ 8,114	$ 7,796	$ 7,700
Contributions - employee	3,636	3,451	3,361	3,288	3,106	2,990	2,995
Contributions - nonemployer contributing entities	993	1,170	1,097	829	652	643	626
Net investment income	26,863	27,829	(8,033)	19,983	11,677	(1,004)	8,083
Benefit payments, including refunds	(15,903)	(15,377)	(14,708)	(13,935)	(12,704)	(11,982)	(10,993)
Administrative expenses	(281)	(277)	(232)	(225)	(234)	(197)	(200)
Other	19	3	2	17	21	14	12
Net change in plan fiduciary net position	24,517	25,570	(10,088)	18,425	10,632	(1,740)	8,223
Plan fiduciary net position - beginning of year	187,520	161,950	172,038	153,613	142,981	144,721	136,498
Plan fiduciary net position - end of year (b)	$ 212,037	$ 187,520	$ 161,950	$ 172,038	$ 153,613	$ 142,981	$ 144,721
Net pension liability - end of year (a) - (b)	$ 39,735	$ 52,353	$ 71,913	$ 33,558	$ 47,323	$ 70,469	$ 53,147
Plan fiduciary net position as a percentage of the total pension liability	84.2%	78.2%	69.2%	83.7%	76.4%	67.0%	73.1%
Covered payroll	$ 39,401	$ 37,209	$ 35,951	$ 33,701	$ 32,565	$ 33,257	$ 32,804
Net pension liability as a percentage of covered payroll	100.8%	140.7%	200.0%	99.6%	145.3%	211.9%	162.0%

These schedules are presented to illustrate the requirement to show information for ten years. However, until a full ten-year trend is complated, information is presented for those years in which information is available.

See accompanying independent auditors' report.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED

SCHEDULE OF CONTRIBUTIONS
(dollar amounts are in thousands)

For Fiscal Year Ended June 30,	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2020	$ 9,206	$ 9,206	$ -	$ 39,401	23.4%
2019	8,771	8,771	-	37,209	23.6%
2018	8,423	8,425	(2)	35,951	23.4%
2017	8,448	8,448	-	33,701	25.1%
2016	8,114	8,114	-	32,562	24.9%
2015	7,796	7,796	-	33,257	23.4%
2014	7,700	7,700	-	32,804	23.5%

SCHEDULE OF INVESTMENT RETURNS

For Year Ended December 31,	Annual Money-Weighted Rate of Return *
2020	14.20%
2019	17.60%
2018	-4.40%
2017	12.98%
2016	8.37%
2015	-0.97%
2014	6.16%

* Net of investment expenses.

These schedules are presented to illustrate the requirement to show information for ten years. However, until a full ten-year trend is completed, information is presented for those years in which information is available.

See accompanying independent auditors' report.

A. CHANGES OF BENEFIT TERMS

The System may be amended or terminated in whole or in part at any time by the Massachusetts Legislature, provided that no such modification, amendment or termination shall be made that would deprive a current member of superannuation pension rights or benefits provided under applicable laws of Massachusetts, if such member has paid the stipulated contributions specified in sections or provisions of such laws. There were no significant changes to the System's benefit terms in 2020.

B. SIGNIFICANT ACTUARIAL ASSUMPTIONS AND METHODS

The significant actuarial assumptions used in the latest actuarial report included:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Mortality is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the group, pre-retirement versus post, disabled and beneficiaries, with Scale MP-2018; improvements until 2025.

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INDEPENDENT AUDITORS' REPORT ON AUDIT OF SPECIFIC ELEMENTS, ACCOUNTS AND ITEMS OF FINANCIAL STATEMENTS

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying schedule of employer allocations of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2020. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources and total pension expense (specified column totals) included in the accompanying schedule of pension amounts by employer of the System as of and for the year ended December 31, 2020, and the related notes thereto.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules 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 opinions on the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer.

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

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities of the System as of and for the year ended December 31, 2020, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the System as of and for the year ended December 31, 2020, and our report thereon, dated [Date Pending], expressed an unmodified opinion on those financial statements.

Roselli, Clark & Associates
Woburn, Massachusetts
September 16, 2021

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF EMPLOYER ALLOCATIONS
YEAR ENDED DECEMBER 31, 2020

Dollar amounts are in thousands

Employer	Actual Employer Contributions	Employer Allocation Percentage
City of Marlborough	$ 9,067	98.65%
Housing and Community Development Authority	124	1.35%
Total	$ 9,191	100.00%

See notes to schedule of employer allocation and schedule of pension amounts by employer.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER
YEAR ENDED DECEMBER 31, 2020

	City of Marlborough	Housing and Community Development	Total
Net pension liability	$ 39,200,348	$ 534,956	$ 39,735,304
Deferred outflows of resources:			
Differences between actual and expected experience	$ 8,002,138	$ 109,202	$ 8,111,340
Changes of assumptions	5,347,044	72,969	5,420,013
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,143,572	62,679	1,206,251
Total deferred outflows of resources	$ 14,492,754	$ 244,850	$ 14,737,604
Deferred inflows of resources:			
Net difference between projected and actual investment earnings on pension plan investments	$ 12,991,889	$ 177,298	$ 13,169,187
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,189,157	17,094	1,206,251
Total deferred inflows of resources	$ 14,181,046	$ 194,392	$ 14,375,438
Pension expense (income):			
Proportionate share of plan pension expense	$ 4,873,249	$ 66,503	$ 4,939,752
Proportionate share of plan pension revenue	(502,674)	(6,860)	(509,534)
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	(17,691)	17,691	-
Total employer pension expense	$ 4,352,884	$ 77,334	$ 4,430,218

See notes to schedule of employer allocation and schedule of pension amounts by employer.

A. INTRODUCTION

GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, establishes financial reporting requirements for governments that provide employees with pension benefits. GASB 68 requires employers to recognize a net pension liability or net pension asset as employees earn pension benefits. Employers participating in the Marlborough Contributory Retirement System (the "Retirement System") will recognize their proportionate share of the collective pension amounts for all benefits provided by the Retirement System.

B. METHOD OF PROPORTIONATE SHARE ALLOCATION

The basis for the proportionate share allocation by employer as found in the Schedule of Employer Allocations and Schedule of Pension Amounts by Employer is consistent with the manner in which employer contributions to the Retirement System are determined. The net pension liability, deferred outflows of resources, deferred inflows of resources and pension expense are based upon actual historical employer contributions to the Retirement System from the census data submitted to the Retirement System for pay periods ending December 31, 2020.

C. EXPECTED FUTURE AMORTIZATION OF DEFERRED BALANCES

The following table summarizes the expected amortization of the net deferred outflows of resources into pension expense (income):

Measurement Period Ended December 31,	City of Marlborough	Housing and Community Development	Total
2021	$ 1,985,217	$ 40,695	$ 2,025,912
2022	4,463,157	81,904	4,545,061
2023	(4,454,713)	(49,124)	(4,503,837)
2024	(1,681,953)	(23,017)	(1,704,970)
	$ 311,708	$ 50,458	$ 362,166

ROSELLI, CLARK & ASSOCIATES
Certified Public Accountants

RCA
CPA

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM

Report on Examination of Basic Financial Statements and Additional Information

Year Ended December 31, 2019

Report on Internal Control and Compliance
Year Ended December 31, 2019

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

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INDEPENDENT AUDITORS' REPORT

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2019, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express opinions 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 auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the System as of December 31, 2019, and the respective changes 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, and the schedules listed under the required supplementary information section in the accompanying table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued a report dated June 1, 2020 on our consideration of the System's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, 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 the 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.

Roselli, Clark & Associates
Woburn, Massachusetts
June 1, 2020

MANAGEMENT'S DISCUSSION AND ANALYSIS

Our discussion and analysis of the Marlborough Contributory Retirement System's (the "System") financial performance provides an overview of the System's financial activities for the calendar year ended December 31, 2019. You should read it in conjunction with the basic financial statements, footnotes and required supplementary information that follows this discussion.

Financial Highlights

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. The System's actuary estimates that the System is approximately 78% funded at December 31, 2019.

The System's fiduciary net position increased nearly $25.6 million in 2019 to approximately $187.5 million. Current year additions of over $41.2 million exceeded deductions of approximately $15.7 million. The current year increase in fiduciary net position was far more favorable that the prior year's reported decrease of approximately $10.1 million. The System's investment performance for 2019, net of investment management fees, was approximately 17.6% versus -4.4% in 2018. The 2019 net investment return for the System exceeded its long-term expected discount rate, which is currently 7.50%.

The benchmark U.S. equity indices were down significantly in the first quarter of 2020. The volatility in U.S. markets is historic and primarily due to the COVID-19 pandemic, which sparked liquidations of equities and debt securities causing market prices of nearly all investment securities to plummet. Additionally, declining worldwide oil prices further exacerbated the situation. The System's next complete actuarial valuation will be based on its fiduciary net position at December 31, 2020, which may be lower than its reported fiduciary net position at December 31, 2019. This will likely result in a deterioration of the System's funding ratio. Furthermore, there may be pressures to reduce the System's current discount rate in future actuarial valuations if this global market correction continues.

Overview of the Financial Statements

The basic financial statements are comprised of the Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Notes to Financial Statements and Required Supplementary Information. The basic financial statements are prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP; specifically, GASB Statement No. 67, *Financial Reporting for Pension Plans*.

The Statement of Fiduciary Net Position reports the System's assets, deferred outflows of resources, liabilities, deferred inflows of resources and fiduciary 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. Over time, the increase or decrease in fiduciary net position serves as a useful indicator of the System's financial health and condition.

The Statement of Changes in Fiduciary Net Position reports additions to and deductions from the System during the year. This statement reflects contributions by members and participating employers along with deductions for retirement benefits, refunds, withdrawals and administrative expenses. Investment income, including realized and unrealized gains/losses, during the year is also presented.

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

This report also includes Required Supplementary Information following the Notes to the Financial Statements that consist of the schedules of changes in net pension liability and related ratios, investment returns and contributions and the notes to the schedule of contributions.

Financial Analysis

The condensed comparative Statements of Net Position for the two most recent years are as follows:

	December 31, 2019	December 31, 2018	Dollar Change	Percent Change
Assets:				
Cash and cash equivalents	$ 260,274	$ 151,380	$ 108,894	71.9%
Investments, at fair value	187,298,315	161,969,918	25,328,397	15.6%
Receivables and other assets	1,216,404	1,233,858	(17,454)	-1.4%
Total Assets	188,774,993	163,355,156	25,419,837	15.6%
Liabilities	1,254,537	1,405,594	(151,057)	-10.7%
Fiduciary Net Position	$ 187,520,456	$ 161,949,562	$ 25,570,894	15.8%

Total assets at December 31, 2019 approximated $188.8 million and principally consisted of investments recorded at fair value. Total asset increased by approximately $25.4 million in 2019, which was due primarily to a positive investment portfolio performance of approximately 17.6%. Receivables and liabilities consist primarily of open trades receivable and payable at both December 31, 2019 and 2018.

The condensed comparative Statements of Changes in Fiduciary Net Position for the two most recent years are as follows:

	Year Ended December 31, 2019	Year Ended December 31, 2018	Dollar Change	Percent Change
Additions:				
Contributions	$ 13,395,657	$ 12,885,388	$ 510,269	4.0%
Investment income, net	27,828,614	(8,033,314)	35,861,928	446.4%
Total Additions	41,224,271	4,852,074	36,372,197	749.6%
Deductions:				
Benefits and refunds to Plan members	15,376,680	14,707,769	668,911	4.5%
Administrative and other expenses	276,697	232,468	44,229	19.0%
Total Deductions	15,653,377	14,940,237	713,140	4.8%
Change in Fiduciary Net Position	$ 25,570,894	$ (10,088,163)	$ 35,659,057	353.5%

Fiduciary net position increased approximately $25.6 million in 2019 primarily as a result of net investment earnings of approximately $27.8 million for the year.

Contributions to the System's Fiduciary Net Position primarily include employer and employee contributions in addition to transfers from other retirement systems. Contributions for 2019 totaled nearly $13.4 million versus $12.9 million in 2018.

Employer contributions represent the largest source of System contributions. In 2019, employer contributions totaled approximately $8.8 million, or 65%, of total contributions, which was consistent with the prior year. Employer contributions are actuarially determined.

Employee contributions totaled approximately $3.5 million in 2019, which was approximately $90,000 greater than the prior year. This increase was due primarily to an increase in the number of active members within the System coupled with the effect normal pay raises.

Other contributions increased nearly $73,000 year-over-year, which was primarily a function of timing and employment trends/movements.

Investment income is presented net of associated investment management expenses. In 2019, the System reported approximately $27.8 million in net investment income versus a loss of approximately $8.0 million in 2018. The System's money-weighted rates of return for 2019 and 2018 were approximately 17.6% and -4.4%, respectively.

Deductions to the System's Fiduciary Net Position primarily include pension benefits to members and beneficiaries, refunds to inactive members, transfers and reimbursements to other Massachusetts public retirement systems and administrative expenses. Total deductions in 2019 were approximately $713,000 greater than 2018 total deductions.

Pension benefits to members and beneficiaries represents the largest deduction from Fiduciary Net Position for the System. Pension benefits to members and beneficiaries represented approximately 90% and 89% of total 2019 and 2018 deductions, respectively. Pension benefits to members and beneficiaries increased approximately $757,000, or 5.7%, in 2019. This increase was due to a greater average number of beneficiaries paid year-over-year coupled with the normal annual cost-of-living adjustments paid by the System.

The increase in pension benefits to members and beneficiaries was offset by an approximate $89,000 decrease in refunds, transfers and reimbursements to other Massachusetts public retirement systems, which is a function of timing and employment trends/movements.

Administrative expenses were relatively consistent year-over-year.

Overall Financial Position

The System's positive investment performance in 2019 permitted it to maintain an approximate 78% funded ratio at December 31, 2019. The System's 30-year investment return as published by PERAC significantly exceeds the discount rate used by the System in its actuarial studies. Provided the System continues to garner strong investment performances, it is possible that the System will achieve fully funded status on or before the expected date included in latest actuarial valuation of 2029.

The System maintains all of its investments in pooled funds. Some of these funds invest in private companies or real estate. The determination of the value of these investments is subjective and the ultimate amount of gains and losses in some of these funds will not be determined until the underlying assets (i.e., the real estate or stock in the private companies) are sold. Furthermore, these types of investments are not as liquid as investments in savings accounts, money markets, certificates of deposits,

government securities or debt and equity securities in publicly held U.S. corporations. You should refer to Notes 2 and 4 to these financial statements.

Although the System has been successful in garnering the yields necessary to achieve fully funded status in the required time frame, the System (like so many other institutional investors) has experienced a great deal of volatility in its investments. Management believes that the volatility in the worldwide markets may continue for the foreseeable future. Accordingly, management intends to actively monitor the System's investment positions to best maximize returns while mitigating risk as best as it can.

Contacting the System's Financial Management Personnel

Our discussion and analysis is designed to provide the Marlborough Retirement 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 Marlborough Retirement Board at 289 Elm Street, Unit 111, Marlborough, MA 01752.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2019

Assets:	
Cash and cash equivalents	$ 260,274
Investments, at fair value	187,298,315
Receivables:	
Contributions	74,580
Open trades	1,100,000
Investment income	41,824
Total Assets	188,774,993
Liabilities:	
Accounts payable and accrued expenses	154,537
Due to custodian	1,083,355
Open trades	16,645
Total Liabilities	1,254,537
Net Position Restricted for Pensions	$ 187,520,456

See accompanying notes to basic financial statements.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
YEAR ENDED DECEMBER 31, 2019

Additions:	
Employer contributions	$ 8,771,243
Employee contributions	3,450,940
Other contributions	1,169,504
Total contributions	13,391,687
Investment income:	
Interest and dividends	2,365,430
Net appreciation in fair value of investments	26,125,516
Less investment management fees	(662,332)
Total net investment income	27,828,614
Other income	3,970
Total Additions	41,224,271
Deductions:	
Benefits and refunds to Plan members:	
Benefits to retirees and survivors	14,070,532
Member refunds	393,220
Transfers and reimbursements to other systems	912,928
Administrative expenses:	
Operations payroll and related personnel costs	198,658
Other	78,039
Total Deductions	15,653,377
Change in Fiduciary Position	25,570,894
Net Position Restricted for Pensions:	
Beginning of the year	161,949,562
End of the year	$ 187,520,456

See accompanying notes to basic financial statements.

1. DESCRIPTION OF THE PLAN

General – The Marlborough Contributory Retirement System (the "System") is a cost-sharing, multiple employer defined benefit pension plan established and administered by the Marlborough Retirement Board under the provisions of Chapter 32 of the Massachusetts General Laws ("MGL") to provide pension benefits for participants. The System is a component unit of the City of Marlborough, Massachusetts (the "City"). The City and the Marlborough Housing and Community Development Authority (the "Authority") contribute to the System.

Employees of the City (with the exception of teachers and certain administrative personnel employed by the School Department who participate in a separate plan) and the Authority are covered by the System. Participation in the System is mandatory immediately upon the commencement of employment for all permanent, full-time employees.

At December 31, 2019, membership in the System consisted of:

Retirees and beneficiaries currently receiving benefits	444
Active plan members	679
Inactive plan members	179
Total membership	1,302

Plan Benefits – Massachusetts contributory retirement system benefits are uniform from one public pension system to another. For employees with service dates beginning before April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive three-year average annual rate of regular compensation. For those employees who began their service after April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive five-year average annual rate of regular compensation. Benefit payments are based upon a participant's age, length of creditable service, level of compensation and group classification.

