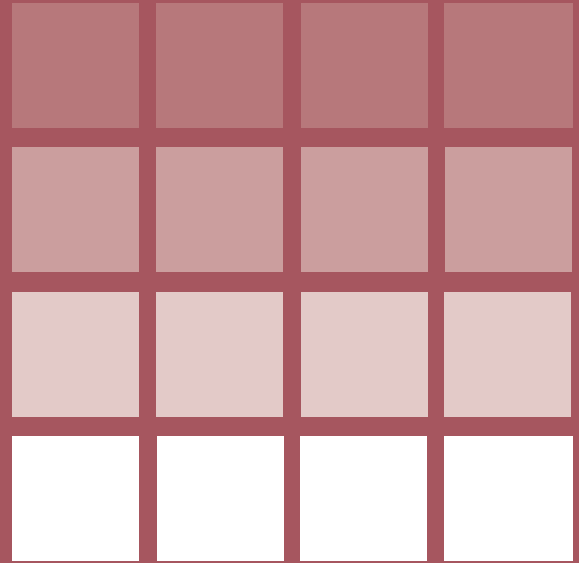




2015

ANNUAL REPORT

PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION COMMISSION

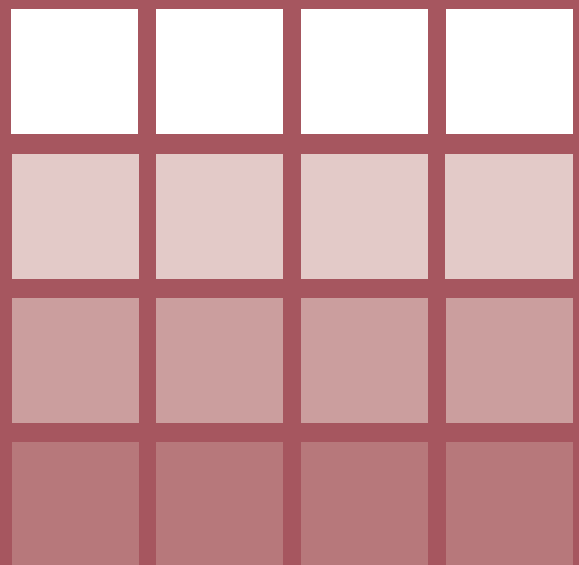


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BOARD PROFILE INDEX

Adams 10	Dedham 32	Leominster 54	New Bedford 76	State 98
Amesbury 11	Dukes County 33	Lexington 55	Newburyport 77	Stoneham 99
Andover 12	Easthampton 34	Lowell 56	Newton 78	Swampscott 100
Arlington 13	Essex Regional 35	Lynn 57	Norfolk County 79	Taunton 101
Attleboro 14	Everett 36	Malden 58	North Adams 80	Wakefield 102
Barnstable County 15	Fairhaven 37	Marblehead 59	North Attleboro 81	Waltham 103
Belmont 16	Fall River 38	Marlborough 60	Northampton 82	Watertown 104
Berkshire County 17	Falmouth 39	MHFA 61	Northbridge 83	Webster 105
Beverly 18	Fitchburg 40	Massport 62	Norwood 84	Wellesley 106
Blue Hills Regional 19	Framingham 41	MTRS (State Teachers) 63	Peabody 85	West Springfield 107
Boston (City) 20	Franklin Regional 42	MWRA 64	Pittsfield 86	Westfield 108
Boston Teachers 21	Gardner 43	Maynard 65	Plymouth 87	Weymouth 109
Braintree 22	Gloucester 44	Medford 66	Plymouth County 88	Winchester 110
Bristol County 23	Greater Lawrence 45	Melrose 67	Quincy 89	Winthrop 111
Brockton 24	Greenfield 46	Methuen 68	Reading 90	Woburn 112
Brookline 25	Hampden County 47	Middlesex County 69	Revere 91	Worcester 113
Cambridge 26	Hampshire County 48	Milford 70	Salem 92	Worcester Regional 114
Chelsea 27	Haverhill 49	Milton 71	Saugus 93	PRIM 115
Chicopee 28	Hingham 50	Minuteman Regional 72	Shrewsbury 94	
Clinton 29	Holyoke 51	Montague 73	Somerville 95	
Concord 30	Hull 52	Natick 74	Southbridge 96	
Danvers 31	Lawrence 53	Needham 75	Springfield 97	

2015 COMMISSION MEMBERS

CHAIRMAN



► **Philip Y. Brown, Esq.**
Chairman

VICE CHAIRMAN



► **The Honorable Suzanne M. Bump**
Auditor of the Commonwealth



➤ **Kathleen M. Fallon**
Practice Area Director,
Public Consulting Group



➤ **Kate Fitzpatrick**
Town Manager,
Town of Needham



➤ **James M. Machado**
Sergeant, Fall River Police Department



➤ **Robert B. McCarthy**
President Emeritus of the Professional
Fire Fighters of Massachusetts



➤ **Jennifer F. Sullivan**
Assistant Secretary for Capital Finance,
Administration & Finance

PERAC MISSION STATEMENT

The Public Employee Retirement Administration Commission (PERAC) was created for and is dedicated to the oversight, guidance, monitoring, and regulation of the Massachusetts Public Pension Systems.

The professional, prudent, and efficient administration of these systems is the public trust of PERAC and each of the 104 public pension systems for the mutual benefit of the public employees, public employers, and citizens of Massachusetts. The stewardship of the Trust Funds for the sole purpose of providing the benefits guaranteed to the public employees qualifying under the plans is the fulfillment of the obligation of the people of the Commonwealth to those who have dedicated their professional careers to the service of the people of the Commonwealth.



LETTER FROM THE CHAIRMAN



The Public Employee Retirement Administration Commission is pleased to release this 2015 Annual Report reviewing the status of the Massachusetts' public pension plans.

Since the publication of our last Annual Report we have had some changes in the composition of the Commission. Commissioners Liz Fontaine, the investment appointee of the Governor, John Langan, the gubernatorial representative and Gerry McDonough, the State Auditor's designee have all moved on and we will miss their service and wise counsel. Their seats are now respectively occupied by Kathleen Fallon, Jennifer F. Sullivan, and Timothy Dooling.

We were very fortunate to have Liz, John, and Gerry's services. Liz applied her vast knowledge of finance to the decisions of the Commission and made a lasting contribution to its success. Beyond this Liz displayed good humor, congeniality and a sunny disposition in her dealings with other Commissioners, staff and the public pension community. In addition, her rigorous analytical thought was appreciated by all of us on the Commission. John brought his skills as a labor negotiator to the difficult issues confronted by the Commission. In addition, his calm demeanor and reasoned approach

contributed to ensuring that, in spite of disagreements on issues, the Commission's deliberations took place in a cooperative and friendly manner. As he continues his public service, these attributes will ensure that the citizens of Massachusetts are well served. Gerry's decision to retire from public service and return to the practice of law is the Commonwealth's loss and the private legal bar's gain. During his tenure Gerry was a strong advocate for employees, particularly those in more modest positions. His extensive knowledge of Chapter 32, broad experience in government and eloquent arguments brought light to many of the difficult matters faced by the Commission in dealing with the complexities of our pension law. We will miss his advocacy and his wisdom but have no doubt he will achieve further success in his renewed career in the private practice of law.

These three individuals, as well as those who have served on the Commission in the past and those presently serving, exemplify the best in committed citizens willing to give of themselves for the betterment of the Commonwealth.

The Commission is very fortunate, however, to have three extremely talented, bright and capable people join us. Commissioner Kathleen Fallon is Practice Area Director responsible for the Human Resources Practice for Public Consulting Group. She also has an extensive background in working for the state and her state service includes working as an aide to Representative Ellen Story and in the Fiscal Affairs Division of the Executive Office of Administration and Finance. She already has made an impact on the Commission with her thoughtful questions and insights.

Commissioner Timothy Dooling is the Deputy Auditor and General Counsel in the Office of the State Auditor. Commissioner Dooling has a long record of service in government having been General Counsel and Deputy Director of Career Services in the Executive Office of Labor and Workforce Development, chief legal counsel and acting executive director of the Parole Board, assistant general Counsel for the Suffolk County Sheriff's Department and an assistant district attorney in Essex

County. His experience, expertise, and proven good judgment will be an asset to the Commission.

Jennifer Sullivan, Assistant Secretary for Capital Finance, Administration & Finance comes to the Commission with an impressive background of both public and private service. She began her career as an analyst with Administration and Finance before attending law school at the University of Michigan. After law school, her career alternated between the public and private sector as she worked for national law firms, including Ropes & Gray LLP and Edwards Wildman Palmer, and was Counsel to the Massachusetts Senate Committee on Ways and Means. Already, she has impressed her colleagues with her intellect and focus.

Both Commissioner McCarthy and Commissioner Machado bring extremely valuable institutional knowledge to the meetings along with their thoughtful questions.

The investment performance of the systems detailed in this Report generally tracked that of pension plans throughout the nation. Although in 2015 Massachusetts' returns ranged from - 3.33% to 4.45%, most systems achieved returns between 1.03% and 1.75%. In spite of the lower returns driven by market conditions, long range performance with very few exceptions exceeded 7.50% and, for more than a quarter of the systems was above 9.00%.

The last year has seen a continued focus on the state of public pension systems across the nation. It needs to be stressed once

close oversight of public pension systems and the Commonwealth as well as its cities, towns and municipalities are diligent in funding the pension system. Structural reforms enacted several years ago should begin to impact our fiscal condition as the demographics of the work force change. Governance reforms have led to Board members having a more detailed knowledge of their role and incorporated enhanced transparency and best practices into management. In addition, aggressive action by the PERAC Actuary in revising investment assumptions and updating mortality tables to trend with industry practices, while in the near term seeming to exacerbate funding problems will, in the long run, lead to a sound and sustainable pension system.

As always, the Commission and staff will use our best efforts to assist the retirement boards in safeguarding the interests of system members and beneficiaries.

Sincerely,



Philip Y. Brown
Chairman

*Although in 2015 Massachusetts' returns ranged from
- 3.33% to 4.45%, most systems achieved returns
between 1.03% and 1.75%*

I am also pleased to report that Bob McCarthy has been re-appointed by Auditor Bump to the seat on the Commission as designee of the President of the Massachusetts AFL-CIO.

again that Massachusetts has taken a markedly different approach than many other jurisdictions. Our legislature has wisely put into place a statutory structure that calls for



LETTER FROM THE EXECUTIVE DIRECTOR



The Commission and staff are pleased to release this Annual Report on the Massachusetts Public Retirement Systems for 2015, a year in which despite flat capital markets progress was made in adjusting to governance reforms, increasing transparency and updating actuarial assumptions. In the latter area retirement boards have adopted more conservative investment assumptions, updated mortality tables and addressed new accounting standards and, as a result, stand well positioned for meeting the fiscal challenges ahead.

As we went to press with the 2014 Annual Report the threat of weakened statutory provisions related to board governance, transparency and best practices was embodied in outside sections contained in the FY 2015 Budget adopted by the Legislature. It was my belief at the time and it remains my belief that these proposed changes were animated by the fact that undue influence on board decisions has been reduced by Chapter 176.

One of those recommendations which would have effectively eliminated the need for due diligence in the majority of private equity and real estate procurements was fortunately vetoed by Governor Baker "...because it authorizes the state's many retirement systems to engage in follow-on investments without the protection afforded by up-to-date due diligence". That veto was not overridden and the reforms, at least in regard to this issue, remain intact. However, the other measure that extended the period in which a search must be undertaken from five to seven years is now law. Unfortunately that action limits competition for retirement board business.

There is no question that a segment of the pension community is frustrated by the reform of the Massachusetts marketplace. We will remain vigilant and strongly urge all of those who have the best interests of members, retirees and taxpayers in mind to join us in resisting efforts to further weaken reform.

COMMISSION/STAFF CHANGES

Chairman Brown has reviewed the comings and goings of Commission members over the course of the last year. On behalf of the staff I would like to express our thanks to, and our admiration for, former Commissioners Gerry McDonough, John Langan and Liz Fontaine. Each of these individuals through their good nature, enthusiasm and expertise inspired us to our best efforts and contributed to PERAC being a pleasant place to work.

Similarly, in the relatively short time that Commissioners Kathleen Fallon, Jennifer Sullivan and Timothy Dooling have served, we all sense their dedication, interest and

good will. In combination with "old hands" Chairman Brown and Commissioners Robert McCarthy, James Machado, and Kate Fitzpatrick, the Commission is well positioned for continued success.

Staff changes also took place during the year. Caryn Shea joined PERAC in the role of Chief Auditor in the wake of Harry Chadwick's decision to return to Western Massachusetts as a Field Auditor. Caryn has extensive auditing experience and worked her way up from Field Auditor to Quality Assurance Manager in the Office of the State Auditor. In addition she is familiar to the public pension community having served on the Shrewsbury Retirement Board since 1996. Scott Henderson was appointed as Deputy Chief Auditor. It is hard to believe but Scott, a favorite of Board administrators, has been with PERAC for nearly twenty years, first, in the Actuarial Unit and, more recently, in the Audit Unit. Scott assumes the position vacated by the retirement of Jim Tivnan.

Vacant positions in the Audit Unit were also filled with the hiring of Amy Chow, George Nsia, and Kevin McCarthy. Amy is an attorney with previous experience as an investigator for the MCAD as well as in financial accounting. She is in the process of becoming a CPA. George holds a Master's Degree in Financial Economics and has over seventeen years of Accounting and Auditing experience. Most recently George worked as a staff auditor with a private sector audit firm. Kevin has served as the Chief Financial Officer of the City of Boston Credit Union, University Credit Union and Tremont Credit Union. He is a CPA with over twenty five years of experience in public accounting and private industry.

Another excellent addition to PERAC staff is Samantha MacMillan, Actuarial Analyst. Samantha is a graduate of Nichols College with a degree in Mathematics and is taking the actuarial examinations in order to become an Enrolled Actuary.

FEE REPORT

PERAC published the first in the nation compilation of the fees paid by the pension systems to investment vendors. The report consisted of the Schedule 7 filed by each Board as part of its Annual Statement of Financial Condition. According to these submissions (some of which were incomplete) local systems paid \$150,635,711.00 to investment service providers in 2014.

The Report also stressed that Schedule 7 fees represented one source of cost to Boards but that other compensation in the form of "carried interest" paid to general partners, "deferred load" payments in the mutual fund context, catch up fees and other costs such as Legal Expenses and Fiduciary Insurance impact the return on investment.

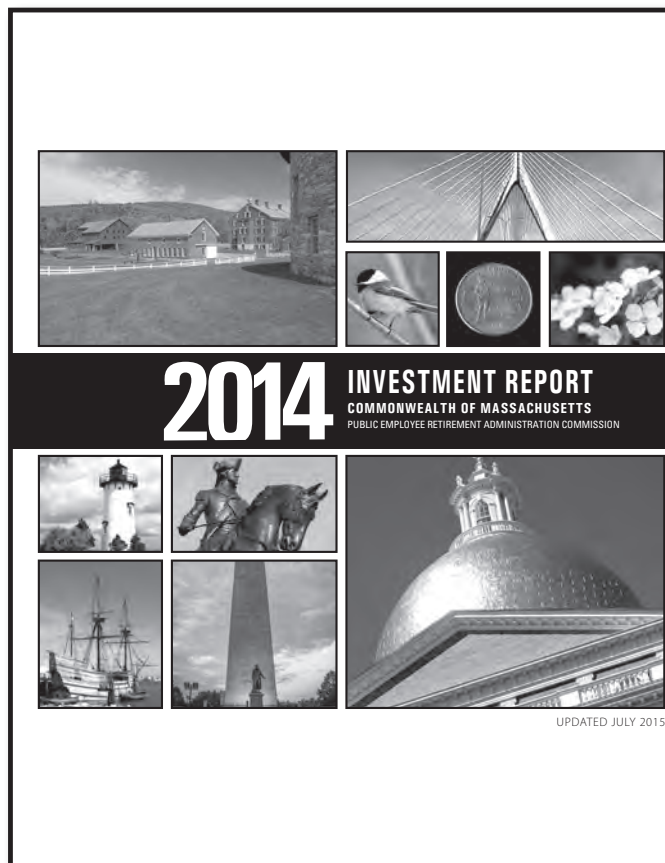
The level of cost in and of itself is neither a positive or negative but must be assessed in the context of returns as performance may justify cost.

We intend to make publication of this data an annual event.

It should also be emphasized that retirement boards must conduct their own analysis of the fees paid or expected to be paid in connection with investment activities. Over the last few years our analysis has found that service providers often are unclear about not only the costs to the system but also the manner in which payment is made.

