WORCESTER REGIONAL RETIREMENT SYSTEM

FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION

YEAR ENDED DECEMBER 31, 2020



WEALTH ADVISORY | OUTSOURCING AUDIT, TAX, AND CONSULTING

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INDEPENDENT AUDITORS' REPORT

Honorable Retirement Board Worcester Regional Retirement System Auburn, Massachusetts

Report on the Financial Statements

We have audited the accompanying financial statements of the Worcester Regional Retirement System (the System), as of and for the year ended December 31, 2020, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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



Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of December 31, 2020, and the respective change in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in employers' net pension liability and related ratios, schedule of employer contributions and schedule of investment returns be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 13, 2021, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

CliftonLarsonAllen LLP

Clifton Larson Allen LLP

Boston, Massachusetts October 13, 2021

As management of the Worcester Regional Retirement System (the System), we offer readers of these financial statements this narrative overview and analysis of the System's financial activities for the year ended December 31, 2020.

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

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

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

Financial Highlights

Fiduciary net position increased by \$97,919,491 or 12.2%, when compared to the prior year's fiduciary net position. Fiduciary net position is the residual of the System's assets in excess of the System's liabilities, as reported in the statement of fiduciary net position, as of the statement date. The System's assets are held in trust to meet future benefit payments.

Overview of the Financial Statements

The financial statements are comprised of a statement of fiduciary net position, statement of changes in fiduciary net position, notes to financial statements, and required supplementary information.

The **statement of fiduciary net position** presents information on the System's assets and liabilities and the resulting net position restricted for pensions. This is calculated using the following formula: Assets – Liabilities = Net Position restricted for pensions. This statement reflects the System's investments at fair value, as well as cash, receivables and other assets and liabilities. The statement of fiduciary net position reports the financial position of the System at December 31, 2020. Over time, the increase or decrease in fiduciary net position serves as a useful indicator of the System's financial health.

The **statement of changes in fiduciary net position** presents information showing how the System's fiduciary net position changed during the year ended December 31, 2020. It reflects contributions by its individual members and participating employers along with deductions for retirement benefits, refunds, withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing activities.

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

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

Financial Statement Analysis

The System's total assets as of December 31, 2020 were \$910,468,255 and were comprised of cash and cash equivalents, investments and receivables.

Total liabilities as of December 31, 2020 were \$11,809,489 and represent amounts owed for accounts payable and reimbursements and transfers to other systems.

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

Fiduciary Net Position

As noted earlier, fiduciary net position may serve over time as a useful indicator of the System's financial position. The System's assets exceeded liabilities by \$898,658,766 at the close of the year and are summarized as follows:

	2020	2019
ASSETS		
Cash and Cash Equivalents	\$ 4,386,752	\$ 2,813,343
Investments	900,424,773	802,771,080
Receivables	5,656,730	5,363,063
Total Assets	910,468,255	810,947,486
LIABILITIES		
Accounts Payable	31,553	29,272
Reimbursements and Transfers to Other Systems	11,777,936	10,178,939
Total Liabilities	11,809,489	10,208,211
NET POSITION		
Net Position Restricted for Pensions	\$ 898,658,766	\$ 800,739,275

Changes in Fiduciary Net Position

For the year ended December 31, 2020, the System's total fiduciary net position increased by \$97,919,491. In the prior year, fiduciary net position increased by \$115,201,262. These amounts are summarized as follows:

	2020	2019
ADDITIONS		
Contributions:		
Employers	\$ 67,269,029	\$ 60,887,972
Members	35,391,500	35,087,583
Net Investment Income:		
Net Realized and Unrealized Gains (Loss)	83,081,322	94,264,162
Interest and Dividends	18,332,087	20,050,385
Less: Management Fees	(3,916,405)	(3,856,330)
Other	2,861,282	2,730,678
Total Additions	203,018,815	209,164,450
DEDUCTIONS		
Retirement Benefits and Refunds	93,751,426	88,229,714
Reimbursements and Transfers to Other Systems	10,302,368	4,620,834
Administration	1,045,530	1,112,640
Total Deductions	105,099,324	93,963,188
NET INCREASE IN NET POSITION	97,919,491	115,201,262
Net Position Restricted for Pensions - Beginning of Year	800,739,275	685,538,013
NET POSITION RESTRICTED FOR PENSIONS - END OF YEAR	\$ 898,658,766	\$ 800,739,275

Additions to Fiduciary Net Position

Total additions to net position for 2020 were \$203,018,815. Contributions increased by approximately \$6,685,000 in 2020 when compared to the prior year. The System had a net investment gain of approximately \$97,497,000 in 2020 compared to the gain of approximately \$110,458,000 in 2019 as a result of investment market conditions.