The retirement allowance consists of two parts – an annuity and a pension. Participants' accumulated total deductions and a portion of the interest they generate constitute the annuity. The differential between the total retirement benefit and annuity is the pension.

Participants who resign from service and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total contributions. In addition, depending upon the number of years of creditable service, such employees may be entitled to receive interest, which has accrued on those contributions. A vested employee who has not reached their eligible retirement age and elects to leave their accumulated total deductions ion on deposit may apply for benefits upon reaching their eligible retirement age.

Survivor benefits are extended to eligible beneficiaries of participants whose death occurs prior to or following retirement.

Retirement Requirements – In order to receive retirement benefits, participants must meet one of the following two categories:

1) Normal Retirement – Generally, normal retirement occurs between ages 65 and 67. However, most participants with a hire date before April 2, 2012, may retire after twenty years of creditable service or at any time after attaining age 55. For most participants hired on or after April 2, 2012, they must attain the age of 60 before they can retire. Participants with hire dates subsequent to January 1, 1978 must have a minimum of ten years' creditable service in order to retire at age 55 or 60, as applicable. Participants become vested after ten years of creditable service. Benefits commencing before age 65 are generally provided at a reduced rate. However, members working in certain occupations may retire with full benefits earlier than age 65.

2) Disability Retirements – The System provides for both an ordinary and accidental disability retirement. An ordinary disability retirement is where a participant is permanently incapacitated from a cause unrelated to employment. An accidental disability retirement is where the disability is the result of an injury or illness received or aggravated in the performance of their duty.

   The amount of benefits to be received in such cases is dependent upon several factors, including the age at which the disability retirement occurs, the years of creditable service, average compensation and veteran status. In addition, certain provisions are in place relative to death benefits for beneficiaries of employees who die in active service.

Public Availability of Financial Statements – The Marlborough Retirement Board issues a publicly available financial report that includes financial statements and required supplementary information for the System. That report may be obtained by writing to the Marlborough Retirement Board, 289 Elm Street, Unit 111, Marlborough, MA 01752.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting – The financial statements of the System have been prepared on the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer is legally required to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the pension plan.

Use of Estimates – The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America, or GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents – Cash and cash equivalents include cash on hand, demand deposits and short-term holdings with original maturities of three months or less from the date of acquisition.

Investments – The carrying amounts of the System's investments approximate their fair value. When actively quoted observable prices are not available, the System generally uses either implied pricing from similar investments or valuation models based on net present values of estimated future cash flows (adjusted as appropriate for liquidity, credit, market and/or other risk factors).

The System categorizes its fair value measurements within the fair value hierarchy established by GAAP. This hierarchy is based on valuation inputs used to measure the fair value of the asset or liability. The three levels of the hierarchy are as follows:

- *Level 1* – Inputs are quoted prices in active markets for identical investments at the measurement date.
- *Level 2* – Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the investment through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.
- *Level 3* – Inputs reflect the System's best estimate of what market participants would use in pricing the investment at the measurement date.

The remaining investments not categorized under the fair value hierarchy are shown at net asset value ("NAV"). These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed. Investments at NAV are commonly calculated by subtracting the fair value of liabilities from the fair value of assets.

The following table presents the fair value of the System's investments by type as of December 31, 2019:

Investments by Fair Value Level	December 31, 2019	Fair Value Measurements Using Level 1	Level 2	Level 3
Pooled debt securities:				
Domestic fixed income funds	$ 79,686,333	$ 60,056,776	$ -	$ 19,629,557
International fixed income funds	5,580,081	5,580,081	-	-
Total pooled debt securities	85,266,414	65,636,857	-	19,629,557
Pooled domestic equity funds	64,573,837	45,619,831	-	18,954,006
Pooled international equity funds	24,053,298	24,053,298	-	-
Total investments by fair value level	173,893,549	$ 135,309,986	$ -	$ 38,583,563
Investments measured at NAV:				
Real estate funds	5,785,965			
Private equity and venture capital funds	7,618,801			
Total investments measured at NAV	13,404,766			
Total investments measured at fair value	$ 187,298,315			

Investments Measued at NAV By Asset Class	Fair Value	Unfunded Commitments
Real estate funds	$ 5,785,965	$ -
Private equity and venture capital funds	7,618,801	12,974,542
	$ 13,404,766	$ 12,974,542

Investments measured at NAV generally include investments in which the System is a general partner in a private equity, venture capital, real estate investment fund or similar investment vehicle. The value of these investments are recorded at values determined in good faith by the general partners of the private equity and venture capital firms after consideration of pertinent information, including current financial position and operative results, price-earnings multiples and available market prices of similar companies' securities, the nature of the 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. In addition, fair values of real estate funds are generally based on independent, third-party appraisals. By their very nature, these investments are illiquid and typically cannot be resold or redeemed. Distributions from each fund will be received as the underlying investments are liquidated. It is expected that the underlying assets for the funds will be liquidated over an average of ten years.

Recently Issued Accounting Pronouncements Not Yet Adopted – In June 2017, the Governmental Accounting Standards Board ("GASB") issued GASB Statement No. 87, *Leases*. As amended, this Statement redefines the manner in which long-term leases are accounted and reported. The provisions of this Statement are effective for financial reporting periods beginning after June 15, 2021 (calendar year 2022). The System is currently evaluating whether adoption will have a material impact on the financial statements.

3. SYSTEM ADMINISTRATION

The System is administered by a five-person Board consisting of the City Auditor, two members who are elected by the participants in or retired from the service of the System, one member appointed by the City Mayor and one member appointed by the other members of the Board.

At the time of this report, the Board was comprised as follows:

		Term Expires
Ex-Officio Member:	Ms. Diane Smith (City Auditor)	No specified date
Appointed Member:	Mr. Daniel Stanhope	February 1, 2021
Elected Member:	Mr. Gregory Brewster (Chairman)	November 17, 2020
Elected Member:	Mr. William Taylor	December 31, 2020
Board Appointed Member:	Mr. David Keene	January 31, 2021

The Board is required to meet at least once a month and keep a record of its proceedings. The Board annually submits a financial statement of condition for the System with the Commissioner of the Massachusetts Public Employee Retirement Administration Commission, or PERAC. All retirement allowances are approved by the Board. Expenses incurred by the System must be approved by at least two members of the Board.

4. DEPOSITS AND INVESTMENTS

MGL and PERAC regulations require the System to invest funds only in preapproved investment instruments, which include, but are not necessarily limited to, bank deposits, money markets, certificates of deposit, U.S. obligations, repurchase agreements, certain corporate bonds, equities and investment pools.

Custodial Credit Risk: Deposits – Deposits are subject to the risk of bank failure. The System may be unable to recover the full amount of its deposits in any one bank institution in the event of a bank failure. The System's policy for custodial credit risk of deposits is to rely on Federal Deposit Insurance Corporation insurance coverage for the first $250,000 of deposits held at each financial institution. At December 31, 2019, the System had bank deposits of $42,952 exposed to custodial credit risk as these deposits were uninsured and uncollateralized.

Investment Policy – The investment of the System's funds is the responsibility of the Board. The Board adopted an investment policy statement in July 2015. The investment objective is to grow the System's investments over time while protecting the investment values from undue volatility or risk of loss. The System's investment policy seeks a long-term investment return of 7.5%. The System's investment policy requires diversification within its investment portfolio. The System's portfolio target weights at the broad asset class level and long-term expected rates of return for each of these assets classes were as follows:

Asset Class	Target Allocation	Long-Term Expected Rates of Return
U.S. equities	33%	6.49%
International equities	9%	7.16%
Emerging markets equities	3%	9.46%
Fixed income - core	25%	1.68%
Fixed income - high yield	10%	4.76%
Real estate	5%	4.37%
Hedge fund, GTTA, risk parity	10%	3.60%
Private equity	5%	11.04%

Investment Management – Meketa Investment Group provided investment advisory services to the System throughout all of 2019.

Custody of Investments – Comerica Bank is the custodian of the System's investment portfolio. Comerica Bank held the investment securities of the system at December 31, 2019 and provided investment transaction and reporting services for all of 2019.

Rate of Return – The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The 2019 money-weighted rate of return was approximately 17.6%.

Custodial Credit Risk: Investments – Custodial credit risk for investments is the risk that in the event of a 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 the outside party. The System's policy for custodial credit risk of investments intends that all investments are either insured and/or registered in the name of the System. At December 31, 2019, the System was not exposed to custodial credit risk on its investments.

Interest Rate Risk: Deposits – This is the risk that fair value losses may arise due to increasing interest rates, such risk is reduced by the fact that the System maintains such funds in highly liquid bank accounts; thereby, allowing for timely reallocation of such holdings should the need arise.

Foreign Currency Risk: Deposits and Investments – The System did not hold any specific security denominated in a foreign currency at December 31, 2019.

Concentration of Credit Risk: Investments – The following investments held by the System at December 31, 2019 represent approximately 85.3% of the System's total investments:

SSGA U.S. Aggregate Bond Index Fund	21.8%
Fiduciary Funds FMI Large Cap Fund	12.9%
Rhumbline Advisers S&P 500 Pooled Index Fund	10.5%
Primus High Yield Bond Fund, L.P.	10.5%
SSGA U.S. TIPS Index Fund	10.2%
Frontier Capital Appreciation Fund, L.P.	10.1%
Rhumbline Advisers MSCI EAFE Index Fund	9.3%

Interest Rate Risk: Investments – Debt securities are subject to interest rate risk. Debt securities may be adversely affected by changes in interest rates, which may negatively affect the fair value of individual debt instruments. The System does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Securities Credit Risk: Investments – In the case of investments, credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. As previously noted, MGL and PERAC have enacted regulations to reduce this risk. In evaluating its credit risk, the System relies on credit ratings assigned by nationally recognized credit rating agencies like Moody's Investors Services and Standard and Poor's Financial Services. The System voluntarily self-imposes certain investment restrictions; however, those can be changed at the Board's discretion.

None of the System's investments were subject to credit quality ratings from leading credit rating agencies.

5. FUNDING

Employer Contributions – Under MGL, participating employers are assessed their share of the total retirement cost based on an independent actuarial study. Employer contributions totaled $8,771,243 in 2019.

Employee Contributions – Employee contribution rates vary based on when an employee commenced their creditable service. Active members contribute 5%, 7%, 8% or 9% of their gross regular compensation depending on when their creditable service commenced. Employees hired on or before January 1, 1979 contribute an additional 2% of their regular gross compensation over $30,000.

Cost of Living Adjustments – Cost-of-living adjustments granted between 1981 and 1997 and any increase in other pension benefits imposed by the Commonwealth of Massachusetts during those years are the financial responsibility of the Commonwealth. The Commonwealth is expected to continue funding the cost-of-living amounts granted over this period for the duration of their selected retirement option. Cost-of-living adjustments granted after 1997 must be approved and funded by the System. Cost-of-living adjustments cannot exceed the greater of CPI or 3%. The System approved a 3% cost-of-living adjustment on the first $12,000 of pension benefits.

6. NET PENSION LIABILITY

The System is statutorily required to adopt the funding schedule that will fully amortize the unfunded actuarial accrued liability by June 30, 2040. As of the latest actuarial valuation, the System has selected a funding schedule that amortizes the unfunded actuarial accrued liability to $0 by June 30, 2028.

The components of the System's net pension liability at December 31, 2019 (dollar amounts in thousands) were as follows:

Total pension liability	$ 239,873
Plan fiduciary net position	187,520
Net pension liability	$ 52,353
Plan fiduciary net position as a percentage of total pension liability	78.2%

The total pension liability was determined by an actuarial valuation as of January 1, 2019 and rolled forward to December 31, 2019. The significant actuarial assumptions used in this valuation report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Mortality is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the group, pre-retirement versus post-retirement, disables and beneficiaries, with Scale MP-2018; improvements until 2025.

Discount Rate – The discount rate used to measure the total pension liability in the December 31, 2019 actuarial valuation report was 7.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions were made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially-determined contribution rates and the member rate. Based on those assumptions, the System'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.

Expected Real Rate of Return – The long-term expected rate of return on System investments was determined using a building-block method in which best-estimate ranges of expected future 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 rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the System's target allocation as of the date of the latest actuarial valuation have been summarized in the investment policy table in Note 4.

Sensitivity Analysis – The following illustrates the net position liability at December 31, 2019 calculated using the current discount rate of 7.5%, as well as the projection of that the net position liability would be if it were calculated using a discount rate that in 1.0% lower or higher than the current rate (dollar amounts in thousands):

Current	Net Pension Liability At:		
Discount Rate	1% Decrease	Current Rate	1% Increase
7.50%	$ 79,128	$ 52,353	$ 30,120

7. LEGALLY REQUIRED RESERVE ACCOUNTS

Net position restricted for pensions, as of December 31, 2019 were comprised of the following legally required reserves:

Description	Amount	Purpose
Annuity savings fund	$ 36,379,355	Active members' contributions balance
Annuity reserve fund	14,030,222	Retired members' contributions balance
Military service fund	16,043	Members' contributions while on military leave
Pension fund	1,380,789	Amounts appropriate for fund future retirement
Pension reserve fund	135,714,047	Remaining net fiduciary net position
	$ 187,520,456	

8. COMMITMENTS AND CONTINGENCIES

Facility Lease – In 2018, the System entered into a one-year facility lease with a third party for its office. In August 2019, the facility lease was amended and extended for an additional three years through September 30, 2022. Future minimum annual rental expense obligations due under this facility lease are as follows:

Calendar Year	Lease Payment
2020	$ 23,100
2021	24,300
2022	18,900
	$ 66,300

General – The System is subject to a variety of claims that arise from time to time in the ordinary course of business. Although management of the System currently believes that resolving claims against the System, individually or in aggregate, will not have a material adverse impact on the System's financial position or its results of operations, these matters are subject to inherent uncertainties and management's views of these matters may change in the future.

9. SUBSEQUENT EVENT

In March 2020, the World Health Organization declared the breakout of the novel coronavirus COVID-19 as a pandemic. Subsequent to this declaration, worldwide bond and equity markets experienced significant volatility. Substantial liquidation of investments caused market prices for virtually all investment classes to decline significantly, including the investments held by the System. The ultimate impact of this matter on the System's financial condition cannot be reasonably estimated at this time.

* * * * * *

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
(dollar amounts are in thousands)

	2019	2018	2017	2016	2015	2014
Total pension liability:						
Service cost	$ 4,105	$ 3,861	$ 3,730	$ 7,805	$ 4,422	$ 4,272
Interest	17,281	15,168	14,838	16,126	15,238	14,605
Differences between expected and actual experience	-	9,442	-	(23,742)	(2,304)	-
Changes in assumptions	-	14,504	-	-	9,560	-
Benefit payments, including refunds	(15,376)	(14,708)	(13,908)	(12,703)	(11,334)	(10,367)
Net change in total pension liability	6,010	28,267	4,660	(12,514)	15,582	8,510
Total pension liability - beginning of year	233,863	205,596	200,936	213,450	197,868	189,358
Total pension liability - end of year (a)	$ 239,873	$ 233,863	$ 205,596	$ 200,936	$ 213,450	$ 197,868
Plan fiduciary net position:						
Contributions - employer	$ 8,771	$ 8,425	$ 8,468	$ 8,114	$ 7,796	$ 7,700
Contributions - employee	3,451	3,361	3,288	3,106	2,990	2,995
Contributions - nonemployer contributing entities	1,170	1,097	829	652	643	626
Net investment income	27,829	(8,033)	19,983	11,677	(1,004)	8,083
Benefit payments, including refunds	(15,377)	(14,708)	(13,935)	(12,704)	(11,982)	(10,993)
Administrative expenses	(277)	(232)	(225)	(234)	(197)	(200)
Other	3	2	17	21	14	12
Net change in plan fiduciary net position	25,570	(10,088)	18,425	10,632	(1,740)	8,223
Plan fiduciary net position - beginning of year	161,950	172,038	153,613	142,981	144,721	136,498
Plan fiduciary net position - end of year (b)	$ 187,520	$ 161,950	$ 172,038	$ 153,613	$ 142,981	$ 144,721
Net pension liability - end of year (a) - (b)	$ 52,353	$ 71,913	$ 33,558	$ 47,323	$ 70,469	$ 53,147
Plan fiduciary net position as a percentage of the total pension liability	78.17%	69.25%	83.68%	76.45%	66.99%	73.14%
Covered payroll	$ 37,209	$ 35,951	$ 33,701	$ 32,565	$ 33,257	$ 32,804
Net pension liability as a percentage of covered payroll	140.70%	200.03%	99.58%	145.32%	211.89%	162.01%

These schedules are presented to illustrate the requirement to show information for ten years. However, until a full ten-year trend is complated, information is presented for those years in which information is available.

See accompanying independent auditors' report.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED

SCHEDULE OF CONTRIBUTIONS
(dollar amounts are in thousands)

	2019	2018	2017	2016	2015	2014
Actuarially-determined contribution	$ 8,771	$ 8,423	$ 8,448	$ 8,114	$ 7,796	$ 7,700
Contributions in relation to the actuarially-determined contribution	8,771	8,425	8,448	8,114	7,796	7,700
Contribution deficiency (excess)	$ -	$ (2)	$ -	$ -	$ -	$ -
Covered payroll	$ 37,209	$ 35,951	$ 33,701	$ 32,562	$ 33,257	$ 32,804
Contribution as a percentage of covered payroll	23.57%	23.43%	25.07%	24.92%	23.44%	23.47%

SCHEDULE OF INVESTMENT RETURNS

	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	17.60%	-4.40%	12.98%	8.37%	-0.97%	6.16%

These schedules are presented to illustrate the requirement to show information for ten years. However, until a full ten-year trend is completed, information is presented for those years in which information is available.