Some arrangements include a payment directly from the Board as

well as a reduction of the value of the Board account. The latter, at least in one instance, has been misleadingly identified as a "rebate".



PERAC published the first in the nation compilation of the fees paid by the pension systems to investment vendors.

EMERGING ISSUES FORUM

PERAC held its Eleventh Emerging Issues Forum at the College of the Holy Cross in September 2015. Over 260 people participated and board members attending received three educational credits. The keynote address by Treasurer Deborah Goldberg underscored her commitment to the public pension community. The Treasurer was well received as she mingled with attendees following her remarks. Glenn Doggett of the Chartered Financial Analyst (CFA) Institute kicked off the presentations with a discussion entitled "Alignment Principles from Trustee to Manager". Mr. Doggett stressed the importance of ethics and subscribing to a code of standards as Board members but also the duty of the Board to insist that investment vendors follow those standards. Evan Tylanda of the Sustainability Accounting Standards Board (SASB) addressed the topic of "Sustainable Investing: Investing for the Greater Good".

Following that session a panel discussion of OPEB chaired by PERAC Commissioner and



State Treasurer Deborah B. Goldberg delivers the keynote speech.

Needham Town Manager Kate Fitzpatrick took place. Scott McIntire of Melanson Heath used his presentation "The Auditor's Experience: The Real Impact of Governmental Accounting Standards Board (GASB) 74 & 75" to highlight changes resulting from those pronouncements and how Boards should deal with these issues. Daniel Rhodes of the Segal Company provided the attendees with an actuary's perspective with "How Working With The Actuary Can Help Municipalities Make Progress Toward Funding OPEB". His remarks noted that GASB 74 & 75 do not address funding which is a local policy decision. He reviewed funding examples and the world before and after GASB's action. Paul Todisco of PRIM explained the operation

of the State Retirees Benefits Trust and the investing options available to Boards in managing funds set aside for future costs. Following lunch a session on Media/Crisis Relations, "How to React and Respond!" with Joe Shortsleeve of the Liberty Group and Ashley McCown of Solomon, McCown & Company outlined the do's and don'ts of media relations particularly when the topic is bad news. The examples provided and the insights offered made this a highlight of the day. The Forum concluded with PERAC Communications Director Natacha Dunker and a sneak preview of PERAC's new website. Natacha's hands on instruction was well received and ensured a warm reception for the new web site.

A word must be said about the participation of the board members and others at the Forum. In particular Board Member Kenneth Hartwell of Andover made a lasting impact on PERAC Commissioners, staff, Board members and presenters. His brief questions and extensive commentary stood out and made for an unforgettable event.



Kate Fitzpatrick, PERAC Commissioner and Needham Town Manager chaired the panel discussion of OPEB.



Joe Shortsleeve from the Liberty Square Group talks about the Media and Crisis Relations.

WEB SITE/COMMUNICATIONS

As referenced at the Emerging Issues Forum, last fall we completed the transition to the new website now located at the Mass.gov portal. The new website makes information easier to locate, uses up-to-date technology, and enables us to continuously update its content. One of the most gratifying aspects of working this through was the enthusiastic response of retirement board members and staff to our request for comments as to how best to organize the site. That input is reflected in the final product.

It is hoped that as we go forward the website will be a platform for the dissemination of new and current information. With that in mind if you have suggestions or comments, please contact the Communications Unit at nadunker@per.state.ma.us.

Following close behind the upgrade of our Website, during this past year the Commission embarked on an ambitious IT overhaul of its current systems. Through a competitive process the Commission selected a Massachusetts firm, Collaborative Consulting to achieve our goal of improving the system's capabilities and creating more efficient business processes for both PERAC and our Stakeholders through the use of self-service portals, electronic signatures and a centralized database. Although the timetable for completion has not been finalized as we go to print, we firmly believe that following a

reasonable learning curve period a dramatic simplification of our interaction with board administrators, board members, and vendors will be achieved.

REGULATIONS

The long process of revising PERAC regulations pertaining to disability and retirement board elections was completed with the publication of the regulations in the Code of Massachusetts Regulations on March 11, 2016. Because of the unique nature of the PERAC regulation process it took more than eighteen months between the commencement of that process and the publication.

Disability changes focused on the clarification of medical panel reports and attendance at those panels. Also, the disability regulations make it clear that all voting members of a board must sign each disability transmittal sent to PERAC. Failure to do so will result in remand. In the area of 91A filings PERAC may now waive the annual filing of earnings for a retiree on disability for twenty or more years who has not reported any earnings for ten years.

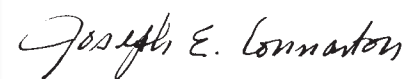
Election changes pertained to clarifying the voting rights of inactive members, definitions, and eligibility to serve among other issues.

CONCLUSION

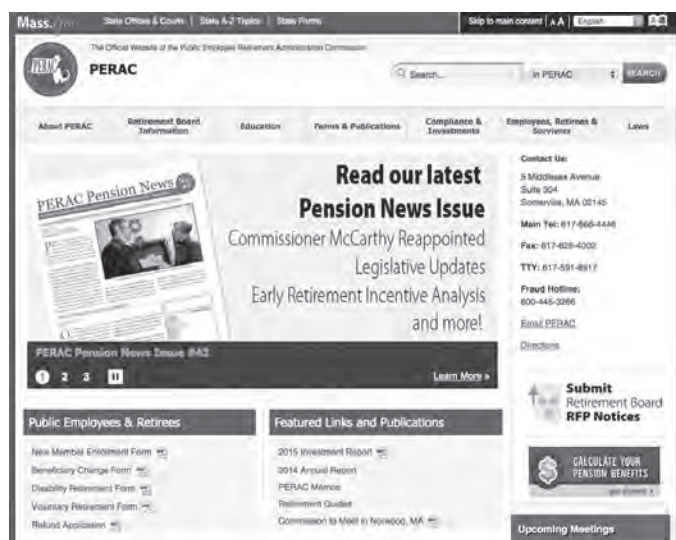
Although investment returns in 2015 again generally mirrored the markets and the experience of the retirement boards around the country, returns for 2015 were well below the actuarial assumptions. However long term returns remained in general above assumptions and as assumptions are being reduced we are better positioned for the future.

Unfortunately, as noted above, we do not operate in a vacuum. Action or inaction by unrelated pension funds can generate criticism of all public pension funds. Trends elsewhere are misinterpreted and applied to the unique circumstances of Massachusetts. Nonetheless we must rededicate ourselves to meeting the challenges ahead and ensuring that the interests of system members and their beneficiaries as well as the taxpayers are paramount. It is that goal which unites us all, the regulator and the regulated, as we move forward.

Sincerely,



Joseph E. Connarton
Executive Director



The new PERAC website makes information easier to locate, uses up-to-date technology, and is easier to continuously update content.



INTRODUCTION

The Board Profile section of the PERAC Annual Report provides a detailed assessment of some of the important indicators relative to the financial health of the retirement systems. The information provided in this report can enable board members to provide factual comment and advice to policy-makers as various proposals relative to the retirement law are assessed. Through this and other studies, the Commission seeks to provide objective, comprehensive, and accurate data for use by all interested parties.

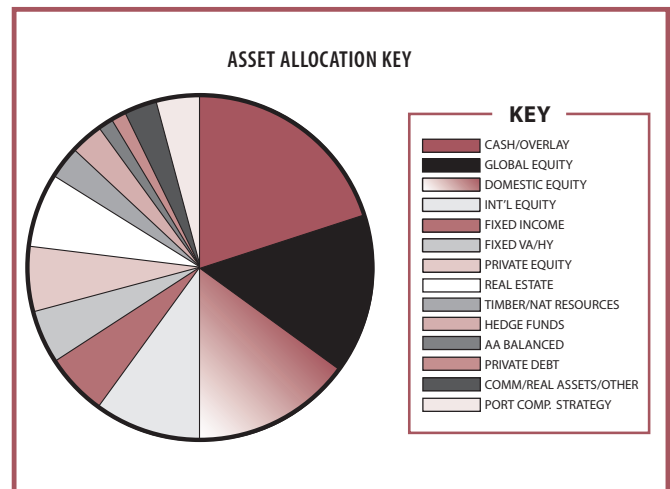
A WORD ON PORTFOLIO VALUATIONS

In assessing investment performance, PERAC relies on the retirement boards to submit accurate and complete information about investment activity. PERAC numbers might differ from those provided to a board by its consultant because PERAC measures all assets, including monies not committed to investment management.

Asset allocation is presented in graph form. The way a board allocates its assets among the various investment classes available to it has long been recognized as the prime determining factor in the generation of returns. Allocation information reported by the investment consultants advising the retirement boards or PRIM forms the basis of these graphs. PERAC has not independently confirmed the accuracy of this data.

*PERAC approved 40 revised
funding schedules and completed
24 actuarial valuations in 2015*

The Key used for the Asset Allocation graphs is shown below.



ACTUARIAL

As always, actuarial information details the fiscal condition of the systems, which can play a direct role in state and local budgets. The funded ratio indicates the extent to which assets cover system liabilities. When the system will pay off its unfunded liability and what type of funding technique is being used are also noted. PERAC has consistently urged boards to conduct actuarial valuations in order to provide an up-to-date assessment of the fiscal condition of the system.

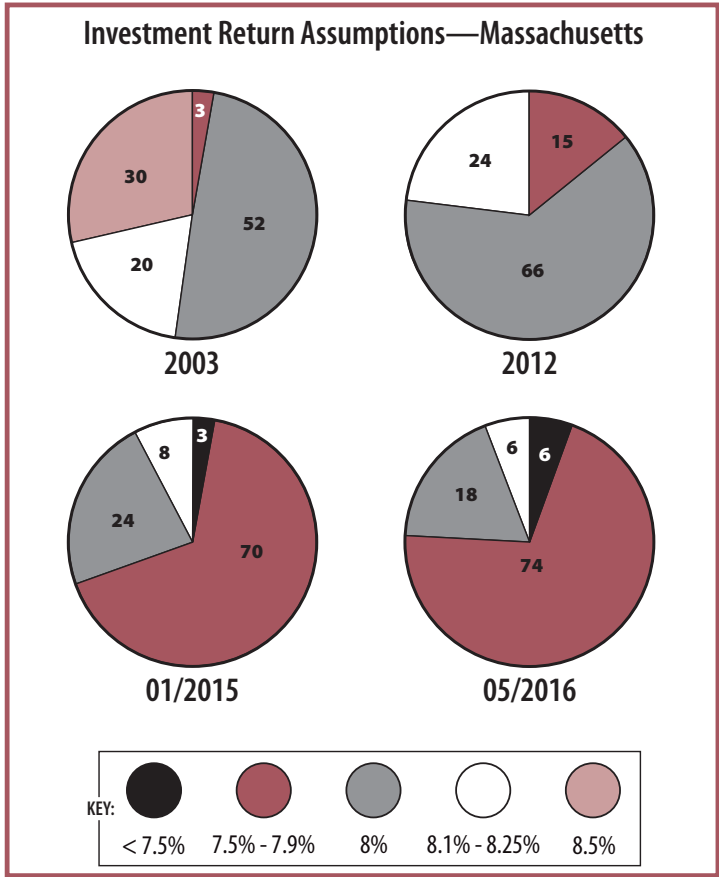
The Funding Schedule item reflects the amortization schedule for the Unfunded Actuarial Liability (UAL). For example, 1.5% increasing with a year fully funded of 2030 means the UAL is being amortized on a 1.5% annually increasing basis to FY30.

A number of systems utilize phase-in schedules in which payments increase more rapidly over the first few years of the schedule than later in the schedule. We reflect those schedules using the ultimate amortization schedule and note there is a phase-in. For example, "4.0% Increasing Phase-in"

with a year fully funded of 2035 means the total appropriation increases by a certain percent per year for a period of time and then the remaining unfunded liability is amortized on a 4.0% annual increasing basis until FY35. Seventeen systems currently use a phase-in approach and both the percentage increase and number of years before the amortization begins vary. Schedules described as "Total Increasing" mean the annual appropriation increases by the amount indicated, which may vary, for the entire schedule. Fifty-one systems have such a schedule. In total, about three-quarter of systems utilize a phase-in and/or total increasing schedule.

PERAC approved 40 revised funding schedules and completed 24 actuarial valuations in 2015. The valuations complemented the 24 valuations performed by private actuaries. The Actuarial Unit also completed the annual actuarial valuation of the Commonwealth's pension liability. Throughout the year, PERAC responded to legislative and gubernatorial requests for analysis of legislation and made presentations at several forums.

The Massachusetts Investment Return Assumptions from 2003 to present is illustrated below.



MEDICAL PANELS/POST RETIREMENT EARNINGS

In addition to the information detailed in the Profiles, PERAC, as always, has been busy assisting the boards in other areas. In 2015, 648 medical panel requests were processed and 1,398 comprehensive medical evaluations were conducted. This led to the approval of 543 disability applications and 66 accidental death claims. 28 medical re-examinations of disability retirees took place.

Such medical evaluations and examination resulted in 2 members returning to work saving the systems \$64,445.00.

PERAC is responsible for the post-retirement monitoring of disabled retirees. One aspect of that task is enforcing the earnings limits set forth in Chapter 32. In 2015, PERAC analyzed 15,887 earnings reports, 3,945 retirees reported earnings and 146 earned in excess of the statutory limits. An additional 84 retirees failed to comply with the reporting requirement. This resulted in the identification of \$1,459,550.00 in excess earnings and \$2,176,174.00 for non-compliance. In addition 36 retirees waived their allowance saving \$556,935.00.

One members' retirement benefit was modified under the Commission's Modification Policy in 2015. This review to date has resulted in the modification of 15 member retirement allowances. Savings due to that action total \$328,025.00 annually.

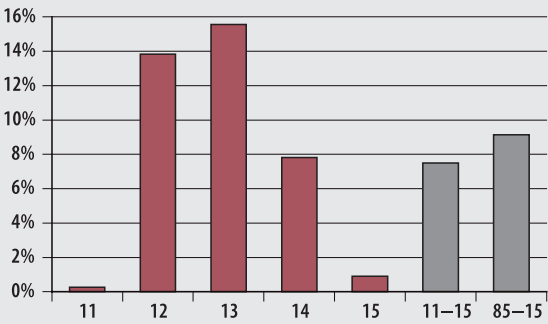
AUDITS

In 2015 PERAC published 22 audits of retirement systems. In addition, 6 follow-up audits were issued. In the last few years the Commission has awarded Certificates of Achievement to those systems found by our auditors to be operating in an exemplary fashion. In 2015 we issued 8 Certificates of Achievement. As always, PERAC audit staff conducted annual seminars on the preparation of the Annual Statement.