Deductions from Fiduciary Net Position

Total deductions from net position for 2020 were \$105,099,324. Retirement benefits and refunds increased by approximately \$5,522,000 in 2020 when compared to the prior year. Other deductions increased by approximately \$5,614,000 in 2020 when compared to the prior year.

Requests for Information

This financial report is designed to provide the board, our membership, taxpayers, investors, and creditors with a general overview of the System's financial results and to demonstrate the System's accountability for the funding it receives. If you have any questions about this report or need additional financial information, contact the Chief Executive Officer at 23 Midstate Drive, Suite 106, Auburn, Massachusetts 01501.

WORCESTER REGIONAL RETIREMENT SYSTEM STATEMENT OF FIDUCIARY NET POSITION DECEMBER 31, 2020

ASSETS	
Cash and Cash Equivalents	\$ 4,386,752
Investments:	
External Investment Pools	899,736,351
Private Equity	688,422
Total Investments	900,424,773
Receivables:	
Employer Contributions	785,084
Member Contributions	2,420,777
Reimbursements and Transfers from Other Systems	2,450,869
Total Receivables	5,656,730
Total Nosolvasios	
Total Assets	910,468,255
Total 7 loods	010,100,200
LIABILITIES	
Accounts Payable	31,553
Reimbursements and Transfers to Other Systems	11,777,936
Total Liabilities	11,809,489
Total Liabilities	11,009,409
NET POSITION RESTRICTED FOR PENSIONS	\$ 898,658,766
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WORCESTER REGIONAL RETIREMENT SYSTEM STATEMENT OF CHANGES IN FIDUCIARY NET POSITION YEAR ENDED DECEMBER 31, 2020

ADDITIONS	
Contributions:	
Employers	\$ 67,269,029
Members	35,391,500_
Total Contributions	102,660,529
Net Investment Income:	
Net Realized and Unrealized Gains	83,081,322
Interest and Dividends	18,332,087
Less: Management Fees	(3,916,405)
Net Investment Income	97,497,004
Other	2,861,282
Total Additions	203,018,815
DEDUCTIONS	
Retirement Benefits and Refunds	93,751,426
Reimbursements and Transfers to Other Systems	10,302,368
Administration	1,045,530
Total Deductions	105,099,324
NET INCREASE IN NET POSITION	97,919,491
NET POSITION RESTRICTED FOR PENSIONS	
Beginning of Year	800,739,275
End of Year	\$ 898,658,766

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

General

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

Reporting Entity

The Worcester Regional Retirement System (the System) was established to provide retirement benefits to eligible employees of its member employers.

Measurement Focus and Basis of Accounting

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

Cash and Investments

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

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

Pooled Funds

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

Private Equity

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

Basis of Investment Transactions

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

Revenue Recognition

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

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Benefits and Refunds

Benefits and refunds are recognized as deductions when due and payable in accordance with the terms of the System.

Administrative Expenses

Administrative expenses are financed by contributions to the System.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure for contingent assets and liabilities at the date of the financial statements and the reported amounts of the additions and deductions during the fiscal year. Actual results could vary from estimates that were used.

NOTE 2 PLAN DESCRIPTION

General

The System is a cost-sharing multiple-employer public employee retirement system established in 1937, under Massachusetts General Laws (MGL), Chapter 32, and is regulated by the Massachusetts Public Employee Retirement Administration Commission (PERAC). The System is a defined benefit pension plan that covers eligible employees of its member employers.

Membership in the System is mandatory immediately upon the commencement of employment for all permanent full-time employees working at least 20 hours weekly, except for school teachers and school administrators who participate in the Massachusetts Teachers' Retirement System.

Membership in the System as of December 31, 2020 was as follows:

3,941
2,414
7,137
13,492
99

The System is governed by a five-member board comprised of the Chairman/Chief Executive Officer, who serves ex-officio and is appointed by the other members of the board; two members who are elected by the participants in or retired from the services of the System; a fourth member appointed by the member employers; and a fifth member appointed by the other members of the board.