See accompanying independent auditors' report.

A. CHANGES OF BENEFIT TERMS

The System may be amended or terminated in whole or in part at any time by the Massachusetts Legislature, provided that no such modification, amendment or termination shall be made that would deprive a current member of superannuation pension rights or benefits provided under applicable laws of Massachusetts, if such member has paid the stipulated contributions specified in sections or provisions of such laws. There were no significant changes to the System's benefit terms in 2019.

B. SIGNIFICANT ACTUARIAL ASSUMPTIONS AND METHODS

The significant actuarial assumptions used in the latest actuarial report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Mortality is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the group, pre-retirement versus post-retirement, disables and beneficiaries, with Scale MP-2018; improvements until 2025.

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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited, 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, the financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2019, and the related notes to the financial statements which collectively comprise the System's basic financial statements and have issued our report thereon dated June 1, 2020.

Internal Control Over Financial Reporting

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

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

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

Compliance and Other Matters

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

Purpose of this Report

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

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
June 1, 2020

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INDEPENDENT AUDITORS' REPORT ON AUDIT OF SPECIFIC ELEMENTS, ACCOUNTS AND ITEMS OF FINANCIAL STATEMENTS

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying schedule of employer allocations of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2019. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources and total pension expense (specified column totals) included in the accompanying schedule of pension amounts by employer of the System as of and for the year ended December 31, 2019, and the related notes thereto.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules 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 opinions on the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 Audit 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 schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer.

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

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities of the System as of and for the year ended December 31, 2019, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the System as of and for the year ended December 31, 2019, and our report thereon, dated June 1, 2020, expressed an unmodified opinion on those financial statements.

Roselli, Clark & Associates
Woburn, Massachusetts
June 1, 2020

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF EMPLOYER ALLOCATIONS
YEAR ENDED DECEMBER 31, 2019

Dollar amounts are in thousands

Employer	Actual Employer Contributions	Employer Allocation Percentage
City of Marlborough	$ 8,653	98.65%
Housing and Community Development Authority	118	1.35%
Total	$ 8,771	100.00%

See notes to schedule of employer allocation and schedule of pension amounts by employer.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER
YEAR ENDED DECEMBER 31, 2019

	City of Marlborough	Housing and Community Development	Total
Net pension liability	$ 51,647,611	$ 705,352	$ 52,352,963
Deferred outflows of resources:			
Differences between actual and expected experience	$ 5,425,579	$ 74,097	$ 5,499,676
Changes of assumptions	9,905,993	135,285	10,041,278
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,047,855	80,460	1,128,315
Total deferred outflows of resources	$ 16,379,427	$ 289,842	$ 16,669,269
Deferred inflows of resources:			
Differences between actual and expected experience	$ 3,534,604	$ 48,272	$ 3,582,876
Net difference between projected and actual investment earnings on pension plan investments	3,688,560	50,373	3,738,933
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,111,565	16,750	1,128,315
Total deferred inflows of resources	$ 8,334,729	$ 115,395	$ 8,450,124
Pension expense (income):			
Proportionate share of plan pension expense	$ 7,951,389	$ 105,547	$ 8,056,936
Proportionate share of plan pension revenue	(511,996)	(6,993)	(518,989)
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	(17,785)	17,785	-
Total employer pension expense (income)	$ 7,421,608	$ 116,339	$ 7,537,947

See notes to schedule of employer allocation and schedule of pension amounts by employer.

A. INTRODUCTION

GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, establishes financial reporting requirements for governments that provide employees with pension benefits. GASB 68 requires employers to recognize a net pension liability or net pension asset as employees earn pension benefits. Employers participating in the Marlborough Contributory Retirement System (the "Retirement System") will recognize their proportionate share of the collective pension amounts for all benefits provided by the Retirement System.

B. METHOD OF PROPORTIONATE SHARE ALLOCATION

The basis for the proportionate share allocation by employer as found in the Schedule of Employer Allocations and Schedule of Pension Amounts by Employer is consistent with the manner in which employer contributions to the Retirement System are determined. The net pension liability, deferred outflows of resources, deferred inflows of resources and pension expense is based upon actual historical employer contributions to the Retirement System from the census data submitted to the Retirement System for pay periods ending December 31, 2019.

C. EXPECTED FUTURE AMORTIZATION OF DEFERRED BALANCES

The following table summarizes the expected amortization of the net deferred outflows of resources into pension expense (income):

Measurement Period Ended December 31:	City of Marlborough	Housing and Community Development	Total
2020	$ 2,065,980	$ 46,239	$ 2,112,219
2021	3,313,567	58,962	3,372,529
2022	5,791,502	100,178	5,891,680
2023	(3,126,351)	(30,932)	(3,157,283)
	$ 8,044,698	$ 174,447	$ 8,219,145

ROSELLI, CLARK & ASSOCIATES
Certified Public Accountants

RCA
CPA

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM

Report on Examination of Basic Financial Statements and Additional Information

Year Ended December 31, 2018

Report on Internal Control and Compliance
Year Ended December 31, 2018

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

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INDEPENDENT AUDITORS' REPORT

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2018, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express opinions 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 auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the System as of December 31, 2018, and the respective changes 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, and the schedules listed under the required supplementary information section in the accompanying table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued a report dated September 3, 2019 on our consideration of the System's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, 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 the 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.

Roselli, Clark & Associates
Woburn, Massachusetts
September 3, 2019

MANAGEMENT'S DISCUSSION AND ANALYSIS

Our discussion and analysis of the Marlborough Contributory Retirement System's (the "System") financial performance provides an overview of the System's financial activities for the calendar year ended December 31, 2018. You should read it in conjunction with the basic financial statements, footnotes and required supplementary information that follows this discussion.

Financial Highlights

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. The System's actuary estimates that the System is approximately 69% funded at December 31, 2018.

The System's money-weighted return on investments, net of investment management fees, was approximately -4.4% in 2018. The negative return on investments in 2018 was due primarily to a significant decline in the U.S. equity markets in the fourth calendar quarter of 2018. Prior to the fourth calendar quarter, the U.S. equity markets were on track to meet or exceed the System's targeted annual investment return (currently 7.5% per annum). It's important to note that the U.S. equity markets rebounded significantly in the first two calendar quarters of 2019, which erased nearly all of the fourth calendar quarter of 2018's losses.

This negative return on investments was the primary contributor to the nearly $10.1 million decrease in the System's fiduciary net position in 2018.

Overview of the Financial Statements

This discussion and analysis is intended as an introduction to the System's basic financial statements. The basic 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.

Statement of Fiduciary Net Position – presents information on the System's assets, deferred outflows of resources, liabilities, deferred inflows of resources and fiduciary 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. Over time, the increase or decrease in fiduciary net position serves as a useful indicator of the System's financial health and condition.

Statement of Changes in Fiduciary Net Position – presents information showing how the System's fiduciary net position changed during the year. It reflects contributions by members and participating employers along with deductions for retirement benefits, refunds, withdrawals and administrative expenses. Investment income, including realized and unrealized gains and losses on investments, during the year is also presented.

Notes to the Financial Statements – provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

Required Supplementary Information – includes this management's discussion and analysis and various unaudited schedules.

Financial Analysis

Fiduciary Net Position

The System's total assets as of December 31, 2018, approximated $163.4 million and principally consisted of investments recorded at fair value. Total assets decreased over $10.6 million, or approximately 6.1% from December 31, 2017. System receivables and liabilities at December 31, 2018 and 2017 primarily consisted of open trades and various trade payables.

	December 31, 2018	December 31, 2017
Assets:		
Cash and cash equivalents	$ 151,380	$ 1,365,052
Investments, at fair value	161,969,918	171,473,746
Receivables and other assets	1,233,858	1,163,831
Total Assets	163,355,156	174,002,629
Liabilities	1,405,594	1,964,904
Fiduciary Net Position	$ 161,949,562	$ 172,037,725

Change in Fiduciary Net Position

The negative annual investment return in 2018 resulted in negative net investment income of approximately $8.0 million. The 2018 net investment return was -4.4% versus 13.0% in 2017. The negative investment return was the primary cause of the nearly $10.1 million decrease in fiduciary net position in 2018.

	Year Ended December 31, 2018	Year Ended December 31, 2017
Additions:		
Contributions	$ 12,885,388	$ 12,602,209
Investment income, net	(8,033,314)	19,982,736
Total Additions	4,852,074	32,584,945
Deductions:		
Benefits and refunds to Plan members	14,707,769	13,935,231
Administrative and other expenses	232,468	225,118
Total Deductions	14,940,237	14,160,349
Change in Fiduciary Net Position	$ (10,088,163)	$ 18,424,596

Additions – The amount needed to finance pension benefits is accumulated through the collection of employers and employees' contributions, reimbursements from the Commonwealth of Massachusetts for pre-1998 Cost of Living Adjustments and through earnings on investments. Employer and employee contributions increased approximately $283,000, or 2.2%, in 2018. This increase is due primarily to an increase in membership transfers from other Massachusetts retirement systems into the System, which is a function of timing.

As previously noted, the money-weighted rate of return, net of investment expense, was approximately -4.4% in 2018 versus 13.0% in 2017. The negative investment return contributed greatly to the significant decrease in net investment income year-over-year.

Deductions – The primary deductions for the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions and the costs of administering the system. Benefit and refund payments to Plan members in 2018 were approximately $773,000, or 5.5%, higher than the prior year. This increase was due primarily to an increase in member transfers from the System to other Massachusetts retirement systems as well as an increase in the number of beneficiaries paid year-over-year. Administrative expenses were fairly consistent year-over-year.

Overall Financial Position

The System's funding ratio of approximately 69% at December 31, 2018, which is a significant decrease from the 84% funding ratio that was actuarially estimated at December 31, 2017. This sharp decline was due to the significant investment losses recognized by the System in 2018 together with a change in mortality tables used in the most current actuarial report.

The System maintains all of its investments in pooled funds. Some of these funds invest in private companies or real estate. The determination of the value of these investments is subjective and the ultimate amount of gains and losses in some of these funds will not be determined until the underlying assets (i.e., the real estate or stock in the private companies) are sold. Furthermore, these types of investments are not as liquid as investments in savings accounts, money markets, certificates of deposits, government securities or debt and equity securities in publicly-held U.S. corporations. You should refer to Notes 2 and 4 to these financial statements.

Although the System has, in the past, been successful in garnering the yields necessary to achieve fully funded status in the required time frame, the System (like so many other institutional investors) has experienced a great deal of volatility in its investments. Management believes that the volatility in the worldwide markets may continue for the foreseeable future. Accordingly, management intends to actively monitor the System's investment positions to best maximize returns while mitigating risk as best as it can.

Contacting the System's Financial Management Personnel

Our discussion and analysis is designed to provide the Marlborough Retirement 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 Marlborough Retirement Board at 255 Main Street, Room 201, Marlborough, MA 01752.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2018

Assets:	
Cash and cash equivalents	$ 151,380
Investments, at fair value	161,969,918
Receivables:	
Contributions	103,186
Open trades	1,090,000
Investment income	40,672
Total Assets	163,355,156
Liabilities:	
Accounts payable and accrued expenses	315,594
Due to custodian	1,072,686
Open trades payable	17,314
Total Liabilities	1,405,594
Net Position Restricted for Pensions	$ 161,949,562

See accompanying notes to basic financial statements.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
YEAR ENDED DECEMBER 31, 2018

Additions:	
Employer contributions	$ 8,425,314
Employee contributions	3,360,754
Other contributions	1,096,802
Total contributions	12,882,870
Investment income:	
Interest and dividends	2,865,121
Net depreciation in fair value of investments	(10,268,275)
Less investment management fees	(630,160)
Total net investment income	(8,033,314)
Other income	2,518
Total Additions	4,852,074
Deductions:	
Benefits and refunds to Plan members:	
Benefits to retirees and survivors	13,313,040
Member refunds	150,493
Transfers and reimbursements to other systems	1,244,236
Administrative expenses:	
Operations payroll and related personnel costs	177,062
Other	55,406
Total Deductions	14,940,237
Net Change in Net Position	(10,088,163)
Net Position Restricted for Pensions:	
Beginning of the year	172,037,725
End of the year	$ 161,949,562

See accompanying notes to basic financial statements.

1. DESCRIPTION OF THE PLAN

General – The Marlborough Contributory Retirement System (the "System") is a multiple employer defined benefit pension plan established and administered by the Marlborough Retirement Board under the provisions of Chapter 32 of the Massachusetts General Laws to provide pension benefits for participants. The System is a component unit of the City of Marlborough, Massachusetts (the "City"). The City and the Marlborough Housing and Community Development Authority (the "Authority") contribute to the System.

Employees of the City (with the exception of teachers and certain administrative personnel employed by the School Department who participate in a separate plan) and the Authority are covered by the System. Participation in the System is mandatory immediately upon the commencement of employment for all permanent, full-time employees.

At December 31, 2018, membership in the System consisted of:

Retirees and beneficiaries currently receiving benefits	432
Active plan members	688
Inactive plan members	190
Total membership	1,310

Plan Benefits – Massachusetts contributory retirement system benefits are uniform throughout the state. For employees with service dates beginning before April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive three-year average annual rate of regular compensation. For those employees who began their service after April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive five-year average annual rate of regular compensation. Benefit payments are based upon a participant's age, length of creditable service, level of compensation and group classification.

The retirement allowance consists of two parts – an annuity and a pension. Participants' accumulated total deductions and a portion of the interest they generate constitute the annuity. The differential between the total retirement benefit and annuity is the pension.

Participants who resign from service and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total contributions. In addition, depending upon the number of years of creditable service, such employees may be entitled to receive interest, which has accrued on those contributions. A vested employee who has not reached their eligible retirement age and elects to leave their accumulation on deposit may apply for benefits upon reaching their eligible retirement age.

Survivor benefits are extended to eligible beneficiaries of participants whose death occurs prior to or following retirement.

Retirement Requirements – In order to receive retirement benefits, participants must meet one of the following two categories:

Normal Retirement – Generally, normal retirement occurs between ages 65 and 67. However, most participants with a hire date before April 2, 2012, may retire after ten years of service at age 55 or twenty years of service at any age. For most participants hired on or after April 2, 2012, they must attain the age of 60 before they can retire. Participants with hire dates subsequent to January 1, 1978 must have a minimum of ten years' creditable service in order to retire at age 55 or 60, as applicable. Participants become vested after ten years of service. Benefits commencing before age 65 are generally provided at a reduced rate. However, members working in certain occupations may retire with full benefits earlier than age 65.

Participants who resign from service and who are not eligible to receive a retirement allowance or are under the age of 55 may request a refund of their accumulated contributions. In addition, depending on the number of years of creditable service, these employees may be entitled to interest that has accrued on their contributions; for those employees involuntarily terminated with less than ten years of service, this interest rate is 3.0%. A vested employee under the age of 55 who elects to leave their accumulated contributions on deposit may apply for pension benefits upon reaching their eligible retirement age.

Disability Retirements – The System provides for both an ordinary disability retirement, where a participant is permanently incapacitated from a cause unrelated to employment, and an accidental disability retirement, where the disability is the result of an injury or illness received or aggravated in the performance of one's duty. The amount of benefits to be received in such cases is dependent upon several factors, including the age at which the disability retirement occurs, the years of creditable service, average compensation and veteran status. In addition, certain provisions are in place relative to death benefits for beneficiaries of employees who die in active service.

Public Availability of Financial Statements – The Marlborough Retirement Board issues a publicly available financial report that includes financial statements and required supplementary information for the System. That report may be obtained by writing to the Marlborough Retirement Board, 255 Main Street, Room 201, Marlborough, MA 01752.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting – The financial statements of the System have been prepared on the accrual basis of accounting. The accounting records of the System are maintained on a calendar-year basis in accordance with the standards and procedures established by Public Employee Retirement Administration Commission ("PERAC") and Massachusetts law.

Estimates – The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America, or GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents – Cash and cash equivalents include cash on hand, demand deposits and short-term holdings with original maturities of three months or less from the date of acquisition.

Investments – The carrying amounts of the System's investments approximate their fair value. When actively quoted observable prices are not available, the System generally uses either implied pricing from similar investments or valuation models based on net present values of estimated future cash flows (adjusted as appropriate for liquidity, credit, market and/or other risk factors).

The System categorizes its fair value measurements within the fair value hierarchy established by GAAP. This hierarchy is based on valuation inputs used to measure the fair value of the asset or liability. The three levels of the hierarchy are as follows:

- *Level 1* – Inputs are quoted prices in active markets for identical investments at the measurement date.
- *Level 2* – Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the investment through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.
- *Level 3* – Inputs reflect the System's best estimate of what market participants would use in pricing the investment at the measurement date.

The remaining investments not categorized under the fair value hierarchy are shown at net asset value ("NAV"). These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed. Investments at NAV are commonly calculated by subtracting the fair value of liabilities from the fair value of assets.