COMPOSITE INVESTMENT PROFILE

- ▶ Commonwealth of Massachusetts
- ▶ Public Employee Retirement Systems and Pension Reserves Investment Trust

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



INVESTMENT

▶ 2015 Return	.91%
▶ 2015 Market Value	\$72.7 B
▶ 2011-2015 (Annualized)	7.49%
▶ 1985-2015 (Annualized)	9.14%

Adams

Town Hall
8 Park Street, 3rd Floor
Adams, MA 01220
Phone 413-743-5575
Fax 413-743-2815

Board Members

Bernard Pinonnault (Chairperson),
Mary Beverly, David Clark, Allen Mendel,
Patricia Wol

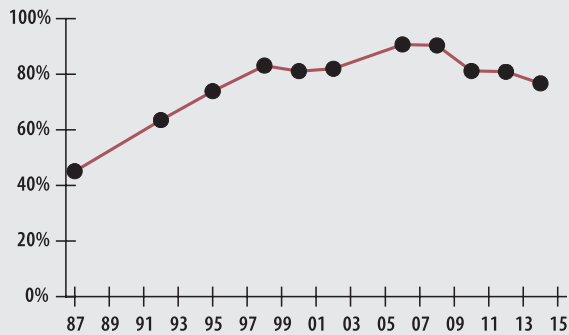
Board Administrator

Cheryl J. DeMarsico

Board Meeting

Fourth Monday of each month at 4:00 pm

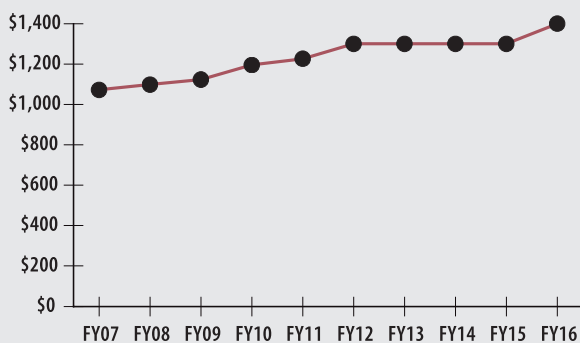
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

7.69%

30 years 2014

8.08%

29 years 2013

8.33%

10 years 2015

4.04%

10 years 2014

4.95%

10 years 2013

5.63%

5 years 2015

4.66%

5 years 2014

7.27%

5 years 2013

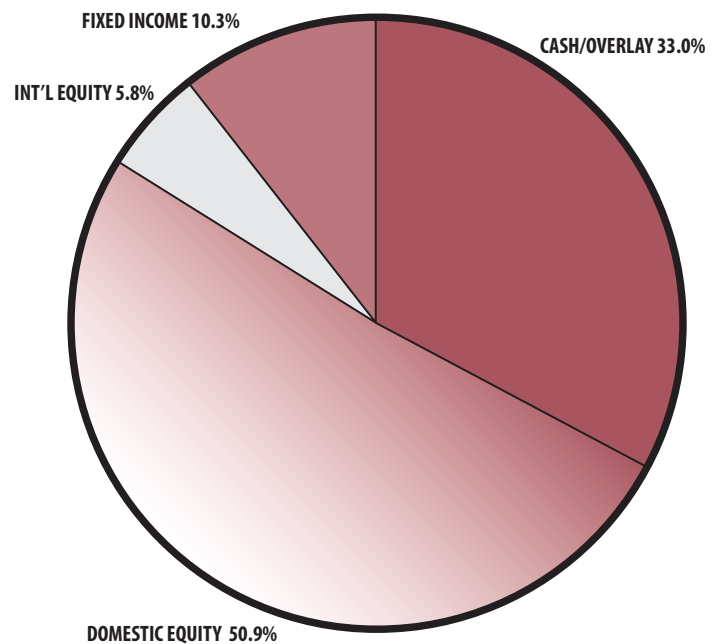
10.68%

ACTUARIAL

▶ Funded Ratio	76.7%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.00%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$9.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$1.4 M

	ACTIVE	RETIRED
▶ Number of Members	200	127
▶ Total Payroll/Benefit	\$6.3 M	\$1.9 M
▶ Average Salary/Benefit	\$31,700	\$15,000
▶ Average Age	48	72
▶ Average Service	12.3 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	7
▶ Number Who Reported Earnings	1
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-3.33%
▶ 2015 Market Value	\$31.0 M
▶ 2011-2015 (Annualized)	4.66%
▶ 1985-2015(Annualized)	7.69%

Amesbury

Town Hall
62 Friend Street
Amesbury, MA 01913-2825
Phone 978-388-8131
Fax 978-388-6727

Board Members

Donna Cornoni (Chairperson),
Michael Cronin, Mary Marino,
James L. Lynch, Jr., David S. Van Dam,

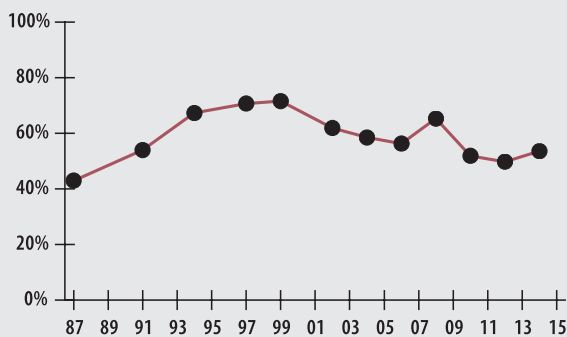
Board Administrator

Kevin Caira

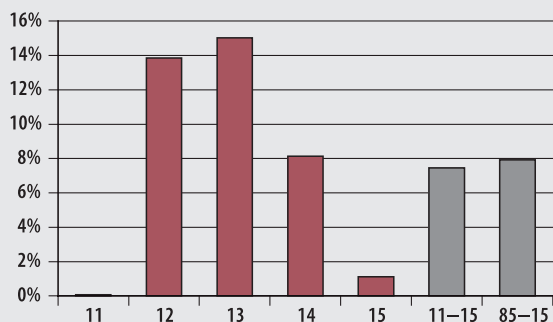
Board Meeting

Last Thursday of each month at 1:30 pm

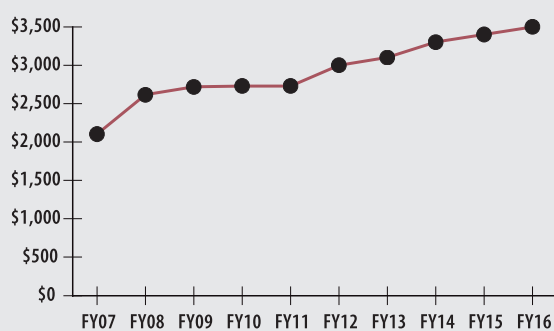
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

7.92%

30 years 2014

8.15%

29 years 2013

8.15%

10 years 2015

5.47%

10 years 2014

6.09%

10 years 2013

6.33%

5 years 2015

7.46%

5 years 2014

9.97%

5 years 2013

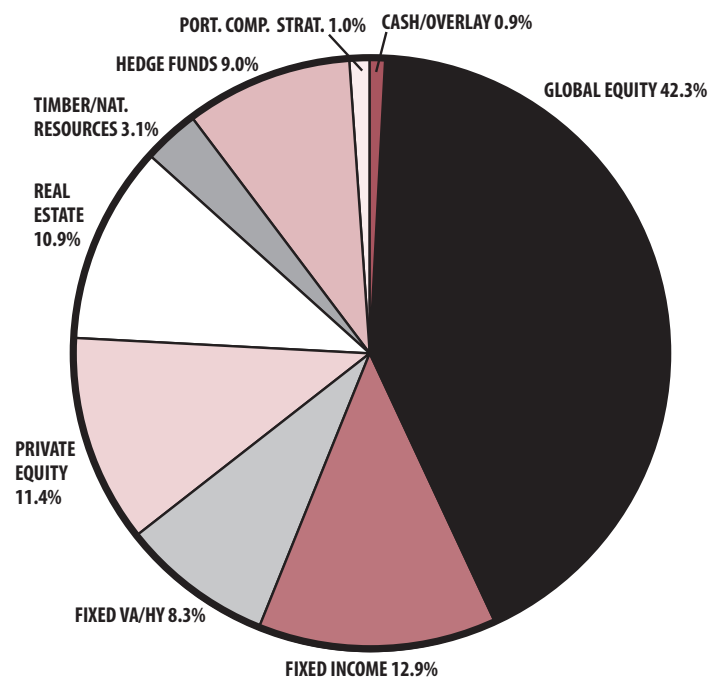
11.84%

ACTUARIAL

▶ Funded Ratio	53.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.25%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$37.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.5 M

	ACTIVE	RETIRED
▶ Number of Members	252	233
▶ Total Payroll/Benefit	\$12.3 M	\$4.6 M
▶ Average Salary/Benefit	\$48,900	\$19,900
▶ Average Age	NA	73
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	13
▶ Number Who Reported Earnings	6
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.12%
▶ 2015 Market Value	\$48.0 M
▶ 2011-2015 (Annualized)	7.46%
▶ 1985-2015 (Annualized)	7.92%

Andover

Town Offices
36 Bartlet Street
Andover, MA 01810
Phone 978-623-8213
Fax 978-623-8471

Board Members

James A. Cuticchia (Chairperson),
Elena M. Kothman, Thomas P. Hartwell,
Theodora K. Moccia,
Anthony K. Stankiewicz, Esq.

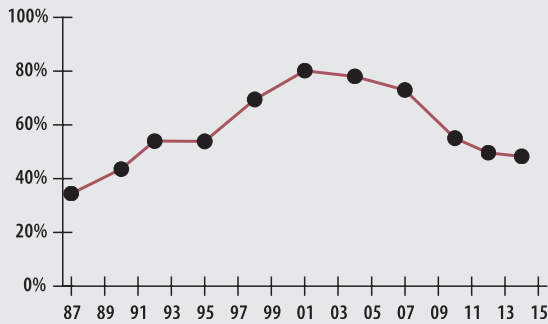
Board Administrator

Elena M. Kothman

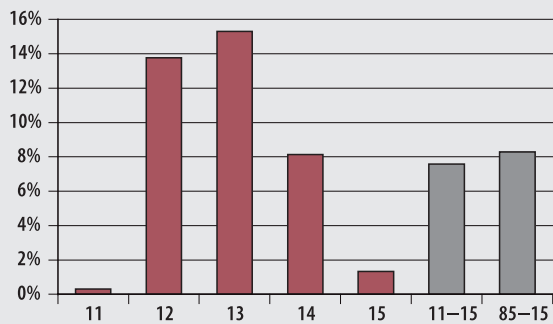
Board Meeting

Day and date vary

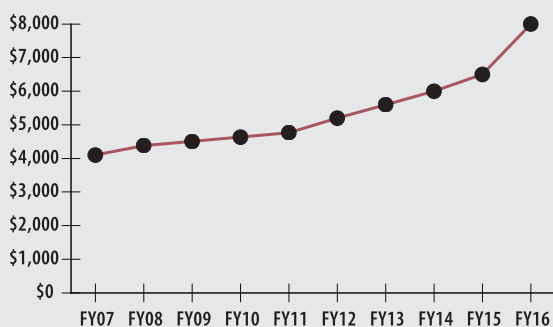
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

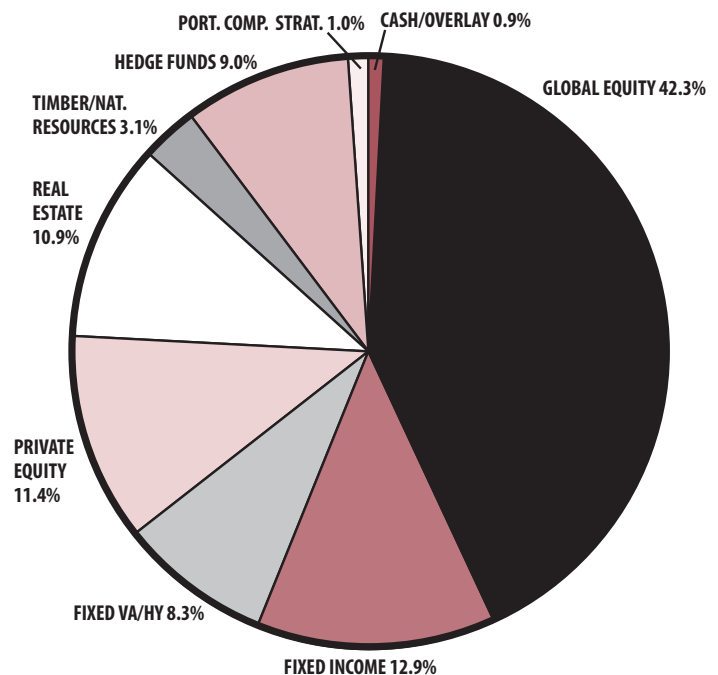
31 years 2015 8.29%	30 years 2014 8.53%	29 years 2013 8.54%
10 years 2015 5.06%	10 years 2014 5.61%	10 years 2013 5.42%
5 years 2015 7.59%	5 years 2014 10.08%	5 years 2013 11.96%

ACTUARIAL

▶ Funded Ratio	48.3%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	8.0% Total Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$110.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$8.0 M

	ACTIVE	RETIRED
▶ Number of Members	733	413
▶ Total Payroll/Benefit	\$36.5 M	\$11.2 M
▶ Average Salary/Benefit	\$49,800	\$27,200
▶ Average Age	49	NA
▶ Average Service	12.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	33
▶ Number Who Reported Earnings	12
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.34%
▶ 2015 Market Value	\$115.6 M
▶ 2011-2015 (Annualized)	7.59%
▶ 1985-2015 (Annualized)	8.29%

Arlington

27 Maple Street, Suite G-11
Arlington, MA 02476-4701
Phone 781-316-3370
Fax 781-316-3379

Board Members

John J. Bilafer (Chairperson),
Kenneth Hughes, Richard Keshian,
Ken Steele, Richard J. Viscay

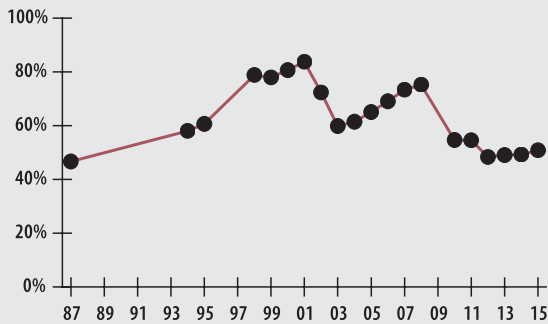
Board Administrator

Richard Greco

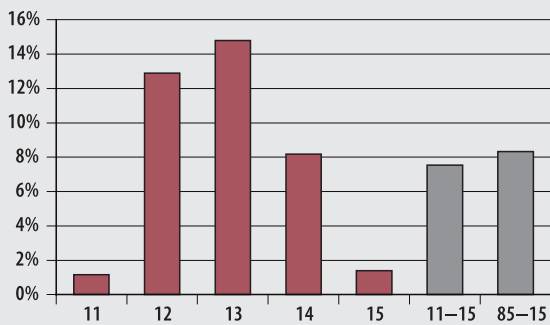
Board Meeting

Last Thursday of the month

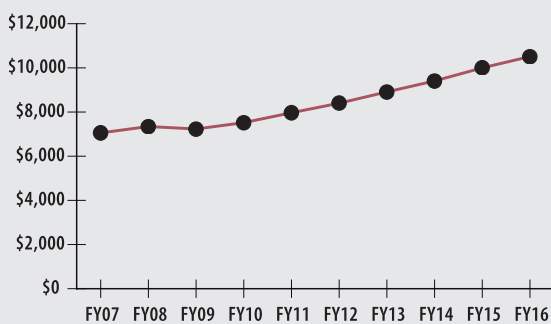
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.32%

30 years 2014

8.56%

29 years 2013

8.57%

10 years 2015

4.45%

10 years 2014

4.87%

10 years 2013

5.22%

5 years 2015

7.54%

5 years 2014

9.92%

5 years 2013

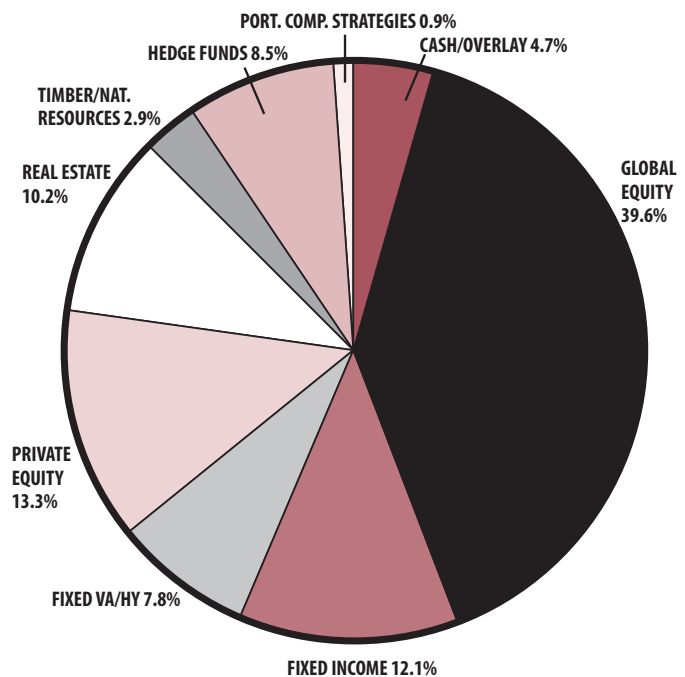
11.23%

ACTUARIAL

▶ Funded Ratio	50.9%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	5.5% Total Increasing
▶ Year Fully Funded	2033
▶ Unfunded Liability	\$125.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$10.5 M

	ACTIVE	RETIRED
▶ Number of Members	705	605
▶ Total Payroll/Benefit	\$33.5 M	\$16.2 M
▶ Average Salary/Benefit	\$47,600	\$26,800
▶ Average Age	47	75
▶ Average Service	11.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	78
▶ Number Who Reported Earnings	17
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$4,277.05

▶ 2015 Return	1.39%
▶ 2015 Market Value	\$132.9 M
▶ 2011-2015 (Annualized)	7.54%
▶ 1985-2015 (Annualized)	8.32%

Attleboro

77 Park Street
Attleboro, MA 02703
Phone 508-223-2222, ext. 3201
Fax 508-223-2063

Board Members

Gary S. Sagar (Chairperson),
Richard V. Boucher, James M. Castro,
Deborah C. Gould, Bruce R. Tondreau