NOTE 2 PLAN DESCRIPTION (CONTINUED)

Significant Plan Provisions and Requirements

Benefit provisions and state law establishes contribution requirements of the System. Members of the System become vested after 10 years of creditable service. Normal retirement occurs at age 65 (age 67 if hired on or after April 2, 2012), except for certain public safety employees and other special situations.

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

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

Employees hired before April 2, 2012 may elect early retirement after 20 years of service or at any time after attaining age 55 with 10 years of eligible service. Plan members who become permanently and totally disabled may be eligible to receive a disability retirement allowance. The amount of benefits to be received depends on several factors, including the member's age, compensation, veteran status, years of service, and whether or not the disability is work-related. In addition, certain death benefits exist for beneficiaries of employees who die in active service.

Under MGL, c.32 Section 3(8)(a) and (b), members leaving a member employer to work for other Massachusetts governmental units requires the System transfer their accumulated account balances and creditable service to the retirement system of their new employer. Other such retirement systems are in turn required to make comparable transfers to the System for employees coming to work at a member employer of the System. Per statute, the PERAC actuary shall consider length of service as well as acceptance of military service credit and salary cap provisions if applicable in calculating the liability.

NOTE 3 DEPOSITS AND INVESTMENTS

Investment Policy

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

The System invests in the Pension Reserve Investment Trust (PRIT). PRIT meets the criteria of an external investment pool and operates in accordance with applicable state laws and regulations. The Treasurer of the Commonwealth serves as Trustee and provides regulatory oversight. The reported value of the pool is the same as the fair value of the System's position in pool shares.

The System's asset allocation policies are established by PRIT. System assets are managed on a total return basis with a long-term objective of achieving a fully funded status for the benefits provided through the System. The following was the asset allocation policy as of December 31, 2020:

Asset Class	Target Allocation (%)
Global Equity	39 %
Fixed Income	15
Value-Added Fixed Income	8
Private Equity	13
Real Estate	10
Timber/Natural Resources	4
Portfolio Completion Strategies	11

Rate of Return

For the year ended December 31, 2020, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 12.03%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deposits – Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System's policy for custodial credit risk of deposits is to rely on FDIC and DIF insurance coverage. As of December 31, 2020, the System's bank balance of \$6,790,062 was not exposed to custodial credit risk.

NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)

Investments Summary

The System's investments at December 31, 2020 are presented below. All investments are presented by investment type, with debt securities presented by maturity.

		Investment Maturities (in Years)
	Net Asset	Less
Investment Type	Value (NAV)	Than 1
External Investment Pools: Pension Reserve Investment Trust	\$ 899,736,351	\$ 899,736,351
Other Investments: Private Equity	688,422	
Total Investments	\$ 900,424,773	

Investments - Interest Rate Risk of Debt Securities

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

Investments - Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System's policy for custodial credit risk of investments intends that all investments are either insured and/or registered in the name of the System. As of December 31, 2020, the System was not exposed to custodial credit risk.

Investments – Credit Risk of Debt Securities

Credit risk for debt securities is the risk that an issuer or other counterparty to a debt security will not fulfill its obligations. The System's policy for credit risk of debt securities is to use diversification to minimize the exposure to credit risks in the aggregate investment portfolio. As of December 31, 2020, the System's debt security investments were in external investment pools unrated by national credit rating organizations.

Deposits and Investments – Foreign Currency Risk

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment or a deposit. The System's policy for foreign currency risk is to diversify the foreign countries and currencies within its international investment portfolio. As of December 31, 2020, the System was not exposed to foreign currency risk.

NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)

Investments – Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's policy for concentration of credit risk is to use extensive diversification to minimize exposure to company and industry specific risks in the aggregate investment portfolio. As of December 31, 2020, the System was not exposed to concentration of credit risk.