The following table presents the fair value of the System's investments by type as of December 31, 2018:

	December 31,	Fair Value Measurements Using		
	2018	Level 1	Level 2	Level 3
Investments by fair value level				
Debt securities:				
Pooled domestic fixed income funds	$ 70,697,007	$ 54,750,464	$ -	$ 15,946,543
Pooled international fixed income funds	4,614,381	4,614,381	-	-
Total debt securities	75,311,388	59,364,845	-	15,946,543
Pooled domestic equity funds	52,033,629	37,324,382	-	14,709,247
Pooled international equity funds	23,212,896	23,212,896	-	-
Pooled real estate investment funds	1,883,745	-	-	1,883,745
Total investments by fair value level	152,441,658	$ 119,902,123	$ -	$ 32,539,535
Investments measured at NAV				
Pooled real estate investment funds	5,620,286			
Pooled alternative investment funds	3,907,974			
Total investments measured at NAV	9,528,260			
Total investments measured at fair value	$ 161,969,918			

Investments Measured at NAV By Asset Class	Fair Value	Unfunded Commitments
Pooled real estate investment funds	$ 5,620,286	$ -
Pooled alternative investment funds	3,907,974	2,735,500
	$ 9,528,260	$ 2,735,500

Private equity and real estate holdings generally include investments in which the System is a general partner in a private equity, venture capital fund or similar investment vehicle. The value of these investments are recorded at values determined in good faith by the general partners of the private equity and venture capital firms after consideration of pertinent information, including current financial position and operative results, price-earnings multiples and available market prices of similar companies' securities, the nature of the 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. In addition, fair values of real estate funds are generally based on independent, third-party appraisals. By their very nature, these investments are illiquid and typically cannot be resold or redeemed. Distributions from each fund will be received as the underlying investments are liquidated. It is expected that the underlying assets for the funds will be liquidated over an average of ten years.

Fair Value of Financial Instruments – The carrying amounts of cash and cash equivalents, accounts receivable and other current assets and accounts payable and accrued expenses approximate their fair value due to the relatively short-term maturities.

Revenue Recognition – Contributions are recognized as additions in the period in which they become due pursuant to formal commitments, and statutory or contractual requirements. Contributions appropriated by the City and the Authority are on a fiscal-year basis. Investment purchases and sales are recorded on their trade dates. Interest and dividends are recorded when earned. Investment income is allocated to the various funds on the basis of a rate determined annually by PERAC.

Derivatives – The System may invest in derivative products such as currency hedges to minimize the currency risk on international investments. The System does not have any direct holdings that are classified as derivatives at December 31, 2018.

Recently Issued Accounting Pronouncements Not Yet Adopted – In June 2017, the Governmental Accounting Standards Board ("GASB") issued GASB Statement No. 87, *Leases*. This Statement redefines the manner in which long-term leases are accounted and reported. The provisions of this Statement are effective for financial reporting periods beginning after December 15, 2019 (calendar year 2020). The System is currently evaluating whether adoption will have a material impact on the financial statements.

3. SYSTEM ADMINISTRATION

The System is administered by a five-person Board consisting of the City Auditor, two members who are elected by the participants in or retired from the service of the System, one member appointed by the City Mayor and one member appointed by the other members of the Board.

At the time of this report, the Board was comprised as follows:

		Term Expires
Ex-Officio Member:	Ms. Diane Smith (City Auditor)	No specified date
Appointed Member:	Mr. Daniel Stanhope	February 1, 2021
Elected Member:	Mr. Gregory Brewster (Chairman)	November 17, 2020
Elected Member:	Mr. William Taylor	December 31, 2020
Board Appointed Member:	Mr. David Keene	January 31, 2021

The Board is required to meet at least once a month and keep a record of its proceedings. The Board annually submits a financial statement of condition for the System with the Commissioner of PERAC. All retirement allowances are approved by the Board. Expenses incurred by the System must be approved by a majority of the Board.

4. DEPOSITS AND INVESTMENTS

Massachusetts General Laws Chapter 32 and PERAC regulations require the System to invest funds only in pre-approved investment instruments, which include but are not necessarily limited to bank deposits, money markets, certificates of deposit, U.S. obligations, repurchase agreements, certain corporate bonds and equities and investment pools.

Investment Policy – The investment of the System's funds is the responsibility of the Board. The Board adopted an investment policy statement in July 2015. The investment objective is to grow the System's investments over time while protecting the investment values from undue volatility or risk of loss. The System's investment policy seeks a long-term investment return of 7.5%. The System's investment policy requires diversification within its investment portfolio. The System's portfolio target weights at the broad asset class level and long-term expected rates of return for each of these assets classes were as follows:

Asset Class	Target Allocation	Long-Term Expected Rate of Return
Public domestic equity	33%	6.49%
Public foreign equity:		
Developed markets	9%	7.16%
Emerging markets	3%	9.46%
Fixed income		
High yield	10%	4.76%
Investment grade	25%	1.68%
Private equity	5%	11.04%
Real estate	5%	4.37%
Hedge fund, GTAA, risk parity	10%	3.60%

Rate of Return – The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The 2018 money-weighted rate of return was approximately -4.4%.

Custody of Investments – Comerica Bank is the custodian of the System's investment portfolio. Comerica Bank held the investment securities of the system at December 31, 2018 and provided investment transaction and reporting services for all of 2018.

Investment Management – Meketa Investment Group provided investment advisory services to the System throughout all of 2018. At December 31, 2018, the System had contracted with the following companies to serve as investment managers:

Investment Advisor	Investment Type
Aberdeen Standard Investments	Alternative Investments
Clarion Partners	Real Estate
Colony Realty Partners	Real Estate
Dimensional Fund Advisors	International Equities
Driehaus Capital Management	International Equities
Fiduciary Management, Inc.	Domestic Equities
Frontier Capital	Domestic Equities
Constitution Capital Partners	Alternative Investments
Payden & Rygel	International Fixed Income
Shenkman Capital Management	Domestic Fixed Income
RhumbLine Advisers	Domestic and International Equities
State Street Global Advisors	Domestic Fixed Income

Custodial Credit Risk: Deposits – Deposits are subject to the risk of bank failure. The System may be unable to recover the full amount of its deposits in any one bank institution in the event of a bank failure. The System's policy for custodial credit risk of deposits is to rely on Federal Deposit Insurance Corporation ("FDIC") insurance coverage for the first $250,000 of deposits held at each financial institution. At December 31, 2018, deposits totaling $30,126 were uninsured by the FDIC.

Custodial Credit Risk: Investments – Custodial credit risk for investments is the risk that, in the event of a 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 the outside party. The System's policy for custodial credit risk of investments intends that all investments are either insured and/or registered in the name of the System. At December 31, 2018, the System was not exposed to custodial credit risk on its investments.

Interest Rate Risk: Deposits – This is the risk that fair value losses may arise due to increasing interest rates, such risk is reduced by the fact that the System maintains such funds in highly liquid bank accounts; thereby, allowing for timely reallocation of such holdings should the need arise.

Interest Rate Risk: Investments – Debt securities are subject to interest rate risk. Debt securities may be adversely affected by changes in interest rates, which may negatively affect the fair value of individual debt instruments. The System does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Foreign Currency Risk: Deposits and Investments – The System did not hold any specific security denominated in a foreign currency at December 31, 2018.

Securities Credit Risk: Investments – In the case of investments, there is the risk that in the event of an invested party will be unable to fulfill its obligations, such as to provide required payments to investors, to meet current or future performance expectations, to abide by industry regulations and proper operational practices, ceasing to exist, or filing for bankruptcy. In those instances, the System may not be able to recover the full amount of its principal investment and/or investment earnings. As previously noted, PERAC and Massachusetts statutory regulations have been enacted to reduce this risk. In evaluating its credit risk, the System relies on credit ratings assigned by Moody's Investor Services, Inc. and Standard and Poor's Financial Services, LLC. The System does voluntarily self-impose certain investment restrictions; however, those can be changed at the Board's discretion. The System maintains the majority (approximately 99%) of its monetary assets as investment holdings.

None of the System's pooled fixed income investments were subject to credit quality ratings from leading credit rating agencies. At December 31, 2018, uninsured short-term investment funds with fair values of $150,332 were reported as cash equivalents. These funds represent temporary holdings of excess cash resources. The System intends to reinvest these amounts in less than one year. Accordingly, the fair values of these amounts have been classified as cash equivalents in these financial statements.

Concentration of Credit Risk: Investments – The following investments held by the System at December 31, 2018 represent approximately 84.6% of the System's total investments:

SSGA U.S. Aggregate Bond Index Fund	23.3%
Rhumbline Advisers MSCI EAFE Index Fund	11.0%
Fiduciary Funds FMI Large Cap Fund	10.8%
SSGA U.S. TIPS Index Fund	10.5%
Rhumbline Advisers S&P 500 Pooled Index Fund	10.1%
Primus High Yield Bond Fund, L.P.	9.8%
Frontier Capital Appreciation Fund, L.P.	9.1%
	84.6%

5. FUNDING POLICY

Employee Contributions – Employees whose creditable service began prior to January 1, 1975, contribute 5% of their regular compensation; those whose service date is subsequent to January 1, 1975 and prior to January 1, 1984 contribute 7%; those whose service date is subsequent to January 1, 1984 and prior to July 1, 1996 contribute 8%, and those whose service date is subsequent to July 1, 1996 contribute 9%. In addition, employees hired on or after January 1, 1979 contribute an additional 2% on earnings in excess of $30,000.

Employer Contributions (Funding) – Under the provisions of Chapter 32 of Massachusetts General Law, participating employers are assessed their share of the total retirement cost based on an independent actuarial study.

Employer contributions of $8,425,314 were made in 2018. Employer contributions as a percentage of covered payroll was approximately 23% in 2018.

Cost of Living Adjustment (COLA) – Through 1998, the Massachusetts Legislature was able to grant cost-of-living increases to benefits being paid to retirees. These increases were expressed as a percentage of the retiree's allowance subject to a maximum dollar increase. All COLA's granted from 1982 through June 30, 1998, are reimbursed to the System by the Commonwealth of Massachusetts since the Commonwealth was financially responsible for COLA adjustments during this time frame; any COLA's granted thereafter by the Board are required to be funded by the System directly. A COLA may be approved in excess of the Consumer Price Index, or CPI, but for 2018 is not to exceed 3% annually on the first $12,000 of a retirement allowance. The System has historically approved a COLA annually, usually at the maximum 3% rate.

The Commonwealth is expected to continue funding the cost-of-living amounts granted to retirees prior to 1998 for the duration of their selected retirement option.

6. ACTUARIAL VALUATION

The System is statutorily required to adopt the funding schedule that will fully amortize the unfunded actuarial accrued liability by June 30, 2040. As of the latest actuarial valuation, the System has selected a funding schedule that amortizes the unfunded actuarial accrued liability to $0 by June 30, 2028.

The components of the System's net pension liability at December 31, 2018 (dollar amounts in thousands) were as follows:

Total pension liability	$ 233,863
Plan fiduciary net position	161,950
Net pension liability	$ 71,913
Plan fiduciary net position as a percentage of total pension liability	69.2%

The total pension liability was determined by an actuarial valuation as of December 31, 2018. The significant actuarial assumptions used in this valuation report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Mortality is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the group, pre-retirement versus post-retirement, disables and beneficiaries, with Scale MP-2018; improvements until 2025.

Discount Rate – The discount rate used to measure the total pension liability in the December 31, 2018 actuarial valuation report was 7.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions were made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially-determined contribution rates and the member rate. Based on those assumptions, the System'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.

Expected Real Rate of Return – The long-term expected rate of return on System investments was determined using a building-block method in which best-estimate ranges of expected future 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 rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the System's target allocation as of the date of the latest actuarial valuation have been summarized in the investment policy table in Note 4.

Sensitivity Analysis – The following illustrates the net position liability at December 31, 2018 calculated using the current discount rate of 7.5%, as well as the projection of that the net position liability would be if it were calculated using a discount rate that in 1.0% lower (6.5%) and 1.0% higher (8.5%) that the current rate (dollar amounts in thousands):

	1% Decrease (6.5%)	Current Discount (7.5%)	1% Increase (8.5%)
Net pension liability	$ 97,867	$ 71,913	$ 49,920

7. NET POSITION RESTRICTED FOR PENSIONS

Net position restricted for pensions, as of December 31, 2018, were comprised of four funds:

Description	Amount	Purpose
Annuity Savings Fund	$ 35,596,396	Active members' contribution balance
Annuity Reserve Fund	13,643,030	Retired members' contribution balance
Military Service Fund	16,026	Members' contributions account while on military leave
Pension Fund	273,242	Amounts appropriated to fund future retirement
Pension Reserve Fund	112,420,868	Remaining net assets
	$ 161,949,562	

8. COMMITMENTS AND CONTINGENCIES

Facility Lease – In 2018, the System entered into a one-year facility lease with a third party for its office. In August 2019, the facility lease was amended and extended for an additional three years through September 30, 2022. Future minimum annual rental expense obligations due under this facility lease are as follows:

Calendar Year	Lease Payment
2019	$ 21,900
2020	23,100
2021	24,300
2022	18,900
	$ 88,200

General – The System is subject to a variety of claims that arise from time to time in the ordinary course of business. Although management of the System currently believes that resolving claims against the System, individually or in aggregate, will not have a material adverse impact on the System's financial position or its results of operations, these matters are subject to inherent uncertainties and management's views of these matters may change in the future.

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MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
(dollar amounts are in thousands)

	2018	2017	2016	2015	2014
Total pension liability:					
Service cost	$ 3,861	$ 3,730	$ 7,805	$ 4,422	$ 4,272
Interest	15,168	14,838	16,126	15,238	14,605
Differences between expected and actual experience	9,442	-	(23,742)	(2,304)	-
Changes in assumptions	14,504	-	-	9,560	-
Benefit payments, including refunds	(14,708)	(13,908)	(12,703)	(11,334)	(10,367)
Net change in total pension liability	28,267	4,660	(12,514)	15,582	8,510
Total pension liability - beginning of year	205,596	200,936	213,450	197,868	189,358
Total pension liability - end of year (a)	$ 233,863	$ 205,596	$ 200,936	$ 213,450	$ 197,868
Plan fiduciary net position:					
Contributions - employer	$ 8,425	$ 8,468	$ 8,114	$ 7,796	$ 7,700
Contributions - employee	3,361	3,288	3,106	2,990	2,995
Contributions - nonemployer contributing entities	1,097	829	652	643	626
Net investment income	(8,033)	19,983	11,677	(1,004)	8,083
Benefit payments, including refunds	(14,708)	(13,935)	(12,704)	(11,982)	(10,993)
Administrative expenses	(232)	(225)	(234)	(197)	(200)
Other	2	17	21	14	12
Net change in plan fiduciary net position	(10,088)	18,425	10,632	(1,740)	8,223
Plan fiduciary net position - beginning of year	172,038	153,613	142,981	144,721	136,498
Plan fiduciary net position - end of year (b)	$ 161,950	$ 172,038	$ 153,613	$ 142,981	$ 144,721
Net pension liability - end of year (a) - (b)	$ 71,913	$ 33,558	$ 47,323	$ 70,469	$ 53,147
Plan fiduciary net position as a percentage of the total pension liability	69.25%	83.68%	76.45%	66.99%	73.14%
Covered payroll	$ 35,951	$ 33,701	$ 32,565	$ 33,257	$ 32,804
Net pension liability as a percentage of covered payroll	200.03%	99.58%	145.32%	211.89%	162.01%

These schedules are presented to illustrate the requirement to show information for ten years. However, until a full ten-year trend is completed, information is presented for those years in which information is available.

See accompanying independent auditors' report.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED

SCHEDULE OF CONTRIBUTIONS
(dollar amounts are in thousands)

	2018	2017	2016	2015	2014
Actuarially-determined contribution	$ 8,423	$ 8,448	$ 8,114	$ 7,796	$ 7,700
Contributions in relation to the actuarially-determined contribution	8,425	8,448	8,114	7,796	7,700
Contribution deficiency (excess)	$ (2)	$ -	$ -	$ -	$ -
Covered payroll	$ 35,951	$ 33,701	$ 32,562	$ 33,257	$ 32,804
Contribution as a percentage of covered payroll	23.43%	25.07%	24.92%	23.44%	23.47%

SCHEDULE OF INVESTMENT RETURNS

	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	-4.40%	12.98%	8.37%	-0.97%	6.16%

These schedules are presented to illustrate the requirement to show information for ten years. However, until a full ten-year trend is completed, information is presented for those years in which information is available.

See accompanying independent auditors' report.

A. CHANGES OF BENEFIT TERMS

The System may be amended or terminated in whole or in part at any time by the Massachusetts Legislature, provided that no such modification, amendment or termination shall be made that would deprive a current member of superannuation pension rights or benefits provided under applicable laws of Massachusetts, if such member has paid the stipulated contributions specified in sections or provisions of such laws. There were no significant changes to the System's benefit terms in 2018.

B. SIGNIFICANT ACTUARIAL ASSUMPTIONS AND METHODS

The significant actuarial assumptions used in the December 31, 2018 report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Mortality is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the group, pre-retirement versus post-retirement, disables and beneficiaries, with Scale MP-2018; improvements until 2025.

C. CHANGES OF ASSUMPTIONS

The following changes of assumptions were reflected in the December 31, 2018 actuarial valuation from the previous valuation:

- The mortality rates for pre-retirement, post-retirement and disabilities were modified.

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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited, 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, the financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2018, and the related notes to the financial statements which collectively comprise the System's basic financial statements and have issued our report thereon dated September 3, 2019.

Internal Control Over Financial Reporting

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

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

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

Compliance and Other Matters

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

Purpose of this Report

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

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
September 3, 2019

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INDEPENDENT AUDITORS' REPORT ON AUDIT OF SPECIFIC ELEMENTS, ACCOUNTS AND ITEMS OF FINANCIAL STATEMENTS

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying schedule of employer allocations of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2018. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources and total pension expense (specified column totals) included in the accompanying schedule of pension amounts by employer of the System as of and for the year ended December 31, 2018, and the related notes thereto.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules 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 opinions on the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 Audit 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 schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer.

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

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities of the System as of and for the year ended December 31, 2018, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the System as of and for the year ended December 31, 2018, and our report thereon, dated September 3, 2019, expressed an unmodified opinion on those financial statements.