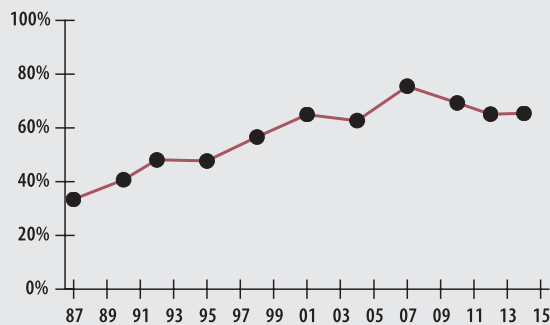
Board Administrator

Leslie J. Ring

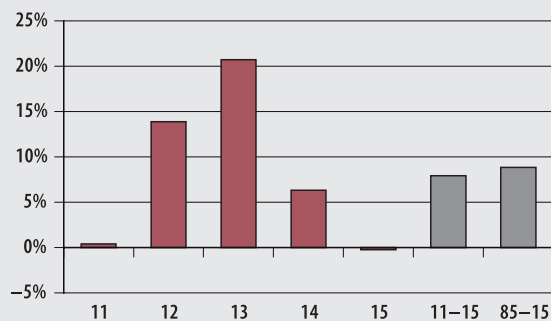
Board Meeting

Varies, usually the last week in the month

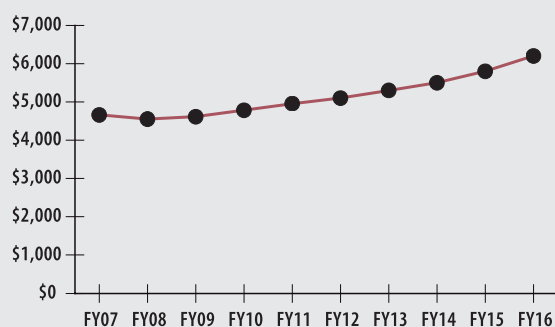
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.87%

30 years 2014

9.18%

29 years 2013

9.28%

10 years 2015

6.19%

10 years 2014

7.22%

10 years 2013

7.95%

5 years 2015

7.94%

5 years 2014

11.26%

5 years 2013

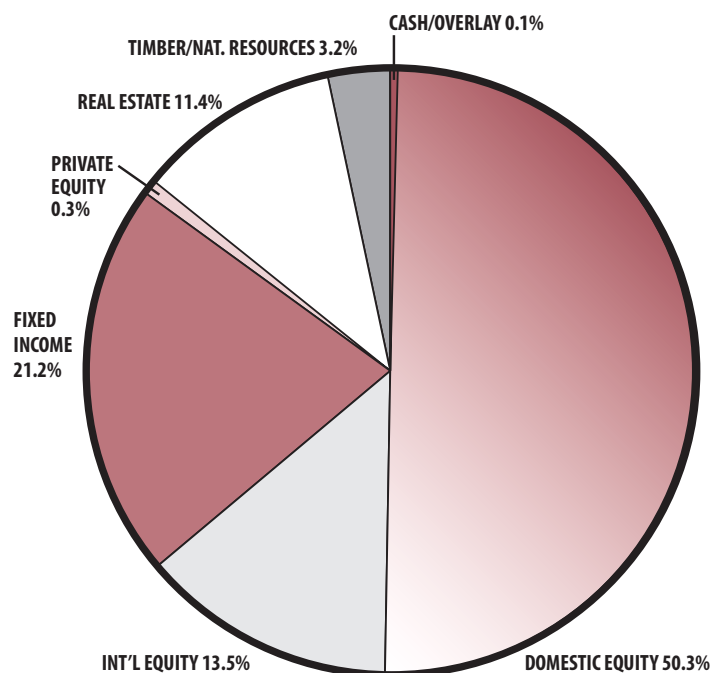
14.08%

ACTUARIAL

▶ Funded Ratio	65.4%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$59.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$6.2 M

	ACTIVE	RETIRED
▶ Number of Members	632	390
▶ Total Payroll/Benefit	\$29.2 M	\$9.4 M
▶ Average Salary/Benefit	\$46,300	\$24,200
▶ Average Age	48	73
▶ Average Service	13.0 years	NA

ASSET ALLOCATION (12/31/15)

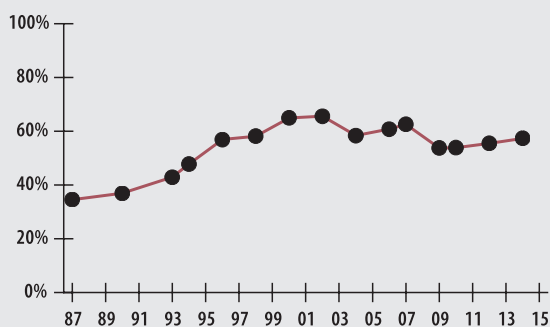


EARNED INCOME OF DISABILITY RETIREES (2014)

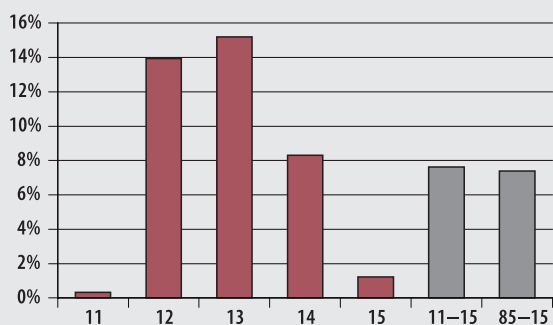
▶ Number of Disability Retirees	39
▶ Number Who Reported Earnings	12
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-.21%
▶ 2015 Market Value	\$124.1 M
▶ 2011-2015 (Annualized)	7.94%
▶ 1985-2015 (Annualized)	8.87%

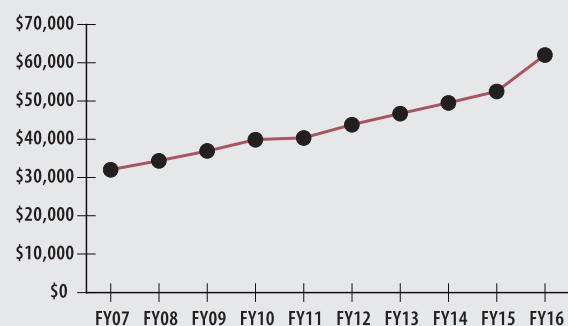
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

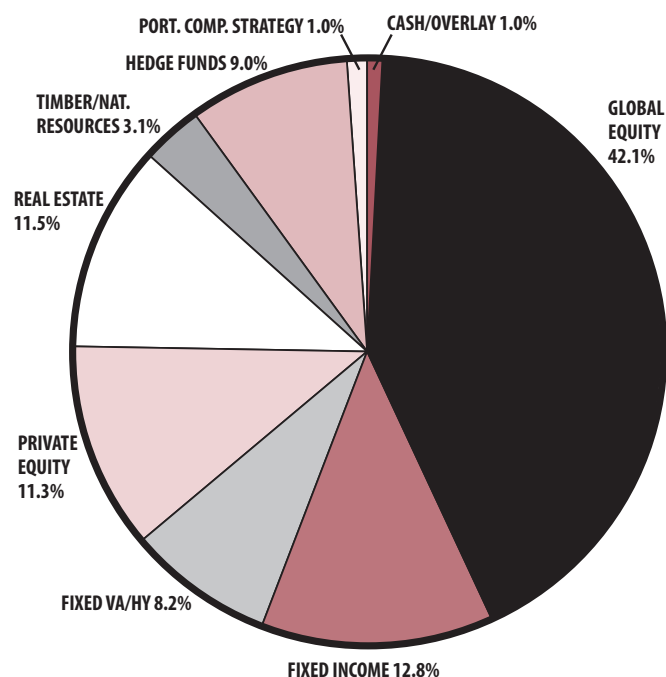
31 years 2015 7.39%	30 years 2014 7.60%	29 years 2013 7.58%
10 years 2015 5.41%	10 years 2014 6.00%	10 years 2013 6.32%
5 years 2015 7.62%	5 years 2014 10.12%	5 years 2013 11.79%

ACTUARIAL

▶ Funded Ratio	57.4%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$576.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$54.6 M

	ACTIVE	RETIRED
▶ Number of Members	4696	2,729
▶ Total Payroll/Benefit	\$253.9 M	\$63.1 M
▶ Average Salary/Benefit	\$54,100	\$23,100
▶ Average Age	49	71
▶ Average Service	12.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	328
▶ Number Who Reported Earnings	120
▶ Number of Excess Earners	3
▶ Total Amount of Refund Due	\$35,483.40

▶ 2015 Return	1.23%
▶ 2015 Market Value	\$869.9 M
▶ 2011-2015 (Annualized)	7.62%
▶ 1985-2015 (Annualized)	7.39%

Belmont

Town Hall
455 Concord Avenue
Belmont, MA 02478-0900
Phone 617-993-2792
Fax 617-993-2793

Board Members

Rosario A. Sacco (Chairperson),
Thomas F. Gibson, Esq., James Sloman,
Chitra Subramanian, Walter D. Wellman

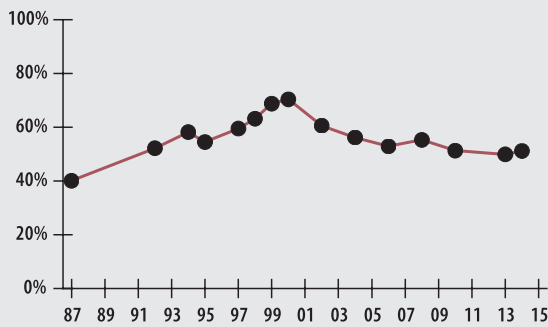
Board Administrator

Angela Olszewski

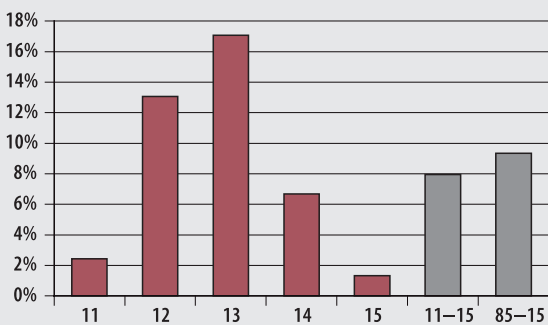
Board Meeting

Varies

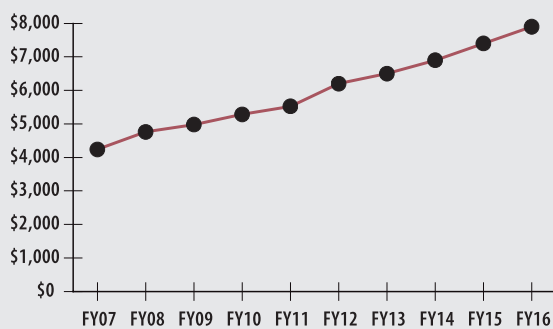
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

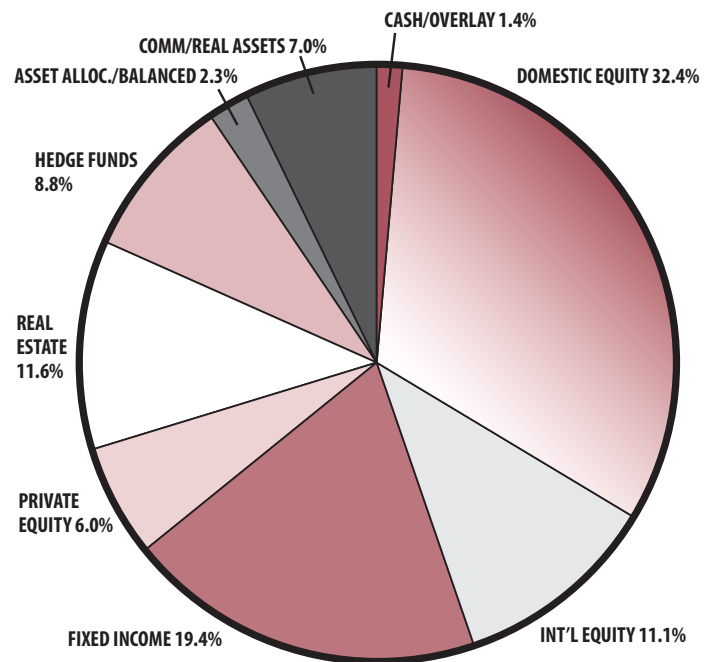
31 years 2015 9.35%	30 years 2014 9.63%	29 years 2013 9.73%
10 years 2015 7.59%	10 years 2014 8.27%	10 years 2013 8.87%
5 years 2015 7.95%	5 years 2014 10.48%	5 years 2013 14.25%

ACTUARIAL

▶ Funded Ratio	51.2%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	6.97% Total Increasing
▶ Year Fully Funded	2027
▶ Unfunded Liability	\$73.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$7.9 M

	ACTIVE	RETIRED
▶ Number of Members	458	346
▶ Total Payroll/Benefit	\$24.2 M	\$9.4 M
▶ Average Salary/Benefit	\$52,800	\$27,000
▶ Average Age	46	74
▶ Average Service	11.6 years	NA

ASSET ALLOCATION (12/31/15)

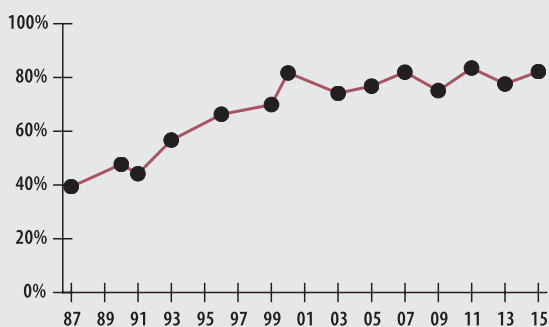


EARNED INCOME OF DISABILITY RETIREES (2014)

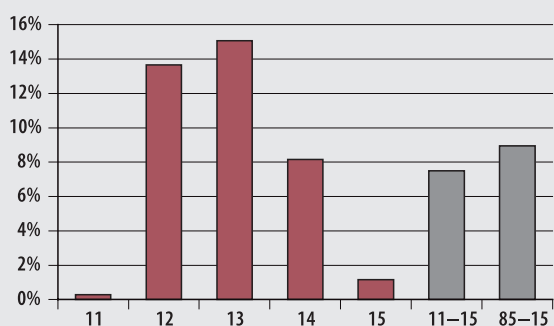
▶ Number of Disability Retirees	38
▶ Number Who Reported Earnings	12
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.32%
▶ 2015 Market Value	\$84.9 M
▶ 2011-2015 (Annualized)	7.95%
▶ 1985-2015 (Annualized)	9.35%

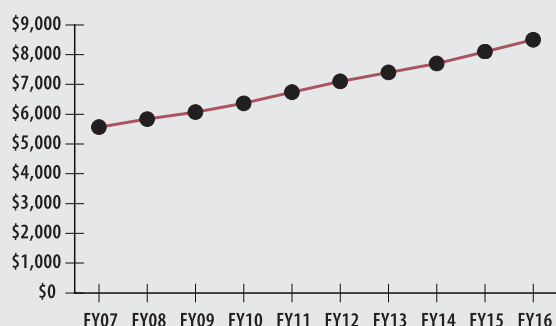
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

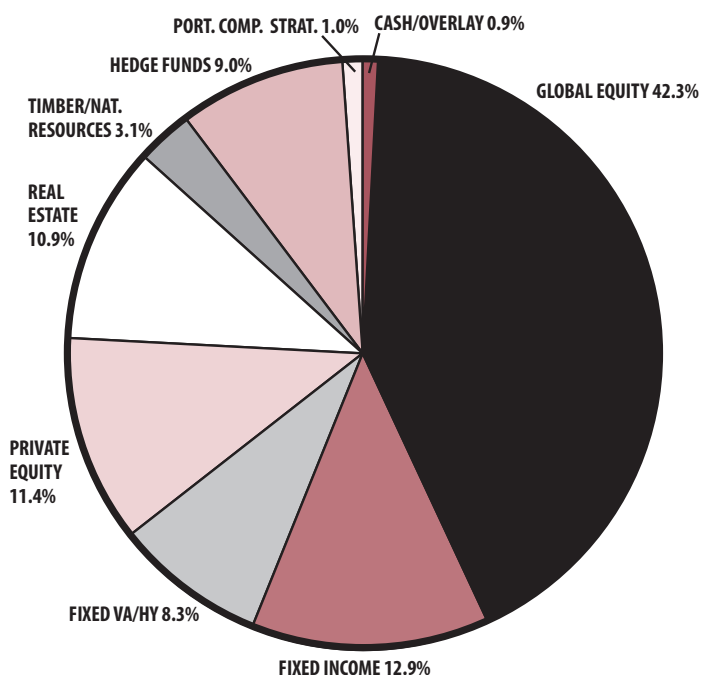
31 years 2015 8.95%	30 years 2014 9.22%	29 years 2013 9.25%
10 years 2015 5.90%	10 years 2014 7.04%	10 years 2013 7.61%
5 years 2015 7.50%	5 years 2014 9.97%	5 years 2013 11.85%