Investments - Fair Value

The System categorizes its fair value measurements within the fair value hierarchy established by U.S. GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted market prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

As of December 31, 2020, all of the System's investments were measured at the Net Asset Value (NAV) or its equivalent as presented in the following table:

				Redemption
	Total	Unfunded	Redemption	Notice
	Amount	Commitments	Frequency	Period
External Investment Pool (PRIT) (1)	\$ 899,736,351	\$ -	Monthly ⁽¹⁾	24 Hours ⁽¹⁾
Private Equity (2)	688,422	-	N/A ⁽²⁾	N/A ⁽²⁾
Total Investments Measured at				
the NAV	\$ 900,424,773			

- (1) External Investment Pool (PRIT) The System is a participating retirement system in the PRIT fund. The system owns units, or shared in the PRIT fund, which is a pooled investment trust. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership in the pool. Investments in the fund can be redeemed on a monthly basis with written notice submitted by the first business day of the month of redemption.
- (2) Private Equity This investment type includes investments in three private equity funds that invest primarily in private domestic and international companies of diversified industries. The fair value measurements of this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. The investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next one to five years.

NOTE 4 FUNDING POLICY

Chapter 32 of MGL governs the contributions of plan members and member employers. Depending on their employment date, active System members must contribute anywhere between 5%-9% of their gross regular compensation. Members hired after December 31, 1978 must contribute an additional 2% of regular compensation in excess of \$30,000. Employees in Group 1 hired on or after April 2, 2012 with 30 years of creditable service or greater will pay a base contribution rate of 6%. These deductions earn interest at a rate determined by PERAC that vests based upon years of service. Employers are required to pay into the System its share of the system-wide actuarial determined contribution, in accordance with Chapter 32, Section 22D and 22F of MGL, apportioned among the employers based on annual employer normal cost and amortization payments to pay the unfunded actuarial accrued liability. For the year ended December 31, 2020, active member contributions totaled \$35,391,500 and employer contributions totaled \$67,269,029.

Contributions are recognized as additions in the period when they become due pursuant to formal commitments, statutory or contractual requirements. Benefits and refunds are recognized as deductions when incurred and administrative expenses are funded through investment earnings.

Except for a portion of benefits owed due to cost-of-living adjustments (COLAs) granted through June 30, 1998, member employers are required to contribute the remaining amounts necessary to finance benefits. Member employer contributions are determined by actuarial valuations.

COLAs granted through June 30, 1998 are reimbursed by the Commonwealth of Massachusetts (the Commonwealth). COLAs granted subsequent to June 30, 1998 must be granted by the board and are the responsibility of the System. COLA may be approved in excess of the Consumer Price Index but not to exceed 3% of the base retirement allowance.

A COLA was granted to eligible retirees and survivors effective July 1, 2020. The 3% COLA was paid on a base of \$16,000 (maximum \$480).

NOTE 5 NET PENSION LIABILITY

The components of the net pension liability of the System at December 31, 2020, were as follows:

Total Pension Liability	\$1,787,058,913
Plan Fiduciary Net Position	(898,658,766)
Net Pension Liability	\$ 888,400,147
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	50.3%

NOTE 5 NET PENSION LIABILITY (CONTINUED)

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of January 1, 2020, using the following actuarial assumptions, applied to all periods included in the measurement that was updated to December 31, 2020:

Inflation: 2.2% per year

Salary increases: Group 1: 6% - 4.25%, based on service

Group 4: 7% - 4.75% based on service

Investment rate of return: 7.50%, net of pension plan investment expense, including

inflation

Mortality rates: Mortality rates were based on the RP-2014 Blue Collar Mortality

Table with full generational mortality improvement using Scale MP-2018. For disabled lives, the mortality rates were based on the RP-2014 Blue Collar Mortality Table set forward one year with full generational mortality improvement using Scale MP-

2018.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future 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 pension plan's target asset allocation as of December 31, 2020 (see the discussion of the System's investment policy) are summarized in the following table:

	Long-Term
	Expected
	Rate of
Asset Class	Return (%)
Global Equity	4.38 %
Fixed Income	1.40
Private Equity	8.00
Real Estate	3.80
Timber/Natural Resources	4.40
Portfolio Completion Strategies	3.00

NOTE 5 NET PENSION LIABILITY (CONTINUED)

Discount Rate

The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rates and that member employer contributions will be made in accordance with Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws. 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.

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

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

		Current	
	1% Decrease	Discount Rate	1% Increase
	6.50%	7.50%	8.50%
Net Pension Liability	\$1,094,446,931	\$ 888,400,147	\$ 714,426,847

NOTE 6 CONTINGENCIES

Approximately \$7,944,000 of the reimbursements and transfers to other systems liability reported in the financial statements represents amounts billed to the System by the Commonwealth of Massachusetts State Board of Retirement (the State Board) related to obligations pursuant to MGL, c.32 Section 3(8)(c). The System disputes the liability based on various considerations, such as inaccurate reimbursement calculations, reimbursements not attributable to the System and lack of documentation.