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
September 3, 2019

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF EMPLOYER ALLOCATIONS
YEAR ENDED DECEMBER 31, 2018

Dollar amounts are in thousands

Employer	Actual Employer Contributions	Employer Allocation Percentage
City of Marlborough	$ 8,325	98.8%
Housing and Community Development Authority	100	1.2%
Total	$ 8,425	100.0%

See notes to schedule of employer allocation and schedule of pension amounts by employer.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER
YEAR ENDED DECEMBER 31, 2018

	City of Marlborough	Housing and Community Development	Total
Net pension liability	$ 71,056,390	$ 857,355	$ 71,913,745
Deferred outflows of resources:			
Differences between actual and expected experience	$ 7,381,825	$ 89,068	$ 7,470,893
Net difference between projected and actual investment earnings on pension plan investments	13,357,660	158,135	13,515,795
Changes of assumptions	14,487,763	174,808	14,662,571
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,121,824	27,872	1,149,696
Total deferred outflows of resources	$ 36,349,072	$ 449,883	$ 36,798,955
Deferred inflows of resources:			
Differences between actual and expected experience	$ 8,994,204	$ 108,523	$ 9,102,727
Changes of assumptions	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,132,846	16,750	1,149,596
Total deferred inflows of resources	$ 10,127,050	$ 125,273	$ 10,252,323
Pension expense (income):			
Proportionate share of plan pension expense	$ 8,596,048	$ 103,723	$ 8,699,771
Proportionate share of plan pension revenue	(507,710)	(3,091)	(510,801)
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	(3,084)	3,084	-
Total employer pension expense (income)	$ 8,085,254	$ 103,716	$ 8,188,970

See notes to schedule of employer allocation and schedule of pension amounts by employer.

A. INTRODUCTION

GASB Statement No, 68, *Accounting and Financial Reporting for Pensions*, establishes financial reporting requirements for governments that provide employees with pension benefits. GASB 68 requires employers to recognize a net pension liability or net pension asset as employees earn pension benefits. Employers participating in the Marlborough Contributory Retirement System (the "Retirement System") will recognize their proportionate share of the collective pension amounts for all benefits provided by the Retirement System.

B. METHOD OF PROPORTIONATE SHARE ALLOCATION

The basis for the proportionate share allocation by employer as found in the Schedule of Employer Allocations and Schedule of Pension Amounts by Employer is consistent with the manner in which employer contributions to the Retirement System are determined. The net pension liability, deferred outflows of resources, deferred inflows of resources and pension expense is based upon actual historical employer contributions to the Retirement System from the census data submitted to the Retirement System for pay periods ending December 31, 2018.

C. EXPECTED FUTURE AMORTIZATION OF DEFERRED BALANCES

The following table summarizes the expected amortization of the net deferred outflows of resources into pension expense:

Measurement Period Ended December 31:	City of Marlborough	Housing and Community Development	Total
2019	$ 5,627,512	$ 71,028	$ 5,698,540
2020	5,203,526	65,913	5,269,439
2021	6,454,514	75,237	6,529,751
2022	8,936,470	112,432	9,048,902
	$ 26,222,022	$ 324,610	$ 26,546,632

ROSELLI, CLARK & ASSOCIATES
Certified Public Accountants

RCA
CPA

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

Report on Examination of
Basic Financial Statements
and Additional Information
Year Ended December 31, 2017

Report on Internal Control and Compliance
Year Ended December 31, 2017

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

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INDEPENDENT AUDITORS' REPORT

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2017, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express opinions 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 auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the System as of December 31, 2017, and the respective changes 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, and the schedules of changes in net pension liability and related ratios, contributions and investment returns as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued a report dated July 6, 2018 on our consideration of the System's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, 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 the 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.

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
July 6, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS

Our discussion and analysis of the Marlborough Contributory Retirement System's (the "System") financial performance provides an overview of the System's financial activities for the calendar year ended December 31, 2017. You should read it in conjunction with the basic financial statements, footnotes and required supplementary information that follows this discussion.

Financial Highlights

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. The System's actuary estimates that the System is approximately 84% funded at December 31, 2017.

The System's fiduciary net position increased over $18.4 million during 2017. This increase was primarily attributable to the System's strong investment performance. Net of investment management fees, the System's investment portfolio returned nearly 13%, which greatly exceeded its targeted long-term investment return.

Overview of the Financial Statements

This discussion and analysis is intended as an introduction to the System's basic financial statements. The basic 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.

Statement of Fiduciary Net Position – presents information on the System's assets, deferred outflows of resources, liabilities, deferred inflows of resources and fiduciary 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. Over time, the increase or decrease in fiduciary net position serves as a useful indicator of the System's financial health and condition.

Statement of Changes in Fiduciary Net Position – presents information showing how the System's fiduciary net position changed during the year. It reflects contributions by members and participating employers along with deductions for retirement benefits, refunds, withdrawals and administrative expenses. Investment income, including realized and unrealized gains on pooled investments, during the year is also presented.

Notes to the Financial Statements – provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

Required Supplementary Information – includes this management's discussion and analysis and various unaudited schedules.

Financial Analysis

Fiduciary Net Position

The System's total assets as of December 31, 2017, approximated $174.0 million and principally consisted of investments recorded at fair value. Total assets increased over $19.0 million, or approximately 12%, from December 31, 2016. System receivables and liabilities at December 31, 2017 and 2016 primarily consisted of open trades.

	December 31, 2017	December 31, 2016
Assets		
Cash and cash equivalents	$ 1,365,052	$ 688,217
Investments	171,473,746	153,335,802
Receivables and other current assets	1,163,831	937,011
Total Assets	174,002,629	154,961,030
Liabilities		
Accounts payable and accrued expenses	1,964,904	1,347,901
Total Liabilities	1,964,904	1,347,901
Fiduciary Net Position	$ 172,037,725	$ 153,613,129

Change in Fiduciary Net Position

The System's 2017 investment return of nearly 13% far exceeded its targeted long-term return of 7.5% and was the primary contributor to the over $18.4 million increase in fiduciary net position. Deductions for benefits and operating expenses increased over $1.2 million, or 9%, year-over-year.

	Year Ended December 31, 2017	Year Ended December 31, 2016
Additions		
Contributions	$ 12,602,209	$ 11,892,532
Net investment income, net of management fees	19,982,736	11,677,249
Total Additions	32,584,945	23,569,781
Deductions		
Benefits and refunds to Plan members	13,935,231	12,703,683
Administrative and other expenses	225,118	234,197
Total Deductions	14,160,349	12,937,880
Change in Fiduciary Net Position	$ 18,424,596	$ 10,631,901

Additions – The amount needed to finance pension benefits is accumulated through the collection of employers and employees' contributions, reimbursements from the Commonwealth of Massachusetts for pre-1998 Cost of Living Adjustments and through earnings on investments. Employer and employee contributions increased nearly $710,000, or 6%, in 2017. Approximately half of this increase was due to an increase in the actuarially-determined employer contributions. Employer contributions represent nearly $8.5 million, or 67%, of total contributions. The remainder of the increase in contributions was due primarily to increases in member transfers from other Massachusetts retirement systems into the System, which is a function of timing.

The System's investment portfolio produced net investment income of nearly $20.0 million in 2017 versus approximately $11.7 million in 2016. The System's money-weighted return on investments, net of investment management fees, was approximately 13.0% and 8.4% in 2017 and 2016, respectively.

Deductions – The primary deductions for the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions and the costs of administering the system. Benefit and refund payments to Plan members in 2017 were approximately $1.2 million, or 10%, higher than the prior year. This increase was due primarily to an increase in the average number of benefit recipients. Additionally, trends in new retiree benefits indicate that new retirees are receiving greater annual retirement benefits than those who retired in the past.

Administrative and other expenses, which primarily consist of System operations payroll, board stipends, legal, and service provider costs remained consistent year-over-year.

Overall Financial Position

The System's funded ratio of approximately 84% at December 31, 2017 places it in the top quarter of Massachusetts public employee retirement systems. Using the assumptions detailed more fully in Note 6 to the financial statements, the System forecasts that it will be fully funded by June 30, 2025, well ahead of the mandated deadline.

The System maintains all of its investments in pooled funds. Some of these funds invest in private companies or real estate. The determination of the value of these investments is subjective and the ultimate amount of gains and losses in some of these funds will not be determined until the underlying assets (i.e., the real estate or stock in the private companies) are sold. Furthermore, these types of investments are not as liquid as investments in savings accounts, money markets, certificates of deposits, government securities or debt and equity securities in publicly-held U.S. corporations. You should refer to Notes 2 and 4 to these financial statements.

Although the System has been successful in garnering the yields necessary to achieve fully funded status in the required time frame, the System (like so many other institutional investors) has experienced a great deal of volatility in its investments. Management believes that the volatility in the worldwide markets may continue for the foreseeable future. Accordingly, management intends to actively monitor the System's investment positions to best maximize returns while mitigating risk as best as it can.

Contacting the System's Financial Management Personnel

Our discussion and analysis is designed to provide the Marlborough Retirement 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 Marlborough Retirement Board at 255 Main Street, Room 201, Marlborough, MA 01752.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2017

ASSETS	
Cash and cash equivalents	$ 1,365,052
Investments	171,473,746
Accounts receivable and other current assets:	
Open trades	1,085,038
Contributions and other	78,793
Total receivables and other current assets	1,163,831
Total assets	174,002,629
DEFERRED OUTFLOWS OF RESOURCES	-
LIABILITIES	
Accounts payable and other current liabilities:	
Open trades	1,905,052
Accounts payable and accrued expenses	59,852
Total accounts payable and other current liabilities	1,964,904
Total liabilities	
DEFERRED INFLOWS OF RESOURCES	-
NET POSITION RESTRICTED FOR PENSIONS	$ 172,037,725

See notes to the financial statements.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
YEAR ENDED DECEMBER 31, 2017

ADDITIONS	
Contributions:	
Employer contributions – appropriations	$ 8,447,807
Employee contributions – member deductions and payments	3,308,538
Transfers from other systems	435,796
Reimbursements from other systems	313,113
Receipts from the Commonwealth of Massachusetts	80,040
Total contributions	12,585,294
Investment earnings, net:	
Interest and dividends	2,717,531
Net appreciation in fair value of investments	17,985,503
Less management fees	(720,298)
Net investment income	19,982,736
Other income	16,915
Total additions	32,584,945
DEDUCTIONS	
Benefits and refunds to Plan members:	
Benefit payments to pensioners and beneficiaries	12,851,199
Member refunds	159,674
Transfers to other systems	575,743
Reimbursements to other systems	348,615
Administrative expenses:	
System operations payroll and board stipends	171,903
Other administrative expenses	53,215
Total deductions	14,160,349
NET INCREASE IN NET POSITION	18,424,596
NET POSITION RESTRICTED FOR PENSIONS	
Beginning of year	153,613,129
End of year	$ 172,037,725

See notes to the financial statements.

1. DESCRIPTION OF THE PLAN

General – The Marlborough Contributory Retirement System (the "System") is a multiple employer defined benefit pension plan established and administered by the Marlborough Retirement Board under the provisions of Chapter 32 of the Massachusetts General Laws to provide pension benefits for participants. The System is a component unit of the City of Marlborough, Massachusetts (the "City"). The City and the Marlborough Housing and Community Development Authority (the "Authority") contribute to the System.

Employees of the City (with the exception of teachers and certain administrative personnel employed by the School Department who participate in a separate plan) and the Authority are covered by the System. Participation in the System is mandatory immediately upon the commencement of employment for all permanent, full-time employees.

At December 31, 2017, membership in the System consisted of:

Retirees and beneficiaries currently receiving benefits	421
Active plan members	660
Inactive plan members	193
Total membership	1,274

Plan Benefits – Massachusetts contributory retirement system benefits are uniform throughout the state. For employees with service dates beginning before April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive three-year average annual rate of regular compensation. For those employees who began their service after April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive five-year average annual rate of regular compensation. Benefit payments are based upon a participant's age, length of creditable service, level of compensation and group classification.

The retirement allowance consists of two parts – an annuity and a pension. Participants' accumulated total deductions and a portion of the interest they generate constitute the annuity. The differential between the total retirement benefit and annuity is the pension.

Participants who resign from service and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total contributions. In addition, depending upon the number of years of creditable service, such employees may be entitled to receive interest, which has accrued on those contributions. A vested employee who has not reached their eligible retirement age and elects to leave his accumulation on deposit may apply for benefits upon reaching his eligible retirement age.

Survivor benefits are extended to eligible beneficiaries of participants whose death occurs prior to or following retirement.

Retirement Requirements – In order to receive retirement benefits, participants must meet one of the following two categories:

Normal Retirement – Generally, normal retirement occurs between ages 65 and 67. However, most participants with a hire date before April 2, 2012, may retire after ten years of service at age 55 or twenty years of service at any age. For most participants hired on or after April 2, 2012, they must attain the age of 60 before they can retire. Participants with hire dates subsequent to January 1, 1978 must have a minimum of ten years' creditable service in order to retire at age 55 or 60, as applicable. Participants become vested after ten years of service. Benefits commencing before age 65 are generally provided at a reduced rate. However, members working in certain occupations may retire with full benefits earlier than age 65.

Participants who resign from service and who are not eligible to receive a retirement allowance or are under the age of 55 may request a refund of their accumulated total contributions. In addition, depending on the number of years of creditable service, these employees may be entitled to interest that has accrued on their contributions; for those employees involuntarily terminated with less than ten years of service, this interest rate is 3.0%. A vested employee under the age of 55 who elects to leave his accumulated contributions on deposit may apply for pension benefits upon reaching their eligible retirement age.

Disability Retirements – The System provides for both an ordinary disability retirement, where a participant is permanently incapacitated from a cause unrelated to employment, and an accidental disability retirement, where the disability is the result of an injury or illness received or aggravated in the performance of one's duty. The amount of benefits to be received in such cases is dependent upon several factors, including the age at which the disability retirement occurs, the years of service, average compensation and veteran status. In addition, certain provisions are in place relative to death benefits for beneficiaries of employees who die in active service.

Public Availability of Financial Statements – The Marlborough Retirement Board issues a publicly available financial report that includes financial statements and required supplementary information for the System. That report may be obtained by writing to the Marlborough Retirement Board, 255 Main Street, Room 201, Marlborough, MA 01752.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting – The financial statements of the System have been prepared on the accrual basis of accounting. The accounting records of the System are maintained on a calendar-year basis in accordance with the standards and procedures established by Public Employee Retirement Administration Commission ("PERAC") and Massachusetts law.

Estimates – The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America, or GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents – Cash and cash equivalents include cash on hand, demand deposits and short-term holdings with original maturities of three months or less from the date of acquisition.

Investments – The carrying amounts of the System's investments approximate their fair value. When actively quoted observable prices are not available, the System generally uses either implied pricing from similar investments or valuation models based on net present values of estimated future cash flows (adjusted as appropriate for liquidity, credit, market and/or other risk factors).

The System categorizes its fair value measurements within the fair value hierarchy established by GAAP. This hierarchy is based on valuation inputs used to measure the fair value of the asset or liability. The three levels of the hierarchy are as follows:

- *Level 1* – Inputs are quoted prices in active markets for identical investments at the measurement date.
- *Level 2* – Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the investment through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.
- *Level 3* – Inputs reflect the System's best estimate of what market participants would use in pricing the investment at the measurement date.

The remaining investments not categorized under the fair value hierarchy are shown at net asset value ("NAV"). These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed. Investments at NAV are commonly calculated by subtracting the fair value of liabilities from the fair value of assets.

The following table presents the fair value of the System's investments by type as of December 31, 2017:

	December 31, 2017	Fair Value Measurements Using Level 1	Level 2	Level 3
Investments by fair value level				
Debt securities:				
Pooled domestic fixed income funds	$ 69,241,394	$ 53,008,445	$ -	$ 16,232,949
Pooled international fixed income funds	4,961,333	4,961,333	-	-
Total debt securities	74,202,727	57,969,778	-	16,232,949
Pooled domestic equity funds	59,103,294	42,022,486	-	17,080,808
Pooled international equity funds	26,986,624	26,986,624	-	-
Pooled real estate investment funds	2,345,800	-	-	2,345,800
Total investments by fair value level	162,638,445	$ 126,978,888	$ -	$ 35,659,557
Investments measured at NAV				
Pooled real estate investment funds	5,328,688			
Pooled alternative investment funds	3,506,613			
Total investments measured at NAV	8,835,301			
Total investments measured at fair value	$ 171,473,746			

Securities classified in Level 1 are valued using prices quoted in active markets for those securities. Securities classified in Level 3 are valued by investments managers and determined in good faith after consideration of pertinent information, including current financial position and operative results, price-earnings multiples and available market prices of similar companies' securities, the nature of the 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.

Investments Measured at NAV By Asset Class	Fair Value	Unfunded Commitments
Pooled real estate investment funds	$ 5,328,688	$ -
Pooled alternative investment funds	3,506,613	2,375,300
	$ 8,835,301	$ 2,375,300

Private equity and real estate holdings generally include investments in which the System is a general partner in a private equity, venture capital fund or similar investment vehicle. The value of these investments are recorded at values determined in good faith by the general partners of the private equity and venture capital firms after consideration of pertinent information, including current financial position and operative results, price-earnings multiples and available market prices of similar companies' securities, the nature of the 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. In addition, fair values of real estate funds are generally based on independent, third-party appraisals. By their very nature, these investments are illiquid and typically cannot be resold or redeemed. Distributions from each fund will be received as the underlying investments are liquidated. It is expected that the underlying assets for the funds will be liquidated over an average of ten years.

Fair Value of Financial Instruments – The carrying amounts of cash and cash equivalents, accounts receivable and other current assets and accounts payable approximate their fair value due to the relatively short-term maturities.