ACTUARIAL

▶ Funded Ratio	82.2%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	4.7% Total Increasing
▶ Year Fully Funded	2025
▶ Unfunded Liability	\$40.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$8.5 M

	ACTIVE	RETIRED
▶ Number of Members	1,134	728
▶ Total Payroll/Benefit	\$42.3 M	\$11.2 M
▶ Average Salary/Benefit	\$37,300	\$15,400
▶ Average Age	50	74
▶ Average Service	11.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	26
▶ Number Who Reported Earnings	5
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$194.3 M
▶ 2011-2015 (Annualized)	7.50%
▶ 1985-2015 (Annualized)	8.95%

Beverly

City Hall
191 Cabot Street
Beverly, MA 01915
Phone 978-605-2370
Fax 978-921-8582

Board Members

John F. Lane, Jr. (Chairperson),
Carol I. Augulewicz, Bryant Ayles,
Richard F. Pierce, Kevin D. Smith

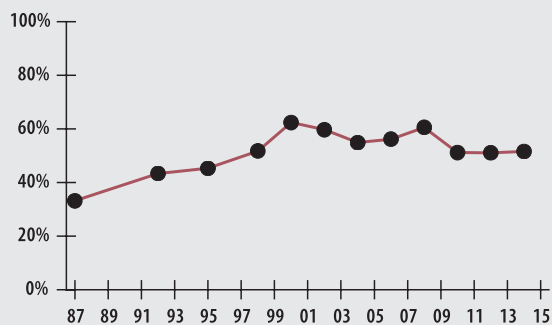
Board Administrator

Barbara Wells

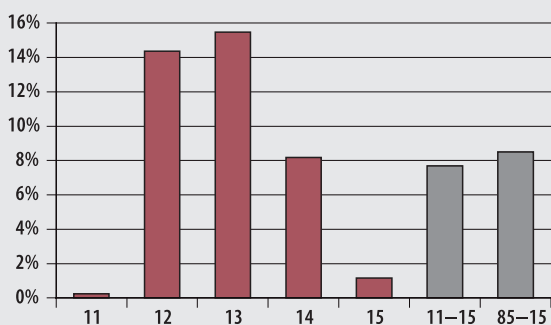
Board Meeting

Last Thursday of each month

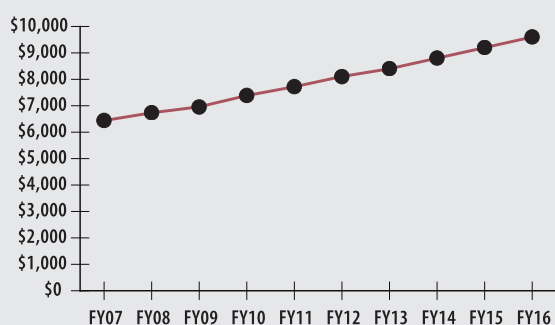
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.50%

30 years 2014

8.76%

29 years 2013

8.78%

10 years 2015

4.86%

10 years 2014

5.38%

10 years 2013

5.86%

5 years 2015

7.70%

5 years 2014

10.23%

5 years 2013

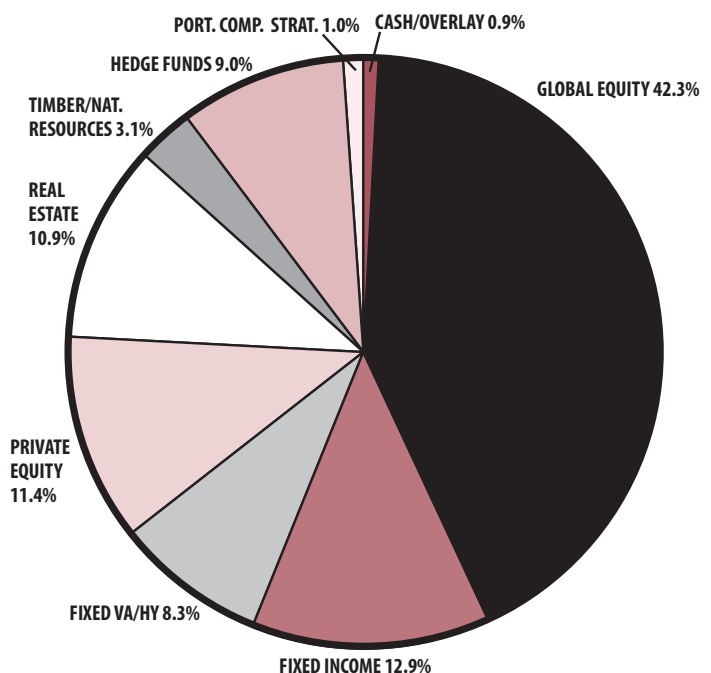
12.11%

ACTUARIAL

▶ Funded Ratio	51.6%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.45% Total Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$85.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$9.6 M

	ACTIVE	RETIRED
▶ Number of Members	576	451
▶ Total Payroll/Benefit	\$25.7 M	\$11.3 M
▶ Average Salary/Benefit	\$44,600	\$25,000
▶ Average Age	49	74
▶ Average Service	11.6 years	NA

ASSET ALLOCATION (12/31/15)

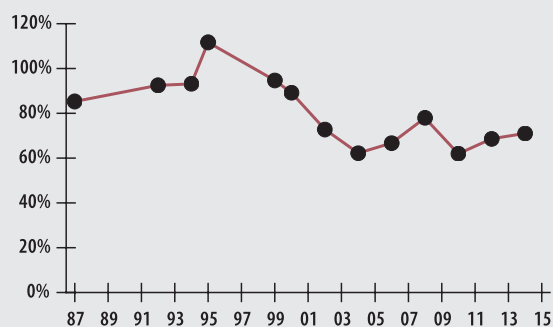


EARNED INCOME OF DISABILITY RETIREES (2014)

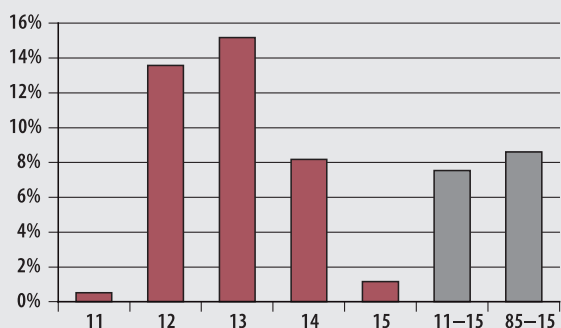
▶ Number of Disability Retirees	48
▶ Number Who Reported Earnings	12
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.16%
▶ 2015 Market Value	\$99.2 M
▶ 2011-2015 (Annualized)	7.70%
▶ 1985-2015 (Annualized)	8.50%

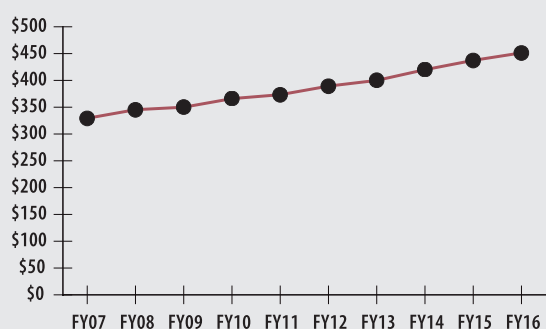
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

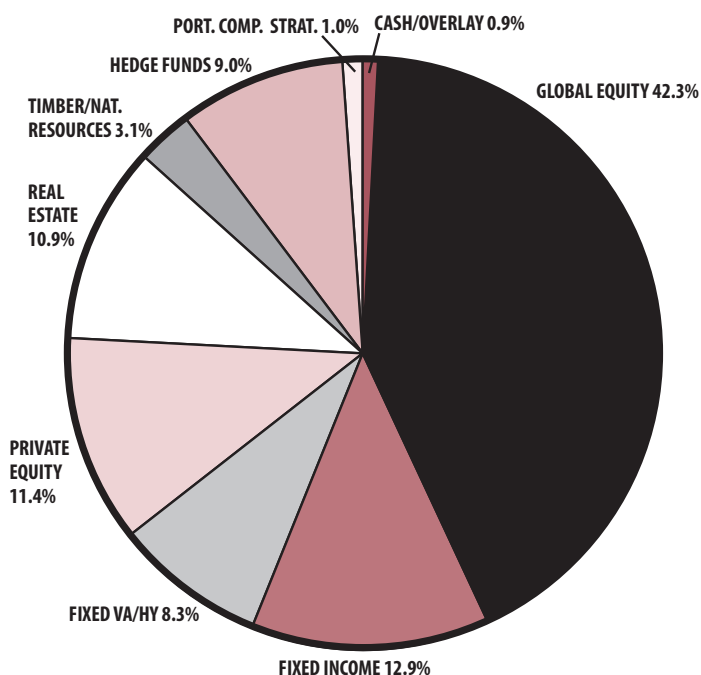
31 years 2015 8.61%	30 years 2014 8.87%	29 years 2013 8.89%
10 years 2015 5.99%	10 years 2014 7.12%	10 years 2013 7.70%
5 years 2015 7.55%	5 years 2014 10.04%	5 years 2013 11.87%

ACTUARIAL

▶ Funded Ratio	71.0%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$3.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$451,000

	ACTIVE	RETIRED
▶ Number of Members	47	52
▶ Total Payroll/Benefit	\$2.1 M	\$864,000
▶ Average Salary/Benefit	\$45,400	\$16,600
▶ Average Age	51	79
▶ Average Service	10.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	0
▶ Number Who Reported Earnings	0
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.16%
▶ 2015 Market Value	\$9.6 M
▶ 2011-2015 (Annualized)	7.55%
▶ 1985-2015 (Annualized)	8.61%

Boston (City)

City Hall
Room 816
Boston, MA 02201
Phone 617-635-4305
Fax 617-635-4318

Board Members

Daniel J. Greene, Esq. (Chairperson),
Sally D. Glora, Thomas V. J. Jackson,
Michael W. McLaughlin, Michael D. O'Reilly

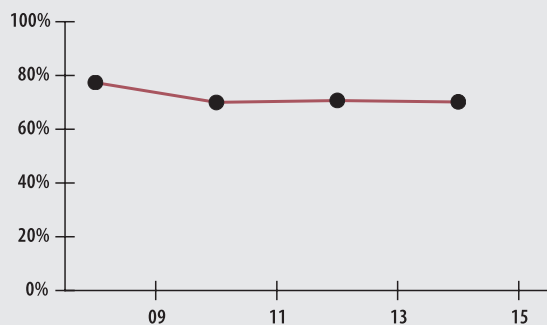
Board Administrator

Timothy J. Smyth

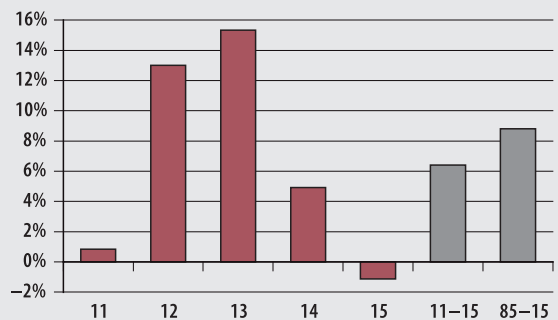
Board Meeting

Third Wednesday of each month
at 10:00 am

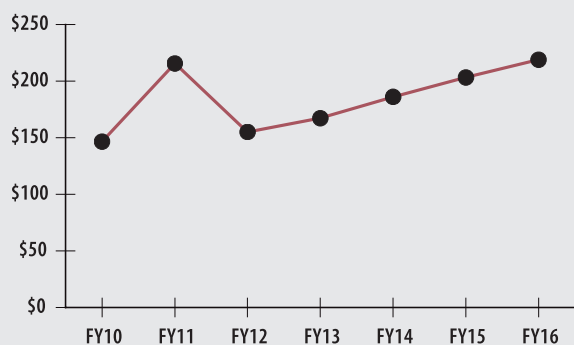
FUNDED RATIO (2008-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN MILLIONS)



INVESTMENT RETURN HISTORY

31 years 2015

8.82%

30 years 2014

9.17%

29 years 2013

9.32%

10 years 2015

5.96%

10 years 2014

6.95%

10 years 2013

7.65%

5 years 2015

6.40%

5 years 2014

9.39%

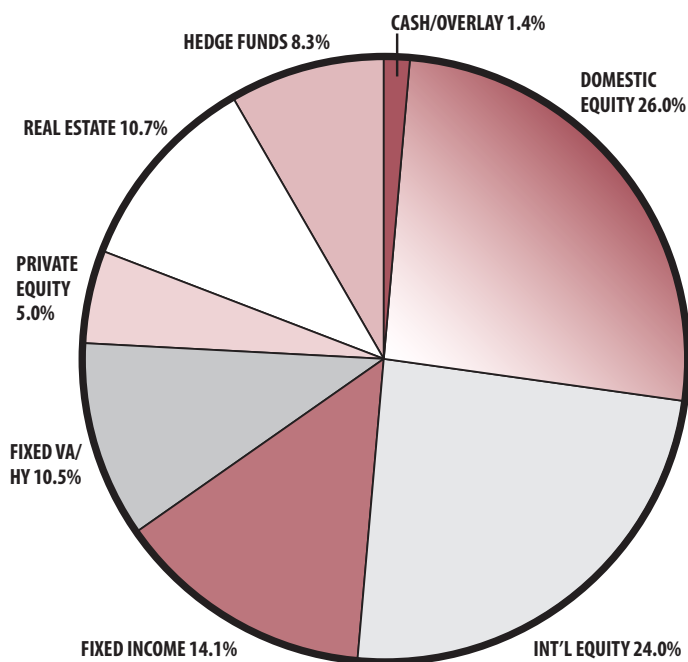
5 years 2013

12.30%

ACTUARIAL

▶ Funded Ratio	70.2%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	7.75% Total Increasing
▶ Year Fully Funded	2025
▶ Unfunded Liability	\$1.7 B
▶ Total Pension Appropriation (Fiscal 2016)	\$218.8 M

	ACTIVE	RETIRED
▶ Number of Members	14,235	9,925
▶ Total Payroll/Benefit	\$869.0 M	\$299.1 M
▶ Average Salary/Benefit	\$61,000	\$30,100
▶ Average Age	46	74
▶ Average Service	14.7 years	NA



▶ Number of Disability Retirees	1573
▶ Number Who Reported Earnings	299
▶ Number of Excess Earners	21
▶ Total Amount of Refund Due	\$238,889.33

▶ 2015 Return	-1.13%
▶ 2015 Market Value	\$4.1 B
▶ 2011-2015 (Annualized)	6.40%
▶ 1985-2015 (Annualized)	8.82%

*See **Notes** on Boston (Teachers) board profile page.