The System is in the process of attempting to revise the liability with the State Board. The outcome of this process is not presently determinable and the effect on the System's financial statements cannot be determined at this time.

WORCESTER REGIONAL RETIREMENT SYSTEM SUPPLEMENTARY INFORMATION DECEMBER 31, 2020

(SEE INDEPENDENT AUDITORS' REPORT)

SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS (1)

		2020		2019		2018		2017		2016	
Total Pension Liability											
Service Cost Interest Changes of Benefit Terms Differences Between Expected and Actual Experience Changes of Assumptions	\$	47,971,080 129,435,294	\$	45,464,593 123,507,870	\$	44,445,482 118,116,251	\$	42,736,040 112,224,318	\$	35,984,130 99,124,367	
		(23,171,133) 35,705,832		- 17,826,312		(8,110,737) -		-		8,235,183 94,194,565	
Benefit Payments, Including Refunds of Member Contributions		(93,751,426)		(88,229,714)		(83,571,930)		(77,717,794)		(72,799,275)	
Net Change in Total Pension Liability		96,189,647		98,569,061		70,879,066		77,242,564		164,738,970	
Total Pension Liability - Beginning	_	1,690,869,266		1,592,300,205		1,521,421,139		1,444,178,575		1,279,439,605	
Total Pension Liability - Ending (a)	\$	\$ 1,787,058,913		\$ 1,690,869,266		\$ 1,592,300,205		\$ 1,521,421,139		\$ 1,444,178,575	
Plan Fiduciary Net Position											
Contributions - Employers Contributions - Members Net Investment Income Benefit Payments, Including Refunds of Member Contributions	\$	67,269,029 35,391,500 97,497,004 (93,751,426)	\$	60,887,972 35,087,583 110,458,217 (88,229,714)	\$	55,674,504 33,362,836 (17,770,572) (83,571,930)	\$	50,599,326 31,592,837 103,123,070 (77,717,794)	\$	48,574,831 29,032,767 40,509,286 (72,799,275)	
Administrative Expense Other		(1,045,530) (7,441,086)		(1,112,640) (1,890,156)		(1,178,272) (6,971,840)		(1,145,509) (7,043,455)		(1,170,184) (7,195,247)	
Net Change in Plan Fiduciary Net Position		97,919,491		115,201,262		(20,455,274)		99,408,475		36,952,178	
Plan Fiduciary Net Position - Beginning		800,739,275		685,538,013		705,993,287		606,584,812		569,632,634	
Plan Fiduciary Net Position - Ending (b)	\$	898,658,766	\$	800,739,275	\$	685,538,013	\$	705,993,287	\$	606,584,812	
Net Pension Liability - Ending (a) - (b)	\$	888,400,147	\$	890,129,991	\$	906,762,192	\$	815,427,852	\$	837,593,763	
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		50.29%		47.36%		43.05%		46.40%		42.00%	
Covered Payroll	\$	321,050,145	\$	301,686,927	\$	273,888,022	\$	271,037,131	\$	282,918,805	
Net Pension Liability as a Percentage of Covered Payroll		276.72%		295.05%		331.07%		300.85%		296.05%	

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

WORCESTER REGIONAL RETIREMENT SYSTEM SUPPLEMENTARY INFORMATION (CONTINUED) DECEMBER 31, 2020

(SEE INDEPENDENT AUDITORS' REPORT)

SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS (CONTINUED)