Revenue Recognition – Contributions are recognized as additions in the period in which they become due pursuant to formal commitments, and statutory or contractual requirements. Contributions appropriated by the City and the Authority are on a fiscal-year basis. Investment purchases and sales are recorded on their trade dates. Interest and dividends are recorded when earned. Investment income is allocated to the various funds on the basis of a rate determined annually by PERAC.

Derivatives – The System may invest in derivative products such as currency hedges to minimize the currency risk on international investments. The System does not have any direct holdings that are classified as derivatives at December 31, 2017.

3. SYSTEM ADMINISTRATION

The System is administered by a five-person Board consisting of the City Auditor, two members who are elected by the participants in or retired from the service of the System, one member appointed by the City Mayor and one member appointed by the other members of the Board.

At the time of this report, the Board was comprised as follows:

		Term Expires
Ex-Officio Member:	Ms. Diane Smith (City Auditor)	No specified date
Appointed Member:	Mr. Daniel Stanhope	February 1, 2021
Elected Member:	Mr. Gregory Brewster (Chairman)	November 17, 2020
Elected Member:	Mr. William Taylor	December 31, 2020
Board Appointed Member:	Mr. David Keene	January 31, 2021

The Board is required to meet at least once a month and keep a record of its proceedings. The Board annually submits a financial statement of condition for the System with the Commissioner of PERAC. All retirement allowances are approved by the Board. Expenses incurred by the System must be approved by a majority of the Board.

4. DEPOSITS AND INVESTMENTS

Massachusetts General Laws Chapter 32 and PERAC regulations require the System to invest funds only in pre-approved investment instruments, which include but are not necessarily limited to bank deposits, money markets, certificates of deposit, U.S. obligations, repurchase agreements, certain corporate bonds and equities and investment pools.

Investment Policy – The investment of the System's funds is the responsibility of the Board. The Board adopted an investment policy statement in July 2015. The investment objective is to grow the System's investments over time while protecting the investment values from undue volatility or risk of loss. The System's investment policy seeks a long-term investment return of 7.5%.

The System's investment policy requires diversification within its investment portfolio. The System's portfolio target weights at the broad asset class level and long-term expected rates of return for each of these assets classes were as follows:

Asset Class	Target Allocation	Long-Term Expected Rate of Return
Public domestic equity	33%	6.49%
Public foreign equity:		
Developed markets	9%	7.16%
Emerging markets	3%	9.46%
Fixed income		
High yield	10%	4.76%
Investment grade	25%	1.68%
Private equity	5%	11.04%
Real estate	5%	4.37%
Hedge fund, GTAA, risk parity	10%	3.60%

Rate of Return – The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The 2017 money-weighted rate of return was approximately 12.98%.

Custody of Investments – Comerica Bank is the custodian of the System's investment portfolio. Comerica Bank held the investment securities of the system at December 31, 2017 and provided investment transaction and reporting services for all of 2017.

Investment Management – Meketa Investment Group provided investment advisory services to the System throughout all of 2017. At December 31, 2017, the System had contracted with the following companies to serve as investment managers:

Investment Advisor	Investment Type
Clarion Partners	Real Estate
Colony Realty Partners	Real Estate
Dimensional Fund Advisors	International Equities
Driehaus Capital Management	International Equities
Fiduciary Management, Inc.	Domestic Equities
Frontier Capital	Domestic Equities
Constitution Capital Partners	Alternative Investments
Payden & Rygel	International Fixed Income
Shenkman Capital Management	Domestic Fixed Income
RhumbLine Advisers	Domestic and International Equities
Standard Life Investments	Alternative Investments
State Street Global Advisors	Domestic Fixed Income

Custodial Credit Risk: Deposits – Deposits are subject to the risk of bank failure. The System may be unable to recover the full amount of its deposits in any one bank institution in the event of a bank failure. The System's policy for custodial credit risk of deposits is to rely on Federal Deposit Insurance Corporation ("FDIC") insurance coverage for the first $250,000 of deposits held at each financial institution. At December 31, 2017, $330,014 of the System's bank deposits were not covered by FDIC or other form of depository insurance.

Custodial Credit Risk: Investments – Custodial credit risk for investments is the risk that, in the event of a 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 the outside party. The System's policy for custodial credit risk of investments intends that all investments are either insured and/or registered in the name of the System. At December 31, 2017, the System was not exposed to custodial credit risk on its investments.

Interest Rate Risk: Deposits – This is the risk that fair value losses may arise due to increasing interest rates, such risk is reduced by the fact that the System maintains such funds in highly liquid bank accounts; thereby, allowing for timely re-allocation of such holdings should the need arise.

Interest Rate Risk: Investments – Debt securities are subject to interest rate risk. Debt securities may be adversely affected by changes in interest rates, which may negatively affect the fair value of individual debt instruments. The System does not have a formal investment policy that limits investments maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Foreign Currency Risk: Deposits and Investments –The System did not hold any specific security denominated in a foreign currency at December 31, 2017.

Securities Credit Risk: Investments – In the case of investments, there is the risk that in the event of an invested party will be unable to fulfill its obligations, such as to provide required payments to investors, to meet current or future performance expectations, to abide by industry regulations and proper operational practices, ceasing to exist, or filing for bankruptcy. In those instances, the System may not be able to recover the full amount of its principal investment and/or investment earnings. As previously noted, PERAC and Massachusetts statutory regulations have been enacted to reduce this risk. In evaluating its credit risk, the System relies on credit ratings assigned by Moody's Investor Services, Inc. and Standard and Poor's Financial Services, LLC. The System does voluntarily self-impose certain investment restrictions; however, those can be changed at the Board's discretion. The System maintains the majority (approximately 99%) of its monetary assets as investment holdings.

None of the System's pooled fixed income investments were subject to credit quality ratings from leading credit rating agencies. At December 31, 2017, uninsured short-term investment funds with fair values of $1,362,656 were reported as cash equivalents. These funds represent temporary holdings of excess cash resources. The System intends to reinvest these amounts in less than one year. Accordingly, the fair values of these amounts have been classified as cash equivalents in these financial statements.

Concentration of Credit Risk: Investments – The following investments held by the System at December 31, 2017 represent approximately 87.2% of the System's total investments:

SSGA U.S. Aggregate Bond Index Fund	22.3%
Fiduciary Funds FMI Large Cap Fund	12.7%
Rhumbline Advisers MSCI EAFE Index Fund	12.0%
Rhumbline Advisers S&P 500 Pooled Index Fund	11.8%
Frontier Capital Appreciation Fund, L.P.	10.0%
Primus High Yield Bond Fund, L.P.	9.5%
SSGA U.S. TIPS Index Fund	8.6%
	86.9%

5. FUNDING POLICY

Employee Contributions – Employees whose creditable service began prior to January 1, 1975, contribute 5% of their regular compensation; those whose service date is subsequent to January 1, 1975 and prior to January 1, 1984 contribute 7%; those whose service date is subsequent to January 1, 1984 and prior to July 1, 1996 contribute 8%, and those whose service date is subsequent to July 1, 1996 contribute 9%. In addition, employees hired on or after January 1, 1979 contribute an additional 2% on earnings in excess of $30,000.

Employer Contributions (Funding) – Under the provisions of Chapter 32 of Massachusetts General Law, participating employers are assessed their share of the total retirement cost based on independent actuarial study.

Employer contributions of $8,447,807 were made in 2017. Employer contributions as a percentage of covered payroll was approximately 25% in 2017.

Cost of Living Adjustment (COLA) – Through 1998, the Massachusetts Legislature was able to grant cost-of-living increases to benefits being paid to retirees. These increases were expressed as a percentage of the retiree's allowance subject to a maximum dollar increase. All COLA's granted from 1982 through June 30, 1998, are reimbursed to the System by the Commonwealth of Massachusetts since the Commonwealth was financially responsible for COLA adjustments during this time frame; any COLA's granted thereafter by the Board are required to be funded by the System directly. A COLA may be approved in excess of the Consumer Price Index, or CPI, but for 2017 is not to exceed 3% annually on the first $12,000 of a retirement allowance. The System has historically approved a COLA annually, usually at the maximum 3% rate.

The Commonwealth is expected to continue funding the cost-of-living amounts granted to retirees prior to 1998 for the duration of their selected retirement option.

6. ACTUARIAL VALUATION

The System is statutorily required to adopt the funding schedule that will fully amortize the unfunded actuarial accrued liability by June 30, 2040. As of the latest actuarial valuation, the System has selected a funding schedule that amortizes the unfunded actuarial accrued liability to $0 by June 30, 2025.

The components of the System's net pension liability at December 31, 2017 (dollar amounts in thousands) were as follows:

Total pension liability	$ 205,596
Plan fiduciary net position	172,038
Net pension liability	$ 33,558
Plan fiduciary net position as a percentage of total pension liability	83.7%

The total pension liability was determined by an actuarial valuation as of January 1, 2017. Accounting balances were updated to roll forward to December 31, 2017. The significant actuarial assumptions used in the January 1, 2017 report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Pre-retirement and post-retirement rates reflect the RP-2014 Blue Collar mortality table with Scale MP-2016, fully generational. Group 1 and 2 retirees are set forward 5 years for males and 3 years for females, fully generational. Group 4 retirees are set forward 3 years for males and six years for females, fully generational.
Disabled life mortality:	RP-2000 mortality table set forward 6 years for Group 1 and 2 and 2 years for Group 4.

Discount Rate – The discount rate used to measure the total pension liability in the January 1, 2017 actuarial valuation report was 7.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions were made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially-determined contribution rates and the member rate. Based on those assumptions, the System'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.

Expected Real Rate of Return – The long-term expected rate of return on System investments was determined using a building-block method in which best-estimate ranges of expected future 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 rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the System's target allocation as of the date of the latest actuarial valuation have been summarized in the investment policy table in Note 4.

Sensitivity Analysis – The following illustrates the net position liability at December 31, 2017 calculated using the current discount rate of 7.5%, as well as the projection of that the net position liability would be if it were calculated using a discount rate that in 1.0% lower (6.5%) and 1.0% higher (8.5%) that the current rate (dollar amounts in thousands):

	1% Decrease (6.5%)	Current Discount (7.5%)	1% Increase (8.5%)
Net pension liability	$ 55,430	$ 33,558	$ 14,970

7. NET POSITION RESTRICTED FOR PENSIONS

Net position restricted for pensions, as of December 31, 2017, were comprised of four funds:

Description	Amount	Purpose
Annuity Savings Fund	$ 33,735,411	Active members' contribution balance
Annuity Reserve Fund	13,975,385	Retired members' contribution balance
Military Service Fund	16,011	Members' contributions account while on military leave
Pension Fund	657,240	Amounts appropriated to fund future retirement
Pension Reserve Fund	123,653,678	Remaining net assets
	$ 172,037,725	

8. COMMITMENTS AND CONTINGENCIES

The System is subject to a variety of claims that arise from time to time in the ordinary course of business. Although management of the System currently believes that resolving claims against the System, individually or in aggregate, will not have a material adverse impact on the System's financial position or its results of operations, these matters are subject to inherent uncertainties and management's views of these matters may change in the future.

* * * * * *

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED
YEARS ENDED DECEMBER 31, 2017

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
(Dollar Amounts in Thousands)

	2017	2016	2015	2014
Total pension liability:				
Service cost	$ 3,730	$ 7,805	$ 4,422	$ 4,272
Interest	14,838	16,126	15,238	14,605
Differences between expected and actual experience	-	(23,742)	(2,304)	-
Changes in assumptions	-	-	9,560	-
Benefit payments, including refunds of member contributions	(13,908)	(12,703)	(11,334)	(10,367)
Net change in total pension liability	4,660	(12,514)	15,582	8,510
Total pension liability - beginning of year	200,936	213,450	197,868	189,358
Total pension liability - end of year (a)	$ 205,596	$ 200,936	$ 213,450	$ 197,868
Plan fiduciary net position:				
Contributions - employer	$ 8,468	$ 8,114	$ 7,796	$ 7,700
Contributions - members	3,288	3,106	2,990	2,995
Contributions - nonemployer contributing entities	829	652	643	626
Net investment (loss) income	19,983	11,677	(1,004)	8,083
Benefit payments, including refunds of member contributions	(13,935)	(12,704)	(11,982)	(10,993)
Administrative expenses	(225)	(234)	(197)	(200)
Other	17	21	14	12
Net change in plan fiduciary net position	18,425	10,632	(1,740)	8,223
Plan fiduciary net position - beginning of year	153,613	142,981	144,721	136,498
Plan fiduciary net position - end of year (b)	$ 172,038	$ 153,613	$ 142,981	$ 144,721
Net pension liability - end of year (a) - (b)	$ 33,558	$ 47,323	$ 70,469	$ 53,147
Plan fiduciary net position as a percentage of the total pension liability	83.68%	76.45%	66.99%	73.14%
Covered-employee payroll	$ 33,701	$ 32,562	$ 33,257	$ 32,804
Net pension liability as a percentage of covered-employee payroll	99.58%	145.33%	211.89%	162.01%

Note: This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED
YEARS ENDED DECEMBER 31, 2017

SCHEDULE OF CONTRIBUTIONS
(Dollar Amounts in Thousands)

	2017	2016	2015	2014
Actuarially-determined contribution	$ 8,448	$ 8,114	$ 7,796	$ 7,700
Contributions in relation to the actuarially-determined contribution	8,448	8,114	7,796	7,700
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered-employee payroll	$ 33,701	$ 32,562	$ 33,257	$ 32,804
Contribution as a percentage of covered-employee payroll	25.07%	24.92%	23.44%	23.47%

SCHEDULE OF INVESTMENT RETURNS

	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	12.98%	8.37%	-0.97%	6.16%

Note: These schedules are presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available

See independent auditors' report.

A. CHANGES OF BENEFIT TERMS

The System may be amended or terminated in whole or in part at any time by the Massachusetts Legislature, provided that no such modification, amendment or termination shall be made that would deprive a current member of superannuation pension rights or benefits provided under applicable laws of Massachusetts, if such member has paid the stipulated contributions specified in sections or provisions of such laws. There were no significant changes to the System's benefit terms in 2017.

B. SIGNIFICANT ACTUARIAL ASSUMPTIONS AND METHODS

The significant actuarial assumptions used in the January 1, 2017 report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Pre-retirement and post-retirement rates reflect the RP-2014 Blue Collar mortality table with Scale MP-2016, fully generational. Group 1 and 2 retirees are set forward 5 years for males and 3 years for females, fully generational. Group 4 retirees are set forward 3 years for males and six years for females, fully generational.
Disabled life mortality:	RP-2000 mortality table set forward 6 years for Group 1 and 2 and 2 years for Group 4.

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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited, 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, the financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2017, and the related notes to the financial statements which collectively comprise the System's basic financial statements and have issued our report thereon dated July 6, 2018.

Internal Control Over Financial Reporting

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

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

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

Compliance and Other Matters

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

Purpose of this Report

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

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
July 6, 2018

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INDEPENDENT AUDITORS' REPORT ON AUDIT OF SPECIFIC ELEMENTS, ACCOUNTS AND ITEMS OF FINANCIAL STATEMENTS

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying schedule of employer allocations of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2017. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources and total pension expense (specified column totals) included in the accompanying schedule of pension amounts by employer of the System as of and for the year ended December 31, 2017, and the related notes thereto.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules 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 opinions on the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 Audit 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 schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer.

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

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities of the System as of and for the year ended December 31, 2017, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the System as of and for the year ended December 31, 2017, and our report thereon, dated July 6, 2018, expressed an unmodified opinion on those financial statements.

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
July 6, 2018

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF EMPLOYER ALLOCATIONS
YEAR ENDED DECEMBER 31, 2017

Employer	Actual Employer Contributions	Employer Allocation Percentage
City of Marlborough	$ 8,349,717	98.84%
Housing and Community Development Authority	98,090	1.16%
Total	$ 8,447,807	100.0%

See notes to schedule of employer allocations and schedule of pension amounts by employer.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER
YEAR ENDED DECEMBER 31, 2017

	City of Marlborough	Housing and Community Development	Total
Net pension liability	$ 33,169,029	$ 389,650	$ 33,558,679
Deferred outflows of resources:			
Differences between expected and actual experience	$ -	$ -	$ -
Difference between projected and actual investment earnings on pension plan investments	5,171,502	60,752	5,232,254
Changes of assumptions	4,724,514	55,500	4,780,014
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,140,040	16,776	1,156,816
Total deferred outflows of resources	$ 11,036,056	$ 133,028	$ 11,169,084
Deferred inflows of resources:			
Differences between expected and actual experience	$ 14,452,791	$ 169,783	$ 14,622,574
Difference between projected and actual investment earnings on pension plan investments	7,348,249	86,324	7,434,573
Changes of assumptions	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions	1,139,966	16,750	1,156,716
Total deferred inflows of resources	$ 22,941,006	$ 272,857	$ 23,213,863
Pension expense (income):			
Proportionate share of plan pension expense	$ 644,336	$ 7,700	$ 652,036
Proportionate share of plan pension revenue	(395,352)	(4,644)	(399,996)
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	(128)	128	-
Total employer pension expense	$ 248,856	$ 3,184	$ 252,040

See notes to schedule of employer allocations and schedule of pension amounts by employer.

A. INTRODUCTION

GASB Statement No, 68, *Accounting and Financial Reporting for Pensions*, establishes financial reporting requirements for governments that provide employees with pension benefits. GASB 68 requires employers to recognize a net pension liability or net pension asset as employees earn pension benefits. Employers participating in the Marlborough Contributory Retirement System (the "Retirement System") will recognize their proportionate share of the collective pension amounts for all benefits provided by the Retirement System.