Boston Teachers

City Hall
Room 816
Boston, MA 02201
Phone 617-635-4305
Fax 617-635-4318

Board Members

Daniel J. Greene, Esq. (Chairperson),
Sally D. Glora, Thomas V. J. Jackson,
Michael W. McLaughlin, Michael D. O'Reilly

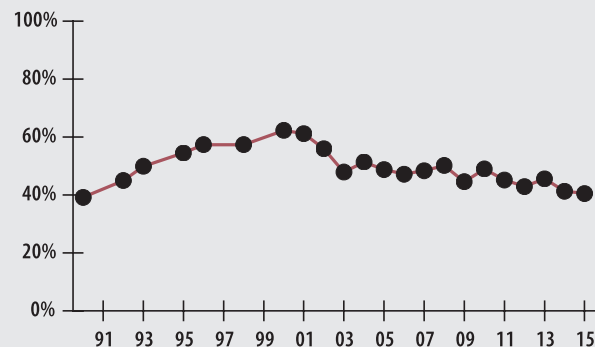
Board Administrator

Timothy J. Smyth

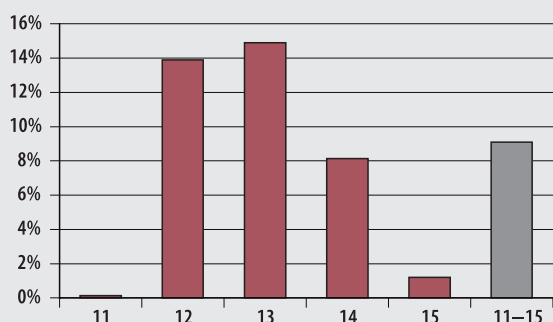
Board Meeting

Third Wednesday of each month
at 10:00 am

FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN MILLIONS)



NOTES — BOSTON (CITY) & BOSTON TEACHERS

In this report we have separated the results for Boston Teachers and non-teachers (City). The liability for Boston Teachers has always been the responsibility of the Commonwealth. In 2010, legislation was enacted that allocated assets to Boston Teachers and separate accounts have been maintained since that date. The actuarial information for the City now solely reflects liability that is the responsibility of the City. The Funded Ratio and History of Appropriations charts for the City reflect information available since this allocation. Please note the following when reviewing the charts on these pages:

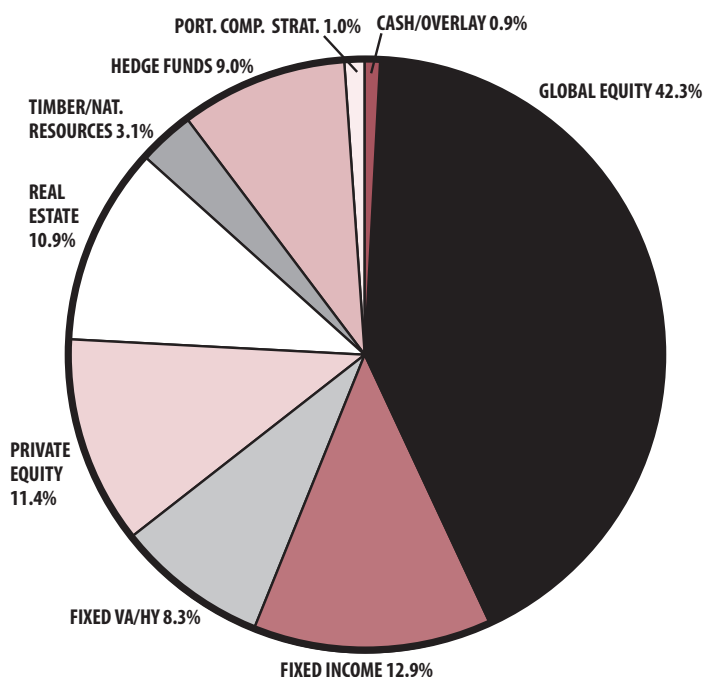
- ▶ Boston Teachers' assets prior to 2010 were estimated as approximately 30% of Boston (System) total assets.
- ▶ The information with respect to Disability Retirees on the City Board Profile page reflects the entire system, including Boston Teachers.
- ▶ The information with respect to Investment Return History for the City reflects actual returns for Boston (City) for 2011-2015 and total returns for the Boston System prior to 2011.

ACTUARIAL

▶ Funded Ratio	40.5%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$2.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$120.4 M

	ACTIVE	RETIRED
▶ Number of Members	6,145	4,488
▶ Total Payroll/Benefit	\$506.0 M	\$220.4 M
▶ Average Salary/Benefit	\$82,300	\$49,100
▶ Average Age	43	72
▶ Average Service	12.3 years	NA

ASSET ALLOCATION (12/31/15)



▶ 2015 Return	1.21%
▶ 2015 Market Value	\$1.5 B
▶ 2011-2015 (Annualized)	7.48%

Board Members

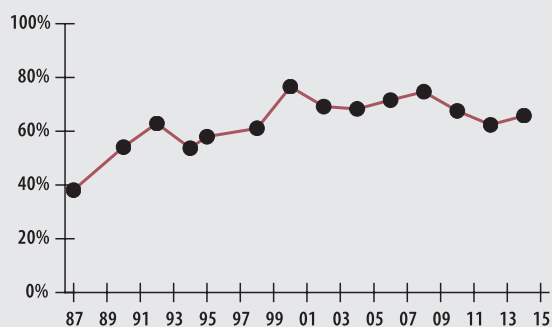
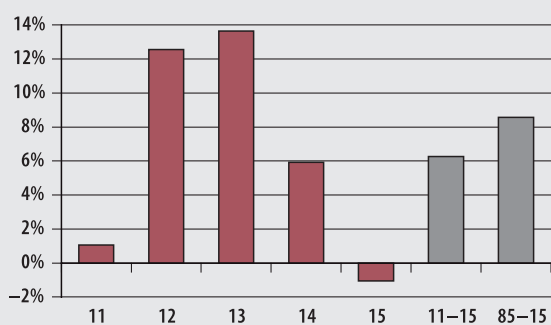
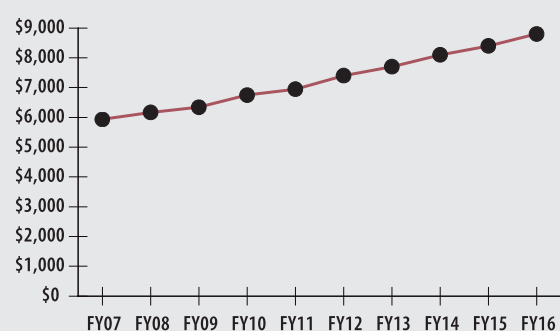
Gerald J. Kenny, Jr. (Chairperson),
Roy W. Bjorlin, Phyllis DiPalma,
Peter J. Morin, Edward J. Spellman, Jr.

Board Administrator

Jeanne Martineau

Board Meeting

Fourth Wednesday of each month

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

8.56%

30 years 2014

8.89%

29 years 2013

9.00%

10 years 2015

5.81%

10 years 2014

6.57%

10 years 2013

7.25%

5 years 2015

6.26%

5 years 2014

8.81%

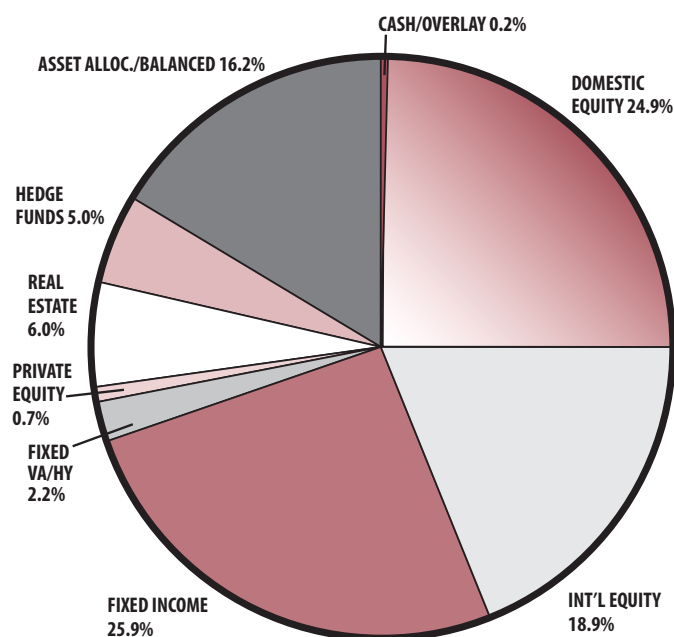
5 years 2013

11.68%

ACTUARIAL

▶ Funded Ratio	65.8%
▶ Date of Last Valuation	01/14
▶ Actuary	KMS Actuaries
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.5% Increasing Phase-in
▶ Year Fully Funded	2033
▶ Unfunded Liability	\$82.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$8.8 M

	ACTIVE	RETIRED
▶ Number of Members	735	502
▶ Total Payroll/Benefit	\$38.4 M	\$14.2 M
▶ Average Salary/Benefit	\$52,300	\$28,300
▶ Average Age	49	74
▶ Average Service	12.8 years	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	59
▶ Number Who Reported Earnings	13
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-1.06%
▶ 2015 Market Value	\$167.2 M
▶ 2011-2015 (Annualized)	6.26%
▶ 1985-2015 (Annualized)	8.56%

Bristol County

County Crossing
645 County Street
Taunton, MA 02780
Phone 508-824-4029
Fax 508-880-8749

Board Members

Christopher T. Saunders, Esq. (Chairperson),
Christine N. DeFontes, William M. Downey,
Stephen J. Rivard, John T. Saunders

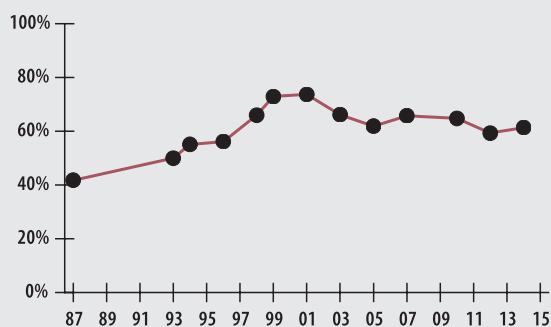
Board Administrator

Roxanne Donovan

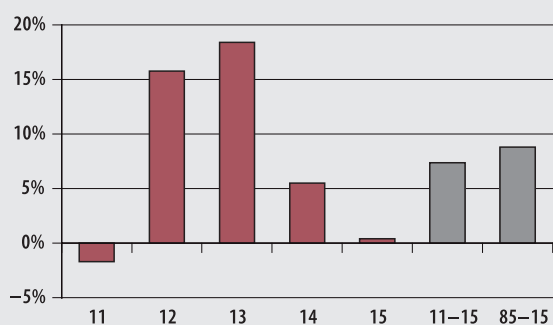
Board Meeting

Last Thursday of each month

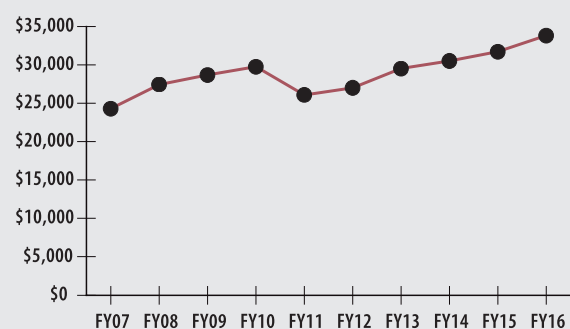
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.83%

30 years 2014

9.12%

29 years 2013

9.25%

10 years 2015

6.12%

10 years 2014

6.82%

10 years 2013

7.27%

5 years 2015

7.38%

5 years 2014

10.16%

5 years 2013

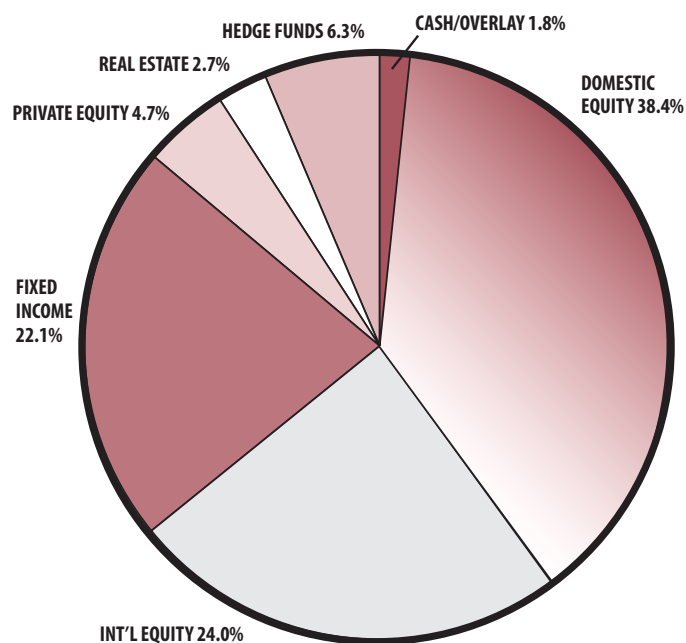
13.48%

ACTUARIAL

▶ Funded Ratio	61.4%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.5% Increasing Phase-in
▶ Year Fully Funded	2029
▶ Unfunded Liability	\$324.2 M
▶ Total Pension Appropriation (Fiscal 2016)	\$33.8 M

	ACTIVE	RETIRED
▶ Number of Members	3,119	2,318
▶ Total Payroll/Benefit	\$141.9 M	\$47.9 M
▶ Average Salary/Benefit	\$45,500	\$20,700
▶ Average Age	NA	72
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	233
▶ Number Who Reported Earnings	68
▶ Number of Excess Earners	4
▶ Total Amount of Refund Due	\$32,835.97

▶ 2015 Return	.40%
▶ 2015 Market Value	\$571.5 M
▶ 2011-2015 (Annualized)	7.38%
▶ 1985-2015 (Annualized)	8.83%

Brockton

1322 Belmont Street
Suite 101
Brockton, MA 02301-1813
Phone 508-580-7847
Fax 508-559-0559

Board Members

William R. Farmer (Chairperson),
Heidi A. Chuckran, Edward P. Mack,
Matthew J. McLaughlin, William E. Parlow

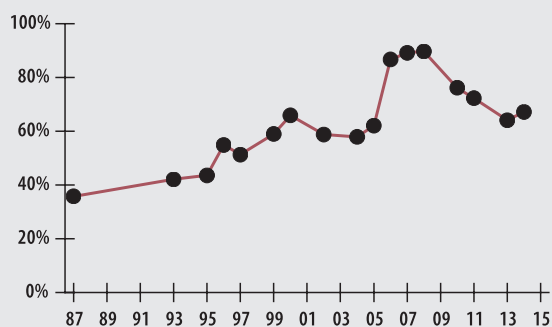
Board Administrator

Harold P. Hanna, Jr.

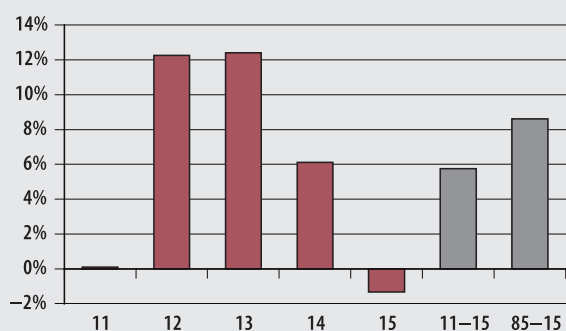
Board Meeting

Usually a day in last week of the month

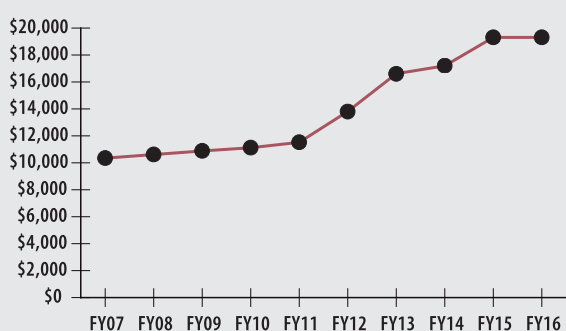
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.61%

30 years 2014

8.96%

29 years 2013

9.06%

10 years 2015

4.69%

10 years 2014

5.63%

10 years 2013

6.39%

5 years 2015

5.76%

5 years 2014

8.75%

5 years 2013

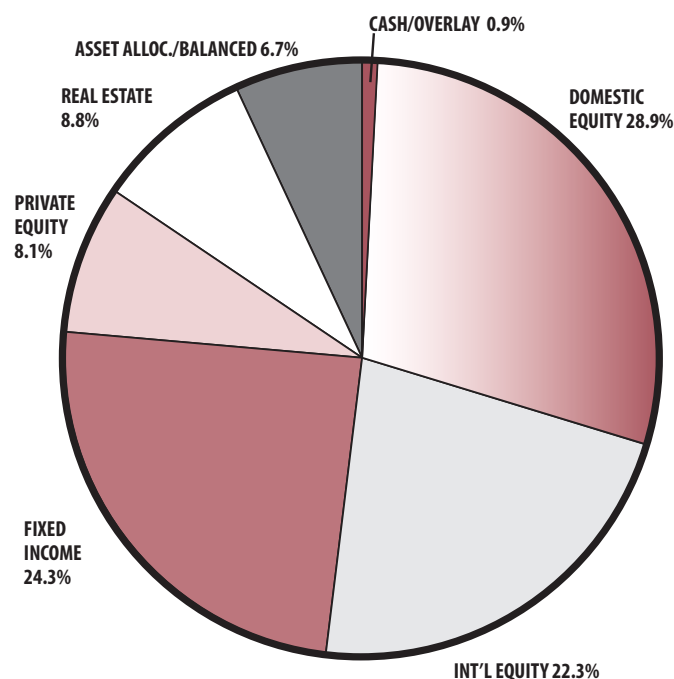
12.12%

ACTUARIAL

▶ Funded Ratio	67.2%
▶ Date of Last Valuation	01/14
▶ Actuary	Buck Consultants
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.5% Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$173.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$19.3 M

	ACTIVE	RETIRED
▶ Number of Members	1,730	1,261
▶ Total Payroll/Benefit	\$73.8 M	\$36.6 M
▶ Average Salary/Benefit	\$42,600	\$29,000
▶ Average Age	47	NA
▶ Average Service	11.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	147
▶ Number Who Reported Earnings	35
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-1.32%
▶ 2015 Market Value	\$353.6 M
▶ 2011-2015 (Annualized)	5.76%
▶ 1985-2015 (Annualized)	8.61%