		2015	2014			
Total Pension Liability		_				
Service Cost Interest Changes of Benefit Terms	\$	31,996,981 91,276,045 49,721,211	\$	31,996,981 84,568,061 -		
Differences Between Expected and Actual Experience Changes of Assumptions Benefit Payments, Including Refunds		31,534,870		-		
of Member Contributions		(68,086,158)		(61,338,289)		
Net Change in Total Pension Liability		136,442,949		55,226,753		
Total Pension Liability - Beginning		1,142,996,656		1,087,769,903		
Total Pension Liability - Ending (a)	\$ 1,279,439,605			\$ 1,142,996,656		
Plan Fiduciary Net Position						
Contributions - Employers Contributions - Members Net Investment Income	\$	44,986,040 52,111,046 1,177,960	\$	39,519,038 27,066,085 40,135,521		
Benefit Payments, Including Refunds of Member Contributions Administrative Expense Other		(68,086,158) (1,055,662) (7,429,438)		(61,338,289) (1,054,297) (3,178,354)		
Net Change in Plan Fiduciary Net Position		21,703,788		41,149,704		
Plan Fiduciary Net Position - Beginning		547,928,846		506,779,142		
Plan Fiduciary Net Position - Ending (b)	\$	569,632,634	\$	547,928,846		
Net Pension Liability - Ending (a) - (b)	\$	709,806,971	\$	595,067,810		
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		44.52%		47.94%		
Covered Payroll	\$	269,899,678	\$	252,829,591		
Net Pension Liability as a Percentage of Covered Payroll		262.99%		235.36%		

WORCESTER REGIONAL RETIREMENT SYSTEM SUPPLEMENTARY INFORMATION (CONTINUED) DECEMBER 31, 2020

(SEE INDEPENDENT AUDITORS' REPORT)

SCHEDULE OF EMPLOYER CONTRIBUTIONS

	2020		2019		2018		2017		2016	
Actuarially Determined Contribution	\$ 67,269,029	\$	60,887,972	\$	55,674,504	\$	50,599,326	\$	48,574,831	
Contributions in Relation to the Actuarially Determined Contribution	 67,269,029		60,887,972		55,674,504		50,599,326		48,574,831	
Contribution Deficiency (Excess)	\$ -	\$	-	\$		\$	-	\$	_	
Covered Payroll	\$ 321,050,145	\$	301,686,927	\$	273,888,022	\$	271,037,131	\$	282,918,805	
Contributions as a Percentage of Covered Payroll	20.95%		20.18%		20.33%		18.67%		17.17%	
									(Continued)	
	 2015	2014			2013		2012		2011	
Actuarially Determined Contribution	\$ 44,986,040	\$	39,519,038	\$	39,113,142	\$	34,534,582	\$	32,578,418	
Contributions in Relation to the Actuarially Determined Contribution	44,986,040		39,519,038	_	39,113,142		34,534,582		32,578,418	
Contribution Deficiency (Excess)	\$ 	\$	-	\$		\$	-	\$		
Covered Payroll	\$ 269,899,678	\$	252,829,591	\$	252,829,591	\$	238,952,079	\$	238,952,079	
Contributions as a Percentage of Covered Payroll	16.67%		15.63%		15.47%		14.45%		13.63% (Concluded)	

SCHEDULE OF INVESTMENT RETURNS (1)

	2020	2019	2018	2017	2016	2015	2014	
Annual Money-Weighted Rate of Return,								
Net of Investment Expense	12.03%	16.55%	-2.75%	16.71%	7.06%	0.05%	7.79%	

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

WORCESTER REGIONAL RETIREMENT SYSTEM NOTE TO SUPPLEMENTARY INFORMATION DECEMBER 31, 2020

NOTE 1 METHODS AND ASSUMPTIONS USED IN CALCULATIONS OF ACTUARIALLY DETERMINED CONTRIBUTIONS

The following were the actuarial methods and assumptions used to determine contribution rates reported in the schedule of employer contributions:

Actuarial cost method (2014-2020): Entry age normal

Amortization method (2014-2020): Payment increases 4.0% per year, except for

Early Retirement Incentive (ERI) Programs for 2002 and 2003 (4.5%) and 2010 (level dollar). Annual employer costs are limited to increases of 9.95% over the prior year.

Remaining amortization period (2014-2017): 19 years Remaining amortization period (2018-2019): 17 years Remaining amortization period (2020): 16 years

Asset valuation method (2014-2020): Asset smoothing

 Inflation (2014-2015):
 3.5%

 Inflation (2016-2018):
 3.0%

 Inflation (2019-2020):
 2.4%

Salary increases (2014-2015): 3.0%

Salary increases (2016-2020): Group 1: 6%-4.25%, based on service;

Group 4: 7%-4.75%, based on service

Investment rate of return (2014-2015): 8.00%
Investment rate of return (2016-2018): 7.75%
Investment rate of return (2019-2020): 7.65%