B. METHOD OF PROPORTIONATE SHARE ALLOCATION

The basis for the proportionate share allocation by employer as found in the Schedule of Employer Allocations and Schedule of Pension Amounts by Employer is consistent with the manner in which employer contributions to the Retirement System are determined. The net pension liability, deferred outflows of resources, deferred inflows of resources and pension expense is based upon actual historical employer contributions to the Retirement System from the census data submitted to the Retirement System for pay periods ending December 31, 2017.

C. EXPECTED FUTURE AMORTIZATION OF DEFERRED BALANCES

The following table summarizes the expected amortization of the net deferred outflows of resources into pension expense:

Measurement Period Ended December 31:	City of Marlborough	Housing and Community Development	Total
2018	$ (2,934,968)	$ (34,350)	$ (2,969,318)
2019	(3,429,284)	(40,157)	(3,469,441)
2020	(3,853,402)	(45,138)	(3,898,540)
2021	(2,601,732)	(36,495)	(2,638,227)
2022	914,436	16,311	930,747
	$ (11,904,950)	$ (139,829)	$ (12,044,779)

MARLBOROUGH CONTRIBUTORY
RETIREMENT SYSTEM
(A Component Unit of the
City of Marlborough, Massachusetts)

Report on Examination of
Basic Financial Statements
And Additional Information
Year Ended December 31, 2016

Report on Internal Control and Compliance
Year Ended December 31, 2016

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

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INDEPENDENT AUDITORS' REPORT

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2016, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express opinions 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 auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the System as of December 31, 2016, and the respective changes 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, and the schedules of changes in net pension liability and related ratios, contributions and investment returns as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued a report dated October 27, 2017 on our consideration of the System's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, 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 the 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.

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
October 27, 2017

MANAGEMENT'S DISCUSSION AND ANALYSIS

Our discussion and analysis of the Marlborough Contributory Retirement System's (the "System") financial performance provides an overview of the System's financial activities for the calendar year ended December 31, 2016. You should read it in conjunction with the basic financial statements, footnotes and required supplementary information that follows this discussion.

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 available actuarial information date), the funded ratio was approximately 76% based on the actuarial value of assets at that date.

The System's fiduciary net position increased over $10.6 million during 2016. This increase was primarily attributable to the System's strong investment performance. Net of investment management fees, the System's investment portfolio returned nearly 8.4%, which exceeded its targeted long-term investment return.

Overview of the Financial Statements

This discussion and analysis is intended as an introduction to the System's basic financial statements. The basic 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.

Statement of Fiduciary Net Position – presents information on the System's assets, deferred outflows of resources, liabilities, deferred inflows of resources and fiduciary 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. Over time, the increase or decrease in fiduciary net position serves as a useful indicator of the System's financial health and condition.

Statement of Changes in Fiduciary Net Position – presents information showing how the System's fiduciary net position changed during the year. It reflects contributions by members and participating employers along with deductions for retirement benefits, refunds, withdrawals and administrative expenses. Investment income, including realized and unrealized gains on pooled investments, during the year is also presented.

Notes to the Financial Statements – provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

Required Supplementary Information – includes this management's discussion and analysis and various unaudited schedules.

Financial Analysis

Fiduciary Net Position

The System's total assets as of December 31, 2016, approximated $155.0 million and principally consisted of investments recorded at fair value. Total assets increased over $10.2 million, or approximately 7%, from December 31, 2015. System liabilities at December 31, 2016 and 2015 were primarily open trades payable.

	December 31, 2016	December 31, 2015
Assets		
Cash and cash equivalents	$ 688,217	$ 1,407,455
Investments	153,335,802	142,736,269
Receivables and other current assets	937,011	614,592
Total Assets	154,961,030	144,758,316
Liabilities		
Accounts payable and accrued expenses	1,347,901	1,777,088
Total Liabilities	1,347,901	1,777,088
Fiduciary Net Position	**$ 153,613,129**	**$ 142,981,228**

Change in Fiduciary Net Position

In 2016, the System's investment performance significantly exceeded its performance in 2015, which was the primary contributor to the $13.1 million increase in additions year-over-year. Deductions for benefits and operating expenses increased nearly $0.8 million, or 6%, year-over-year.

	Year Ended December 31, 2016	Year Ended December 31, 2015
Additions		
Contributions	$ 11,892,532	$ 11,443,858
Net investment income, net of management fees	11,677,249	(1,003,854)
Total Additions	23,569,781	10,440,004
Deductions		
Benefits and refunds to Plan members	12,703,683	11,982,858
Administrative and other expenses	234,197	197,174
Total Deductions	12,937,880	12,180,032
Change in Fiduciary Net Position	**$ 10,631,901**	**$ (1,740,028)**

Additions – The amount needed to finance pension benefits is accumulated through the collection of employers and employees' contributions, reimbursements from the Commonwealth of Massachusetts for pre-1998 Cost of Living Adjustments and through earnings on investments. Employer and employee contributions were consistent year-over-year. Employer contributions represent over $8.1 million, or 68%, of total contributions. Employer contributions are determined by actuarial valuation.

The System's investment portfolio produced net investment income of nearly $11.7 million in 2016 versus a negative return in 2015. The System's money-weighted return on investments, net of investment management fees, was approximately 8.4%.

Deductions – The primary deductions for the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions and the costs of administering the system. Benefit and refund payments to Plan members in 2016 were approximately $0.7 million, or 7%, higher than the prior year. Administrative and other expenses, which primarily consist of System operations payroll, board stipends, legal, and service provider costs increased slightly year-over-year.

Overall Financial Position

The System's funded ratio of approximately 76% in the January 1, 2017 actuarial valuation report places it in the top quarter of Massachusetts public employee retirement systems. Using the assumptions detailed more fully in Note 6 to the financial statements, the System forecasts that it will be fully funded by June 30, 2025, well ahead of the mandated deadline.

The System maintains all of its investments in pooled funds. Some of these funds invest in private companies or real estate. The determination of the value of these investments is very subjective and the ultimate amount of gains and losses in some of these funds will not be determined until the underlying assets (i.e., the real estate or stock in the private companies) are sold. Furthermore, these types of investments are not as liquid as investments in savings accounts, money markets, certificates of deposits, government securities or debt and equity securities in publicly-held U.S. corporations. You should refer to Notes 2 and 4 to these financial statements.

Although the System has been successful in garnering the yields necessary to achieve fully funded status in the required time frame, the System (like so many other institutional investors) has experienced a great deal of volatility in its investments. Management believes that the volatility in the worldwide markets may continue for the foreseeable future. Accordingly, management intends to actively monitor the System's investment positions to best maximize returns while mitigating risk as best as it can.

Contacting the System's Financial Management Personnel

Our discussion and analysis is designed to provide the Marlborough Retirement 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 Marlborough Retirement Board at 255 Main Street, Room 201, Marlborough, MA 01752.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2016

ASSETS	
Cash and cash equivalents	$ 688,217
Investments	153,335,802
Accounts receivable and other current assets:	
Open trades	900,024
Contributions and other	36,987
Total receivables and other current assets	937,011
Total assets	154,961,030
DEFERRED OUTFLOWS OF RESOURCES	-
LIABILITIES	
Accounts payable and other current liabilities:	
Open trades	1,284,935
Accounts payable and accrued expenses	62,966
Total accounts payable and other current liabilities	1,347,901
Total liabilities	
DEFERRED INFLOWS OF RESOURCES	-
NET POSITION RESTRICTED FOR PENSIONS	$ 153,613,129

See notes to the financial statements.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
YEAR ENDED DECEMBER 31, 2016

ADDITIONS	
Contributions:	
Employer contributions – appropriations	$ 8,114,308
Employee contributions – member deductions and payments	3,105,493
Transfers from other systems	301,450
Reimbursements from other systems	262,066
Receipts from the Commonwealth of Massachusetts	88,669
Total contributions	11,871,986
Investment earnings, net:	
Interest and dividends	2,530,632
Net appreciation in fair value of investments	9,815,730
Less management fees	(669,113)
Net investment income	11,677,249
Other income	20,546
Total additions	23,569,781
DEDUCTIONS	
Benefits and refunds to Plan members:	
Benefit payments to pensioners and beneficiaries	11,750,738
Member refunds	268,574
Transfers to other systems	424,725
Reimbursements to other systems	259,646
Administrative expenses:	
System operations payroll and board stipends	161,961
Other administrative expenses	72,236
Total deductions	12,937,880
NET INCREASE IN NET POSITION	10,631,901
NET POSITION RESTRICTED FOR PENSIONS	
Beginning of year	142,981,228
End of year	$ 153,613,129

See notes to the financial statements.

1. DESCRIPTION OF THE PLAN

General – The Marlborough Contributory Retirement System (the "System") is a multiple employer defined benefit pension plan established and administered by the Marlborough Retirement Board under the provisions of Chapter 32 of the Massachusetts General Laws to provide pension benefits for participants. The System is a component unit of the City of Marlborough, Massachusetts (the "City"). The City and the Marlborough Housing and Community Development Authority (the "Authority") contribute to the System.

Employees of the City (with the exception of teachers and certain administrative personnel employed by the School Department who participate in a separate plan) and the Authority are covered by the System. Participation in the System is mandatory immediately upon the commencement of employment for all permanent, full-time employees.

At December 31, 2016, membership in the System consisted of:

Retirees and beneficiaries currently receiving benefits	410
Active plan members	633
Inactive plan members	216
Total membership	1,259

Plan Benefits – Massachusetts contributory retirement system benefits are uniform throughout the state. For employees with service dates beginning before April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive three-year average annual rate of regular compensation. For those employees who began their service after April 2, 2012, the System provides for retirement allowance benefits up to a maximum of 80% of a participant's highest consecutive five-year average annual rate of regular compensation. Benefit payments are based upon a participant's age, length of creditable service, level of compensation and group classification.

The retirement allowance consists of two parts – an annuity and a pension. Participants' accumulated total deductions and a portion of the interest they generate constitute the annuity. The differential between the total retirement benefit and annuity is the pension.

Participants who resign from service and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total contributions. In addition, depending upon the number of years of creditable service, such employees may be entitled to receive interest, which has accrued on those contributions. A vested employee who has not reached their eligible retirement age and elects to leave his accumulation on deposit may apply for benefits upon reaching his eligible retirement age.

Survivor benefits are extended to eligible beneficiaries of participants whose death occurs prior to or following retirement.

Retirement Requirements – In order to receive retirement benefits, participants must meet one of the following two categories:

Normal Retirement – Generally, normal retirement occurs between ages 65 and 67. However, most participants with a hire date before April 2, 2012, may retire after ten years of service at age 55 or twenty years of service at any age. For most participants hired on or after April 2, 2012, they must attain the age of 60 before they can retire. Participants with hire dates subsequent to January 1, 1978 must have a minimum of ten years' creditable service in order to retire at age 55 or 60, as applicable. Participants become vested after ten years of service. Benefits commencing before age 65 are generally provided at a reduced rate. However, members working in certain occupations may retire with full benefits earlier than age 65.

Participants who resign from service and who are not eligible to receive a retirement allowance or are under the age of 55 may request a refund of their accumulated total contributions. In addition, depending on the number of years of creditable service, these employees may be entitled to interest that has accrued on their contributions; for those employees involuntarily terminated with less than ten years of service, this interest rate is 3.0%. A vested employee under the age of 55 who elects to leave his accumulated contributions on deposit may apply for pension benefits upon reaching his eligible retirement age.

Disability Retirements – The System provides for both an ordinary disability retirement, where a participant is permanently incapacitated from a cause unrelated to employment, and an accidental disability retirement, where the disability is the result of an injury or illness received or aggravated in the performance of one's duty. The amount of benefits to be received in such cases is dependent upon several factors, including the age at which the disability retirement occurs, the years of service, average compensation and veteran status. In addition, certain provisions are in place relative to death benefits for beneficiaries of employees who die in active service.

Public Availability of Financial Statements – The Marlborough Retirement Board issues a publicly available financial report that includes financial statements and required supplementary information for the System. That report may be obtained by writing to the Marlborough Retirement Board, 255 Main Street, Room 201, Marlborough, MA 01752.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting – The financial statements of the System have been prepared on the accrual basis of accounting. The accounting records of the System are maintained on a calendar-year basis in accordance with the standards and procedures established by Public Employee Retirement Administration Commission ("PERAC") and Massachusetts law.

Estimates – The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America, or GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents – Cash and cash equivalents include cash on hand, demand deposits and short-term holdings with original maturities of three months or less from the date of acquisition.

Investments – The carrying amounts of the System's investments approximate their fair value. When actively quoted observable prices are not available, the System generally uses either implied pricing from similar investments or valuation models based on net present values of estimated future cash flows (adjusted as appropriate for liquidity, credit, market and/or other risk factors).

The System categorizes its fair value measurements within the fair value hierarchy established by GAAP. This hierarchy is based on valuation inputs used to measure the fair value of the asset or liability. The three levels of the hierarchy are as follows:

- *Level 1* – Inputs are quoted prices in active markets for identical investments at the measurement date.
- *Level 2* – Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the investment through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.
- *Level 3* – Inputs reflect the System's best estimate of what market participants would use in pricing the investment at the measurement date.

The following table presents the fair value of the System's investments by type as of December 31, 2016:

	December 31,	Fair Value Measurements Using		
	2016	Level 1	Level 2	Level 3
Debt securities:				
Pooled domestic fixed income funds	$ 64,035,729	$ -	$ 48,812,907	$ 15,222,822
Pooled international fixed income funds	4,430,152	4,430,152	-	-
Total debt securities	68,465,881	4,430,152	48,812,907	15,222,822
Pooled domestic equity funds	55,574,090	18,297,643	22,908,904	14,367,543
Pooled international equity funds	18,863,601	-	18,863,601	-
Pooled real estate investment funds	7,702,036	-	-	7,702,036
Pooled alternative investment funds	2,730,194	-	-	2,730,194
Total investments by fair value level	$ 153,335,802	$ 22,727,795	$ 90,585,412	$ 40,022,595

Securities classified in Level 1 are valued using prices quoted in active markets for those securities. Securities classified in Level 2 were valued using observable inputs from similar securities, including basing value on yield currently available on comparable securities of issued with similar credit ratings. Securities classified in Level 3 are valued by investments managers and determined in good faith after consideration of pertinent information, including current financial position and operative results, price-earnings multiples and available market prices of similar companies' securities, the nature of the 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.

Fair Value of Financial Instruments – The carrying amounts of cash and cash equivalents, accounts receivable and other current assets and accounts payable approximate their fair value due to the relatively short-term maturities.

Revenue Recognition – Contributions are recognized as additions in the period in which they become due pursuant to formal commitments, and statutory or contractual requirements. Contributions appropriated by the City and the Authority are on a fiscal-year basis. Investment purchases and sales are recorded on their trade dates. Interest and dividends are recorded when earned. Investment income is allocated to the various funds on the basis of a rate determined annually by PERAC.

Derivatives – The System may invest in derivative products such as currency hedges to minimize the currency risk on international investments. The System does not have any direct holdings that are classified as derivatives at December 31, 2016.

3. SYSTEM ADMINISTRATION

The System is administered by a five-person Board consisting of the City Auditor, two members who are elected by the participants in or retired from the service of the System, one member appointed by the City Mayor and one member appointed by the other members of the Board.

At the time of this report, the Board was comprised as follows:

		Term Expires
Ex-Officio Member:	Ms. Diane Smith (City Auditor)	No specified date
Appointed Member:	Mr. Thomas Abel	Indefinite
Elected Member:	Mr. Gregory Brewster (Chairman)	November 17, 2017
Elected Member:	Mr. William Taylor	December 31, 2017
Board Appointed Member:	Mr. Christopher Sandini, Sr.	January 26, 2018

The Board is required to meet at least once a month and keep a record of its proceedings. The Board annually submits a financial statement of condition for the System with the Commissioner of PERAC. All retirement allowances are approved by the Board. Expenses incurred by the System must be approved by a majority of the Board.

4. DEPOSITS AND INVESTMENTS

Massachusetts General Laws Chapter 32 and PERAC regulations require the System to invest funds only in pre-approved investment instruments, which include but are not necessarily limited to bank deposits, money markets, certificates of deposit, U.S. obligations, repurchase agreements, certain corporate bonds and equities and investment pools.

Investment Policy – The investment of the System's funds is the responsibility of the Board. The Board adopted an investment policy statement in July 2015. The investment objective is to grow the System's investments over time while protecting the investment values from undue volatility or risk of loss. The System's investment policy seeks a long-term investment return of 7.75%.

The System's investment policy requires diversification within its investment portfolio. The System's portfolio target weights at the broad asset class level and long-term expected rates of return for each of these assets classes were as follows:

Asset Class	Target Allocation	Long-Term Expected Rate of Return
Public domestic equity	28% to 38%	6.49%
Public foreign equity:		
Developed markets	5% to 13%	7.16%
Emerging markets	1% to 5%	9.46%
Private equity	3% to 7%	11.04%
Real estate	2% to 8%	4.37%
Bonds:		
High yield	7% to 13%	4.76%
Investment grade	17% to 27%	1.68%
TIPS	7% to 13%	3.60%
Emerging market debt	1% to 5%	3.00%
Cash	less than 5%	1.11%

Rate of Return – The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The 2016 money-weighted rate of return was approximately 8.37%.

Custody of Investments – Comerica Bank is the custodian of the System's investment portfolio. Comerica Bank held the investment securities of the system at December 31, 2016 and provided investment transaction and reporting services for all of 2016.