Brookline

Public Health Building, Ground Floor
11 Pierce Street
Brookline, MA 02445
Phone 617-730-2028
Fax 617-730-2298

Board Members

James J. Riley (Chairperson),
Gary Altman, Stephan E. Cirillo,
Michael F. DiPietro, Robert J. Ward

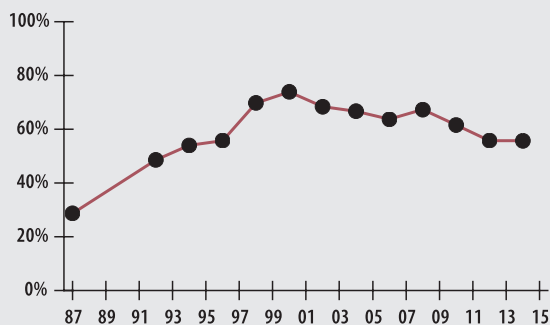
Board Administrator

Frank J. Zecha

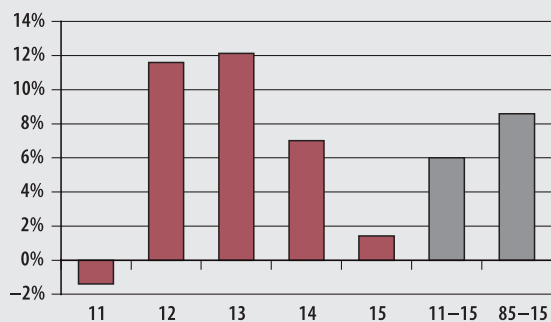
Board Meeting

Varies

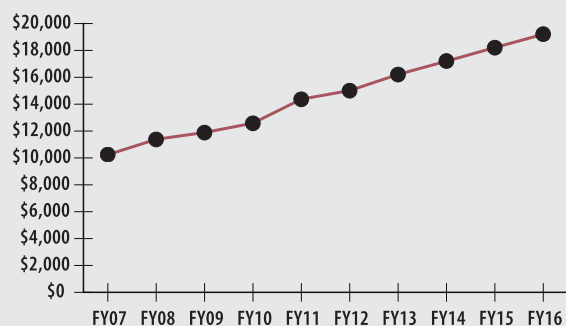
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.59%

30 years 2014

8.84%

29 years 2013

8.90%

10 years 2015

5.13%

10 years 2014

5.78%

10 years 2013

6.18%

5 years 2015

6.02%

5 years 2014

8.52%

5 years 2013

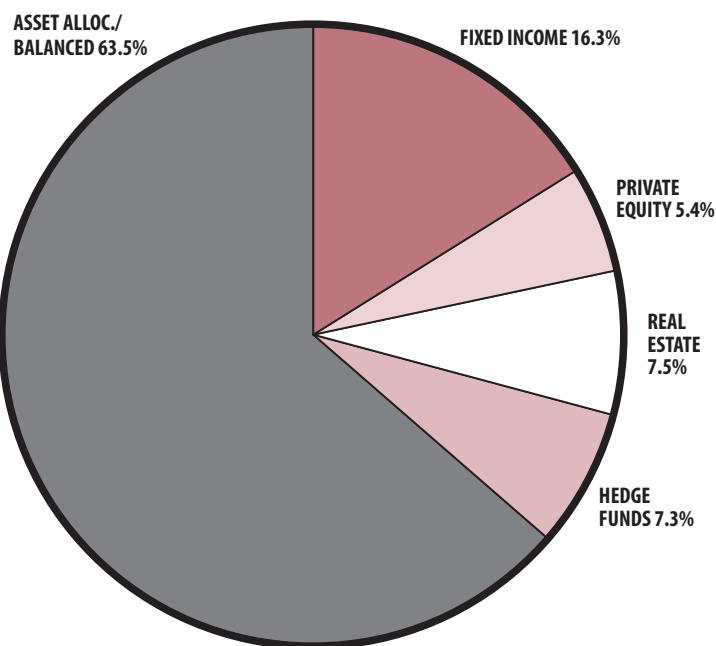
11.57%

ACTUARIAL

▶ Funded Ratio	55.7%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	5.5% Total Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$192.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$19.2 M

	ACTIVE	RETIRED
▶ Number of Members	1,259	877
▶ Total Payroll/Benefit	\$64.8 M	\$25.7 M
▶ Average Salary/Benefit	\$51,500	\$29,300
▶ Average Age	43	NA
▶ Average Service	11.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	150
▶ Number Who Reported Earnings	37
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$1,787.81

▶ 2015 Return	1.43%
▶ 2015 Market Value	\$256.2 M
▶ 2011-2015 (Annualized)	6.02%
▶ 1985-2015 (Annualized)	8.59%

Board Members

Francis E. Murphy III (Chairperson),
Nadia Chamblin-Foster, Michael P. Gardner,
James H. Monagle, John W. Shinkwin

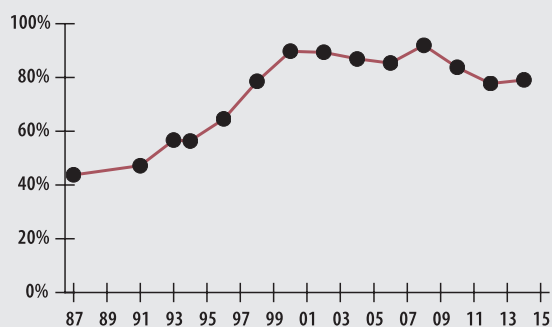
Board Administrator

Ellen K. Philbin

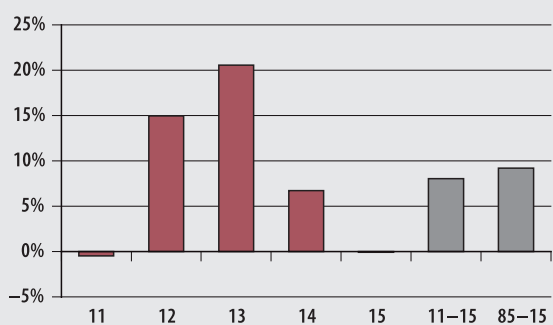
Board Meeting

First Monday of every month

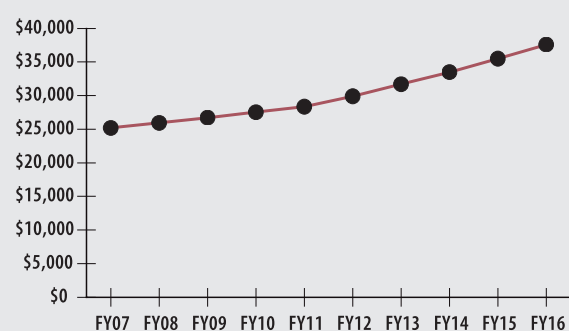
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.23%

30 years 2014

9.55%

29 years 2013

9.65%

10 years 2015

6.28%

10 years 2014

7.04%

10 years 2013

7.33%

5 years 2015

8.04%

5 years 2014

11.06%

5 years 2013

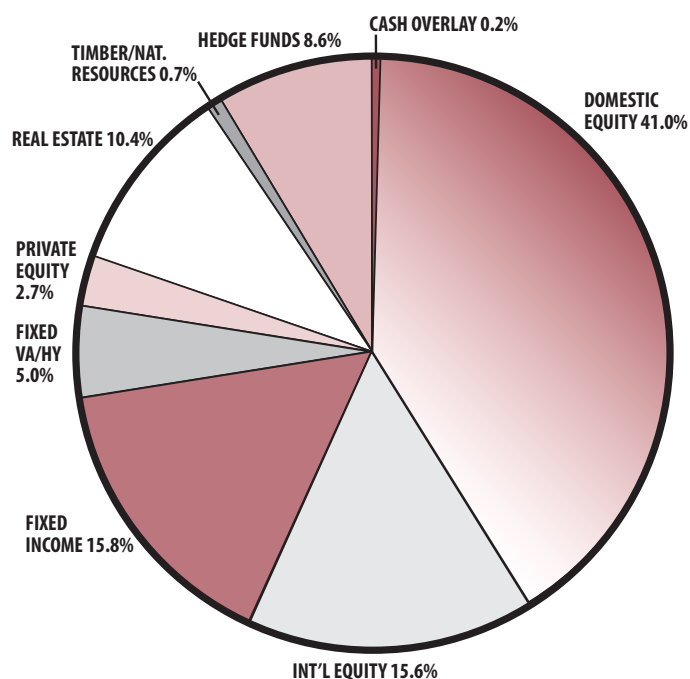
13.78%

ACTUARIAL

▶ Funded Ratio	79.1%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	5.85% Total Increasing
▶ Year Fully Funded	2026
▶ Unfunded Liability	\$250.2 M
▶ Total Pension Appropriation (Fiscal 2016)	\$37.6 M

	ACTIVE	RETIRED
▶ Number of Members	3,145	1,966
▶ Total Payroll/Benefit	\$218.6 M	\$59.1 M
▶ Average Salary/Benefit	\$69,500	\$30,000
▶ Average Age	48	NA
▶ Average Service	14.3 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	222
▶ Number Who Reported Earnings	48
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$1,806.17

▶ 2015 Return	-.07%
▶ 2015 Market Value	\$1.1 B
▶ 2011-2015 (Annualized)	8.04%
▶ 1985-2015 (Annualized)	9.23%

Chelsea

City Hall, Room 214
500 Broadway
Chelsea, MA 02150
Phone 617-466-4230
Fax 617-466-4234

Board Members

Joseph M. Siewko (Chairperson),
Edward M. Dunn, Richard A. Incerto,
Frederick A. Nowicki, Carolyn M. Russo

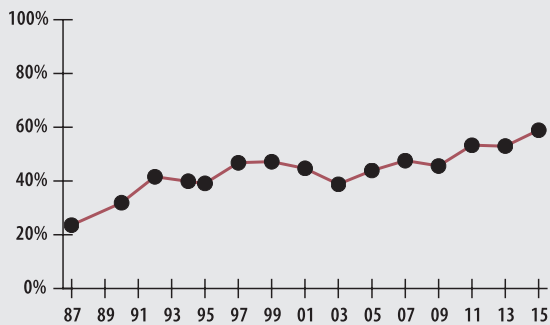
Board Administrator

Britt C. Lazar

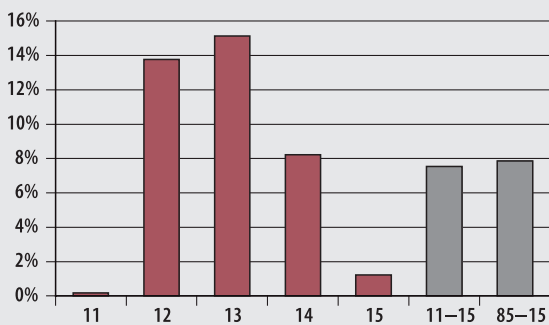
Board Meeting

Fourth Thursday of each month at 9:00 am

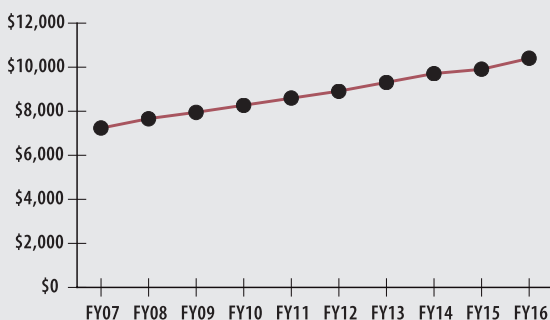
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
7.87%

30 years 2014
8.10%

29 years 2013
8.10%

10 years 2015
5.95%

10 years 2014
6.90%

10 years 2013
7.32%

5 years 2015
7.53%

5 years 2014
10.01%

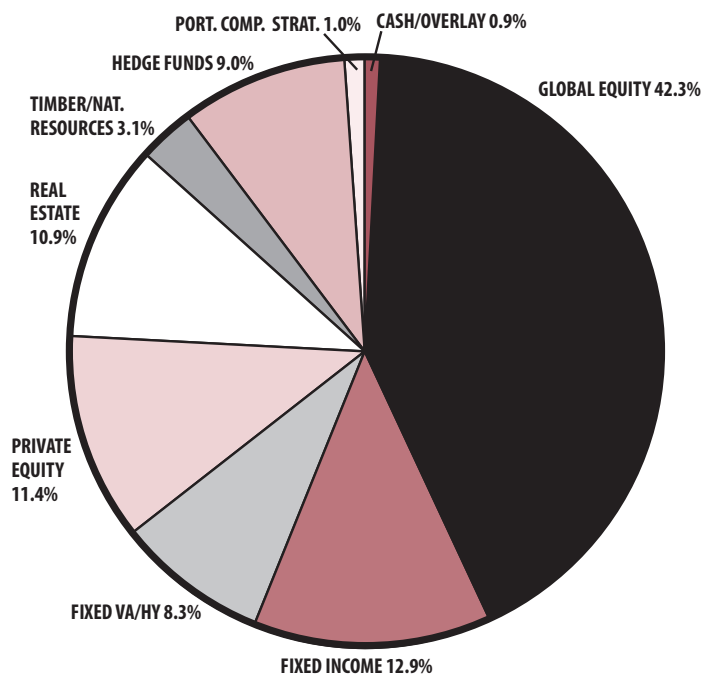
5 years 2013
11.89%

ACTUARIAL

▶ Funded Ratio	58.9%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	5.7% Total Increasing
▶ Year Fully Funded	2028
▶ Unfunded Liability	\$82.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$10.4 M

	ACTIVE	RETIRED
▶ Number of Members	663	382
▶ Total Payroll/Benefit	\$33.0 M	\$9.4 M
▶ Average Salary/Benefit	\$49,800	\$24,700
▶ Average Age	47	75
▶ Average Service	12.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	77
▶ Number Who Reported Earnings	17
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.22%
▶ 2015 Market Value	\$126.3 M
▶ 2011-2015 (Annualized)	7.53%
▶ 1985-2015 (Annualized)	7.87%

Chicopee

City Hall, Market Square
274 Front Street
Chicopee, MA 01013-2685
Phone 413-594-1542
Fax 413-594-1544

Board Members

Timothy O. O'Shea, (Chairperson),
Debra A. Boronski, Maxwell S. Mackechnie,
Paul Mailhott, Sharyn A. Riley

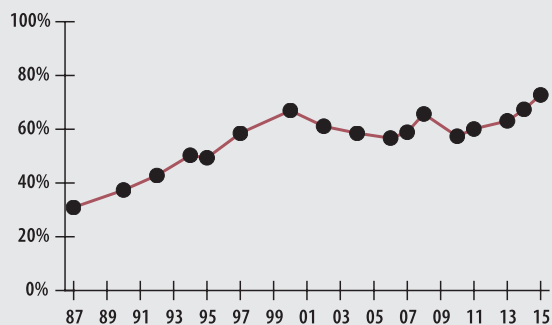
Board Administrator

Anna Maria Hamblin

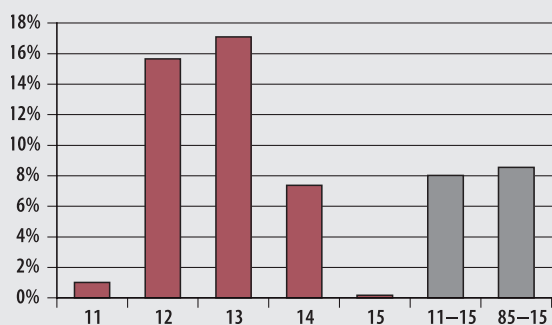
Board Meeting

Second Thursday of each month at 2:00 pm

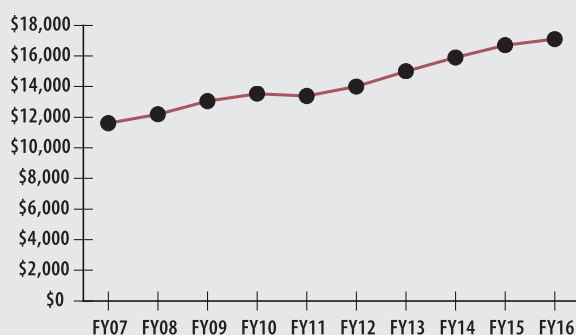
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.56%