Investment Management – Meketa Investment Group provided investment advisory services to the System throughout all of 2016. At December 31, 2016, the System had contracted with the following companies to serve as investment managers:

Investment Advisor	Investment Type
Clarion Partners	Real Estate
Colony Realty Partners	Real Estate
Dimensional Fund Advisors	International Equities
Driehaus Capital Management	International Equities
Fiduciary Management, Inc.	Domestic Equities
Frontier Capital	Domestic Equities
Ironsides Partners LLC	Alternative Investments
Payden & Rygel	International Fixed Income
Primus High Yield Bond Fund Ltd.	Domestic Fixed Income
RhumbLine Advisers	Domestic and International Equities
Standard Life Investments	Alternative Investments
State Street Global Advisors	Domestic Fixed Income

Custodial Credit Risk: Deposits – Deposits are subject to the risk of bank failure. The System may be unable to recover the full amount of its deposits in any one bank institution in the event of a bank failure. The System's policy for custodial credit risk of deposits is to rely on Federal Deposit Insurance Corporation ("FDIC") insurance coverage for the first $250,000 of deposits held at each financial institution. At December 31, 2016, $144,985 of the System's bank deposits were not covered by FDIC or other depository insurance.

Custodial Credit Risk: Investments – Custodial credit risk for investments is the risk that, in the event of a 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 the outside party. The System's policy for custodial credit risk of investments intends that all investments are either insured and/or registered in the name of the System. At December 31, 2016, the System was not exposed to custodial credit risk on its investments.

Interest Rate Risk: Deposits – This is the risk that fair value losses may arise due to increasing interest rates, such risk is reduced by the fact that the System maintains such funds in highly liquid bank accounts; thereby, allowing for timely re-allocation of such holdings should the need arise.

Interest Rate Risk: Investments – Debt securities are subject to interest rate risk. Debt securities may be adversely affected by changes in interest rates, which may negatively affect the fair value of individual debt instruments. The System does not have a formal investment policy that limits investments maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Foreign Currency Risk: Deposits and Investments –The System did not hold any specific security denominated in a foreign currency at December 31, 2016.

Securities Credit Risk: Investments – In the case of investments, there is the risk that in the event of an invested party will be unable to fulfill its obligations, such as to provide required payments to investors, to meet current or future performance expectations, to abide by industry regulations and proper operational practices, ceasing to exist, or filing for bankruptcy. In those instances, the System may not be able to recover the full amount of its principal investment and/or investment earnings. As previously noted, PERAC and Massachusetts statutory regulations have been enacted to reduce this risk. In evaluating its credit risk, the System relies on credit ratings assigned by Moody's Investor Services, Inc. and Standard and Poor's Financial Services, LLC. The System does voluntarily self-impose certain investment restrictions; however, those can be changed at the Board's discretion. The System maintains the majority (approximately 99%) of its monetary assets as investment holdings.

None of the System's pooled fixed income investments were subject to credit quality ratings from leading credit rating agencies. At December 31, 2016, uninsured short-term investment funds with fair values of $302,281 were reported as cash equivalents. These funds represent temporary holdings of excess cash resources. The System intends to reinvest these amounts in less than one year. Accordingly, the fair values of these amounts have been classified as cash equivalents in these financial statements.

Concentration of Credit Risk: Investments – The following investments held by the System at December 31, 2016 represent approximately 87.2% of the System's total investments:

SSGA U.S. Aggregate Bond Index Fund	22.5%
Rhumbline Advisers S&P 500 Pooled Index Fund	14.9%
Fiduciary Funds FMI Large Cap Fund	11.9%
Primus High Yield Bond Fund, L.P.	9.9%
Frontier Capital Appreciation Fund, L.P.	9.4%
SSGA U.S. TIPS Index Fund	9.3%
Rhumbline Advisers MSCI EAFE Index Fund	9.3%
	87.2%

5. FUNDING POLICY

Employee Contributions – Employees whose creditable service began prior to January 1, 1975, contribute 5% of their base salary or wage; those whose service date is subsequent to January 1, 1975, and prior to January 1, 1984, contribute 7%; those whose service date is subsequent to January 1, 1984, and prior to July 1, 1996, contribute 8%, and those whose service date is subsequent to July 1, 1996, contribute 9%. In addition, employees hired on or after January 1, 1979 contribute an additional 2% on earnings in excess of $30,000.

Employer Contributions (Funding) – Under the provisions of Chapter 32of Massachusetts General Law, participating employers are assessed their share of the total retirement cost based on independent actuarial study.

Employer contributions of $8,114,308 were made in 2016. Employer contributions as a percentage of covered payroll was approximately 25% in 2016.

Cost of Living Adjustment (COLA) – Through 1998, the Massachusetts Legislature was able to grant cost-of-living increases to benefits being paid to retirees. These increases were expressed as a percentage of the retiree's allowance subject to a maximum dollar increase. All COLA's granted from 1982 through June 30, 1998, are reimbursed to the System by the Commonwealth of Massachusetts since the Commonwealth was financially responsible for COLA adjustments during this time frame; any COLA's granted thereafter by the Board are required to be funded by the System directly. A COLA may be approved in excess of the Consumer Price Index, or CPI, but for 2016 is not to exceed 3% annually on the first $12,000 of a retirement allowance. The System has historically approved a COLA annually, usually at the maximum 3% rate.

The Commonwealth is expected to continue funding the cost-of-living amounts granted to retirees prior to 1998 for the duration of their selected retirement option.

6. ACTUARIAL VALUATION

The System is statutorily required to adopt the funding schedule that will fully amortize the unfunded actuarial accrued liability by June 30, 2040. As of the latest actuarial valuation, the System has selected a funding schedule that amortizes the unfunded actuarial accrued liability to $0 by June 30, 2025.

The components of the System's net pension liability at December 31, 2016 (dollar amounts in thousands) were as follows:

Total pension liability	$ 200,936
Plan fiduciary net position	153,613
Net pension liability	$ 47,323
Plan fiduciary net position as a percentage of total pension liability	76.4%

The total pension liability was determined by an actuarial valuation as of January 1, 2017. Accounting balances were updated from December 31, 2015 to roll forward to December 31, 2016. The significant actuarial assumptions used in the January 1, 2017 report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Pre-retirement and post-retirement rates reflect the RP-2014 Blue Collar mortality table with Scale MP-2016, fully generational. Group 1 and 2 retirees are set forward 5 years for males and 3 years for females, fully generational. Group 4 retirees are set forward 3 years for males and six years for females, fully generational.
Disabled life mortality:	RP-2000 mortality table set forward 6 years for Group 1 and 2 and 2 years for Group 4.

Discount Rate – The discount rate used to measure the total pension liability in the January 1, 2017 actuarial valuation report was 7.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions were made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially-determined contribution rates and the member rate. Based on those assumptions, the System'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.

Expected Real Rate of Return – The long-term expected rate of return on System investments was determined using a building-block method in which best-estimate ranges of expected future 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 rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in

the System's target allocation as of the date of the latest actuarial valuation have been summarized in the investment policy table in Note 4.

Sensitivity Analysis – The following illustrates the net position liability at December 31, 2016 calculated using the current discount rate of 7.5%, as well as the projection of that the net position liability would be if it were calculated using a discount rate that in 1.0% lower (6.5%) and 1.0% higher (8.5%) that the current rate (dollar amounts in thousands):

	1% Decrease (6.5%)	Current Discount (7.5%)	1% Increase (8.5%)
Net pension liability	$ 69,003	$ 47,323	$ 28,912

7. NET POSITION RESTRICTED FOR PENSIONS

Net position restricted for pensions, as of December 31, 2016, were comprised of four funds:

Description	Amount	Purpose
Annuity Savings Fund	$ 33,299,648	Active members' contribution balance
Annuity Reserve Fund	13,146,798	Retired members' contribution balance
Military Service Fund	15,995	Members' contributions account while on military leave
Pension Fund	360,023	Amounts appropriated to fund future retirement
Pension Reserve Fund	106,790,665	Remaining net assets
	$ 153,613,129	

8. COMMITMENTS AND CONTINGENCIES

The System is subject to a variety of claims that arise from time to time in the ordinary course of business. Although management of the System currently believes that resolving claims against the System, individually or in aggregate, will not have a material adverse impact on the System's financial position or its results of operations, these matters are subject to inherent uncertainties and management's views of these matters may change in the future.

* * * * * *

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED
YEARS ENDED DECEMBER 31, 2016

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

(Dollar Amounts in Thousands)

	2016	2015	2014
Total pension liability:			
Service cost	$ 7,805	$ 4,422	$ 4,272
Interest	16,126	15,238	14,605
Differences between expected and actual experience	(23,742)	(2,304)	-
Changes in assumptions	-	9,560	-
Benefit payments, including refunds of member contributions	(12,703)	(11,334)	(10,367)
Net change in total pension liability	(12,514)	15,582	8,510
Total pension liability - beginning of year	213,450	197,868	189,358
Total pension liability - end of year (a)	$ 200,936	$ 213,450	$ 197,868
Plan fiduciary net position:			
Contributions - employer	$ 8,114	$ 7,796	$ 7,700
Contributions - members	3,106	2,990	2,995
Contributions - nonemployer contributing entities	652	643	626
Net investment (loss) income	11,677	(1,004)	8,083
Benefit payments, including refunds of member contributions	(12,704)	(11,982)	(10,993)
Administrative expenses	(234)	(197)	(200)
Other	21	14	12
Net change in plan fiduciary net position	10,632	(1,740)	8,223
Plan fiduciary net position - beginning of year	142,981	144,721	136,498
Plan fiduciary net position - end of year (b)	$ 153,613	$ 142,981	$ 144,721
Net pension liability - end of year (a) - (b)	$ 47,323	$ 70,469	$ 53,147
Plan fiduciary net position as a percentage of the total pension liability	76.45%	66.99%	73.14%
Covered-employee payroll	$ 32,562	$ 33,257	$ 32,804
Net pension liability as a percentage of covered-employee payroll	145.33%	211.89%	162.01%

Note: This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

REQUIRED SUPPLEMENTARY INFORMATION - UNAUDITED
YEARS ENDED DECEMBER 31, 2016

SCHEDULE OF CONTRIBUTIONS
(Dollar Amounts in Thousands)

	2016	2015	2014
Actuarially-determined contribution	$ 8,114	$ 7,796	$ 7,700
Contributions in relation to the actuarially-determined contribution	8,114	7,796	7,700
Contribution deficiency (excess)	$ -	$ -	$ -
Covered-employee payroll	$ 32,562	$ 33,257	$ 32,804
Contribution as a percentage of covered-employee payroll	24.92%	23.44%	23.47%

SCHEDULE OF INVESTMENT RETURNS

	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	8.37%	-0.97%	6.16%

Note: These schedules are presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available.

See independent auditors' report.

A. CHANGES OF BENEFIT TERMS

The System may be amended or terminated in whole or in part at any time by the Massachusetts Legislature, provided that no such modification, amendment or termination shall be made that would deprive a current member of superannuation pension rights or benefits provided under applicable laws of Massachusetts, if such member has paid the stipulated contributions specified in sections or provisions of such laws. There were no significant changes to the System's benefit terms in 2016.

B. SIGNIFICANT ACTUARIAL ASSUMPTIONS AND METHODS

The significant actuarial assumptions used in the January 1, 2017 report were as follows:

Actuarial cost method:	Individual entry age normal
Investment rate of return:	7.5% per annum
Projected salary increases:	3.75% per annum
Cost of living adjustments:	3% on the first $12,000 of benefits
Mortality rates:	Pre-retirement and post-retirement rates reflect the RP-2014 Blue Collar mortality table with Scale MP-2016, fully generational. Group 1 and 2 retirees are set forward 5 years for males and 3 years for females, fully generational. Group 4 retirees are set forward 3 years for males and six years for females, fully generational.
Disabled life mortality:	RP-2000 mortality table set forward 6 years for Group 1 and 2 and 2 years for Group 4.

C. CHANGES OF ASSUMPTIONS

The following changes of assumptions were reflected in the January 1, 2017 actuarial valuation from the previous valuation:

- The salary increase assumption was set at 3.75% per year versus a sliding scale.
- The mortality rates for pre-retirement, post-retirement and disabilities were modified.

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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited, 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, the financial statements of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2016, and the related notes to the financial statements which collectively comprise the System's basic financial statements and have issued our report thereon dated October 27, 2017.

Internal Control Over Financial Reporting

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

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

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

Compliance and Other Matters

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

Purpose of this Report

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

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
October 27, 2017

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INDEPENDENT AUDITORS' REPORT ON AUDIT OF SPECIFIC ELEMENTS, ACCOUNTS AND ITEMS OF FINANCIAL STATEMENTS

To the Marlborough Retirement Board
Marlborough Contributory Retirement System
Marlborough, Massachusetts

We have audited the accompanying schedule of employer allocations of the Marlborough Contributory Retirement System (the "System"), a component unit of the City of Marlborough, Massachusetts, as of and for the year ended December 31, 2016. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources and total pension expense (specified column totals) included in the accompanying schedule of pension amounts by employer of the System as of and for the year ended December 31, 2016, and the related notes thereto.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules 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 opinions on the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 Audit 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 schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer 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 schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer.

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

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities of the System as of and for the year ended December 31, 2016, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the System as of and for the year ended December 31, 2016, and our report thereon, dated October 27, 2017, expressed an unmodified opinion on those financial statements.

Roselli, Clark & Associates

Roselli, Clark & Associates
Woburn, Massachusetts
October 27, 2017

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF EMPLOYER ALLOCATIONS
YEAR ENDED DECEMBER 31, 2016

Employer	Actual Employer Contributions	Employer Allocation Percentage
City of Marlborough	$ 8,020,182	98.84%
Housing and Community Development Authority	94,126	1.16%
Total	$ 8,114,308	100.0%

See notes to schedule of employer allocations and schedule of pension amounts by employer.

MARLBOROUGH CONTRIBUTORY RETIREMENT SYSTEM
(A Component Unit of the City of Marlborough, Massachusetts)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER
YEAR ENDED DECEMBER 31, 2016

	City of Marlborough	Marlbourough Housing	Total
Net pension liability	$ 46,773,992	$ 548,946	$ 47,322,938
Deferred outflows of resources:			
Differences between expected and actual experience	$ -	$ -	$ -
Net difference between projected and actual investment earnings on pension plan investments	8,004,500	93,942	8,098,442
Changes of assumptions	6,299,424	73,932	6,373,356
Changes in proportion and differences between employer contributions and proportionate share of contributions	914,435	16,310	930,745
Total deferred outflows of resources	$ 15,218,359	$ 184,184	$ 15,402,543
Deferred inflows of resources:			
Differences between expected and actual experience	$ 19,908,770	$ 233,651	$ 20,142,421
Net difference between projected and actual investment earnings on pension plan investments	796,318	9,346	805,664
Changes of assumptions	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions	913,995	16,750	930,745
Total deferred inflows of resources	$ 21,619,083	$ 259,747	$ 21,878,830
Pension expense (income):			
Proportionate share of plan pension expense	$ 8,357,399	$ 98,083	$ 8,455,482
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	(314)	314	-
Total employer pension expense	$ 8,357,085	$ 98,397	$ 8,455,482

See notes to schedule of employer allocations and schedule of pension amounts by employer.

A. INTRODUCTION

GASB Statement No, 68, *Accounting and Financial Reporting for Pensions*, establishes financial reporting requirements for governments that provide employees with pension benefits. GASB 68 requires employers to recognize a net pension liability or net pension asset as employees earn pension benefits. Employers participating in the Marlborough Contributory Retirement System (the "Retirement System") will recognize their proportionate share of the collective pension amounts for all benefits provided by the Retirement System.

B. METHOD OF PROPORTIONATE SHARE ALLOCATION

The basis for the proportionate share allocation by employer as found in the Schedule of Employer Allocations and Schedule of Pension Amounts by Employer is consistent with the manner in which employer contributions to the Retirement System are determined. The net pension liability, deferred outflows of resources, deferred inflows of resources and pension expense is based upon actual historical employer contributions to the Retirement System from the census data submitted to the Retirement System for pay periods ending December 31, 2016.

C. EXPECTED FUTURE AMORTIZATION OF DEFERRED BALANCES

The following table summarizes the expected amortization of the net deferred outflows of resources into pension expense:

	2017	2018	2019	2020	Total
City of Marlborough					
Differences between expected and actual experience	$ (5,455,817)	$ (5,455,817)	$ (5,455,817)	$ (3,541,319)	$ (19,908,770)
Net difference between projected and actual investment earnings on pension plan investments	2,633,860	2,633,860	2,139,542	(199,080)	7,208,182
Changes of assumptions	1,574,856	1,574,856	1,574,859	1,574,853	6,299,424
Changes in proportion and differences between employer contributions and proportionate share of contributions	(314)	(314)	(314)	1,382	440
Marlborough Housing Authority					
Differences between expected and actual experience	(64,030)	(64,030)	(64,030)	(41,561)	(233,651)
Net difference between projected and actual investment earnings on pension plan investments	30,912	30,912	25,108	(2,336)	84,596
Changes of assumptions	18,483	18,483	18,483	18,483	73,932
Changes in proportion and differences between employer contributions and proportionate share of contributions	314	314	314	(1,382)	(440)
Total					
Differences between expected and actual experience	(5,519,847)	(5,519,847)	(5,519,847)	(3,582,880)	(20,142,421)
Net difference between projected and actual investment earnings on pension plan investments	2,664,772	2,664,772	2,164,650	(201,416)	7,292,778
Changes of assumptions	1,593,339	1,593,339	1,593,342	1,593,336	6,373,356
Changes in proportion and differences between employer contributions and proportionate share of contributions	-	-	-	-	-

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