30 years 2014

8.86%

29 years 2013

8.91%

10 years 2015

6.44%

10 years 2014

7.21%

10 years 2013

7.48%

5 years 2015

8.03%

5 years 2014

11.48%

5 years 2013

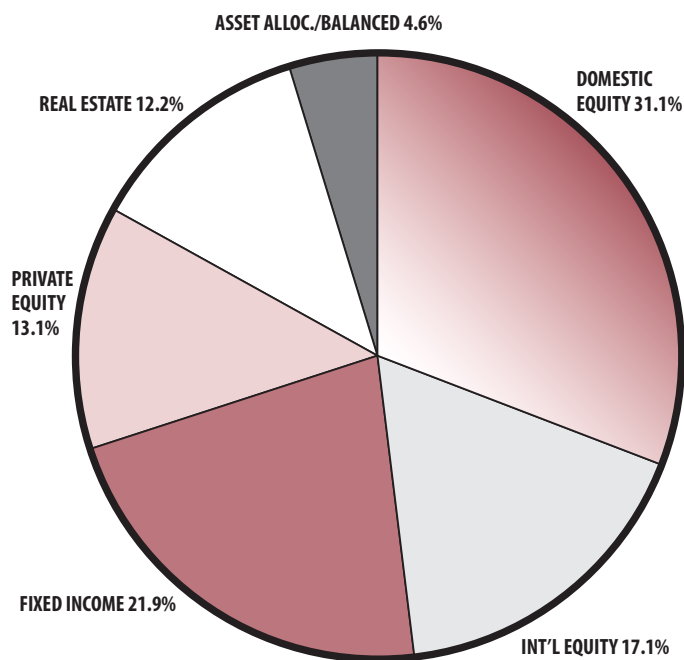
15.74%

ACTUARIAL

▶ Funded Ratio	72.8%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	2.5% Total Increasing
▶ Year Fully Funded	2023
▶ Unfunded Liability	\$90.2 M
▶ Total Pension Appropriation (Fiscal 2016)	\$17.1 M

	ACTIVE	RETIRED
▶ Number of Members	1,210	791
▶ Total Payroll/Benefit	\$51.0 M	\$17.4 M
▶ Average Salary/Benefit	\$42,200	\$22,000
▶ Average Age	48	73
▶ Average Service	13.8 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	83
▶ Number Who Reported Earnings	27
▶ Number of Excess Earners	3
▶ Total Amount of Refund Due	\$10,950.69

▶ 2015 Return	.18%
▶ 2015 Market Value	\$252.4 M
▶ 2011-2015 (Annualized)	8.03%
▶ 1985-2015 (Annualized)	8.56%

Clinton

242 Church Street
Clinton, MA 01510
Phone 978-365-4118
Fax 978-612-0215

Board Members

Paul B. Cherubini (Chairperson),
Joseph P. Casasanto, George Kittredge,
Diane L. Magliozzi, John M. McNamara

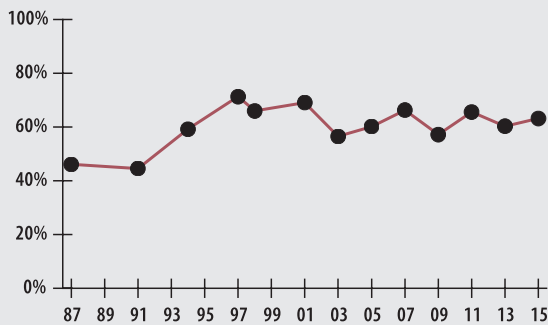
Board Administrator

Patricia Hazel

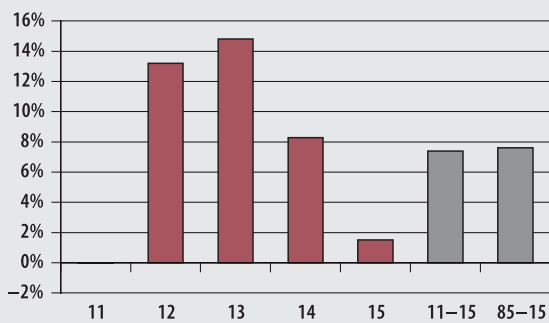
Board Meeting

Generally the last Tuesday of each month at 4:00 pm

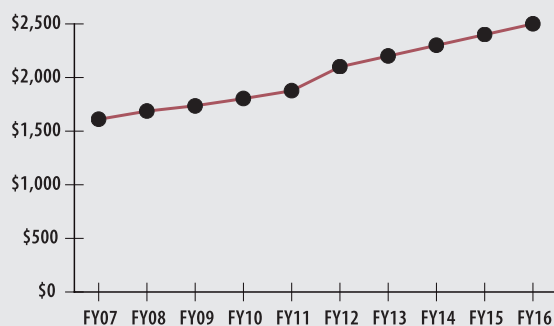
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
7.62%

30 years 2014
7.83%

29 years 2013
7.82%

10 years 2015
5.01%

10 years 2014
5.79%

10 years 2013
6.39%

5 years 2015
7.39%

5 years 2014
9.75%

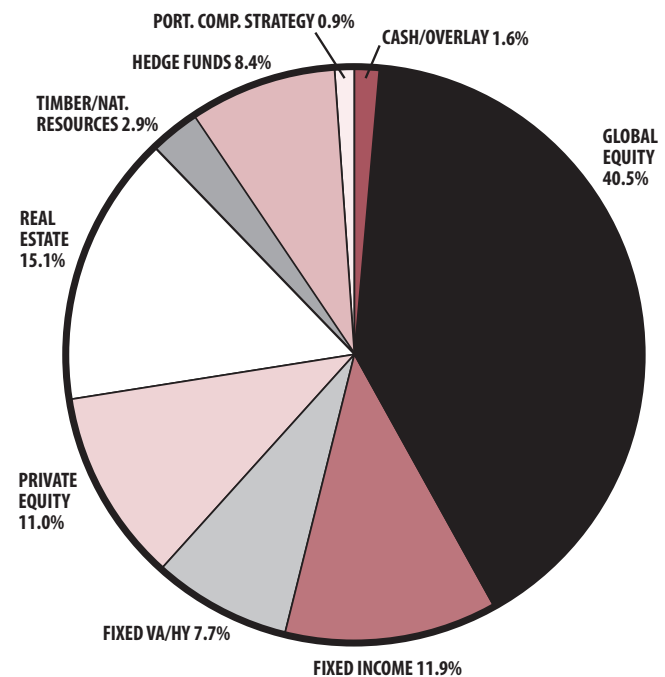
5 years 2013
11.73%

ACTUARIAL

▶ Funded Ratio	63.2%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$22.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$2.5 M

	ACTIVE	RETIRED
▶ Number of Members	249	119
▶ Total Payroll/Benefit	\$10.2 M	\$2.8M
▶ Average Salary/Benefit	\$40,800	\$23,900
▶ Average Age	48	73
▶ Average Service	11.7 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	11
▶ Number Who Reported Earnings	5
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.52%
▶ 2015 Market Value	\$40.1 M
▶ 2011-2015 (Annualized)	7.39%
▶ 1985-2015 (Annualized)	7.62%

Concord

P. O. Box 535
22 Monument Square
Concord, MA 01742-0535
Phone 978-318-3068
Fax 978-318-3093

Board Members

Peter J. Fulton (Chairperson),
Mary M. Barrett, Anthony T. Logalbo,
Arnold Roth, Brian J. Whitney

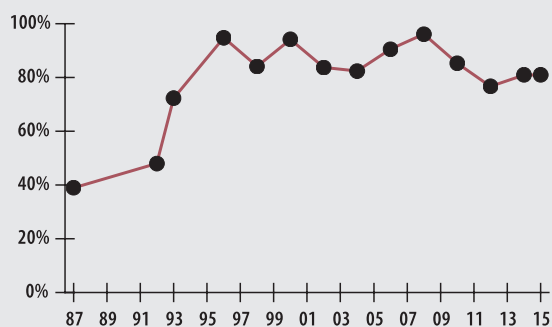
Board Administrator

Linda Boucher

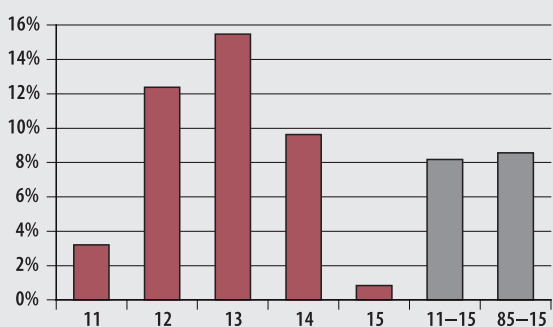
Board Meeting

Varies, usually the last Tuesday
of each month

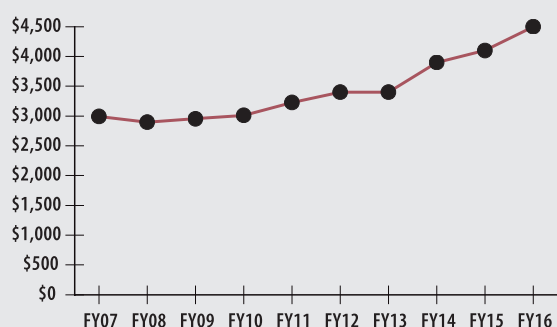
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.57%

30 years 2014

8.83%

29 years 2013

8.81%

10 years 2015

6.23%

10 years 2014

7.00%

10 years 2013

7.08%

5 years 2015

8.17%

5 years 2014

10.52%

5 years 2013

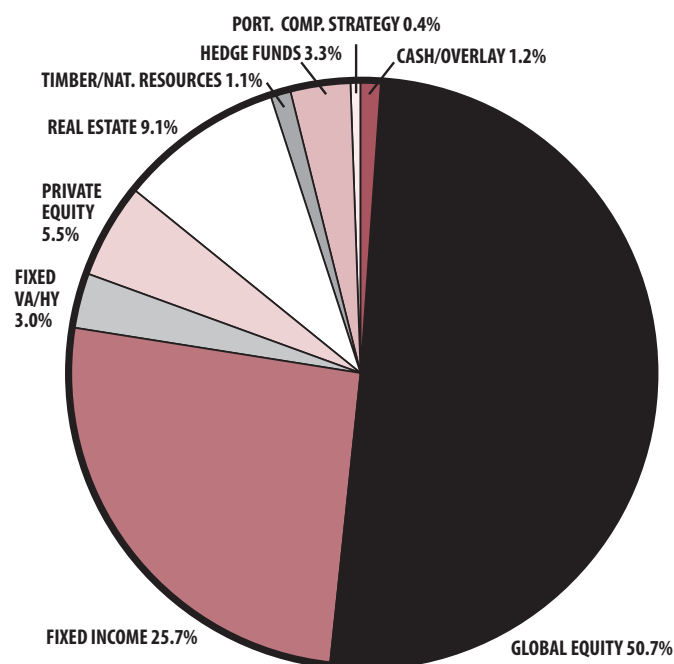
11.99%

ACTUARIAL

▶ Funded Ratio	81.0%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.25%
▶ Funding Schedule	2.0% Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$29.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.5 M

	ACTIVE	RETIRED
▶ Number of Members	513	274
▶ Total Payroll/Benefit	\$29.3 M	\$6.5 M
▶ Average Salary/Benefit	\$57,100	\$23,600
▶ Average Age	50	74
▶ Average Service	12.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	24
▶ Number Who Reported Earnings	7
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.84%
▶ 2015 Market Value	\$133.8 M
▶ 2011-2015 (Annualized)	8.17%
▶ 1985-2015 (Annualized)	8.57%

Danvers

Town Hall
1 Sylvan Street
Danvers, MA 01923
Phone 978-777-0001, Ext. 3044
Fax 978-762-0264

Board Members

Wayne P. Marquis (Chairperson),
Robert J. Cyr, Corinna L. Grace,
Dana M. Hagan, Kevin M. Walsh

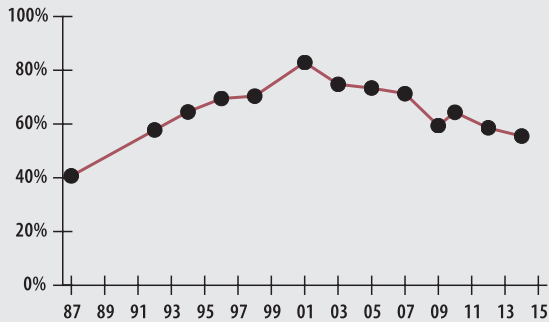
Board Administrator

Susan Little

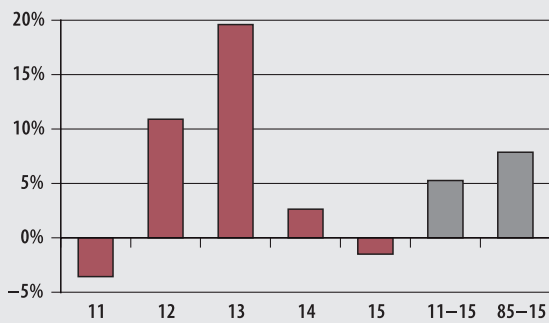
Board Meeting

Last Wednesday of each month at 3:00 pm

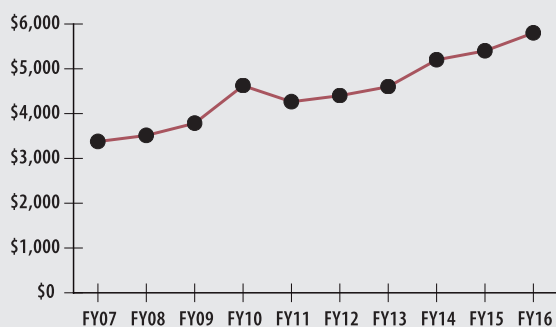
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

7.89%

30 years 2014

8.22%

29 years 2013

8.41%

10 years 2015

4.97%

10 years 2014

5.98%

10 years 2013

6.63%

5 years 2015

5.29%

5 years 2014

8.70%

5 years 2013

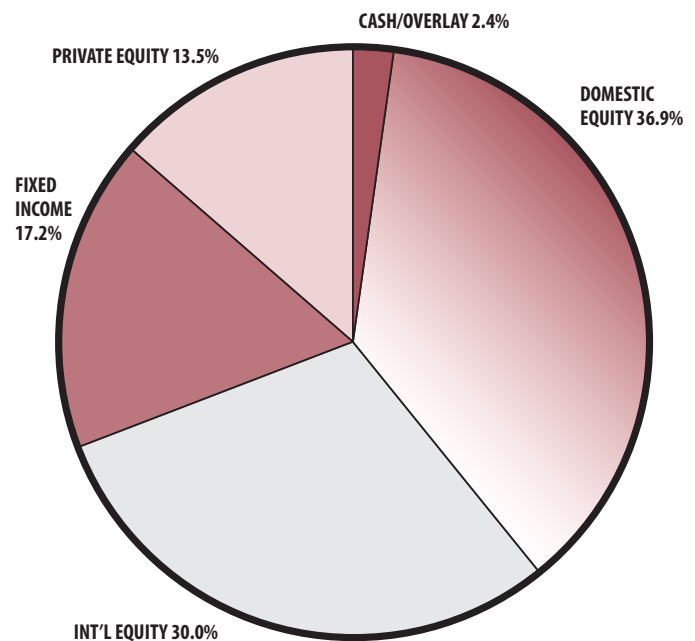
13.26%

ACTUARIAL

▶ Funded Ratio	55.5%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$72.2 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.8 M

	ACTIVE	RETIRED
▶ Number of Members	469	397
▶ Total Payroll/Benefit	\$24.5 M	\$9.7 M
▶ Average Salary/Benefit	\$52,200	\$24,300
▶ Average Age	47	74
▶ Average Service	12.4 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	25
▶ Number Who Reported Earnings	7
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$9,105.34

▶ 2015 Return	-1.49%
▶ 2015 Market Value	\$95.8 M
▶ 2011-2015 (Annualized)	5.29%
▶ 1985-2015 (Annualized)	7.89%

Dedham

202 Bussey Street
Suite 101
Dedham, MA 02026
Phone 781-326-7693
Fax 781-329-4123

Board Members

Thomas R. Rorrie (Chairperson),
John W. Fontaine, Jr.,
Stephen M. MacDougall, John Maloney,

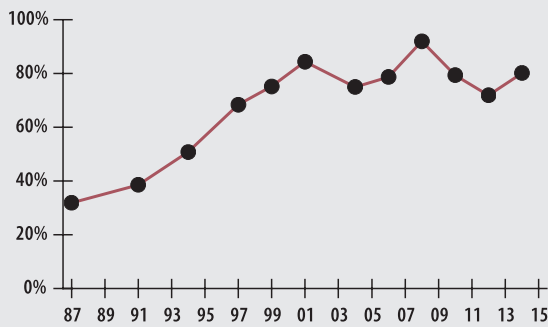
Board Administrator

Lynn M. Carley

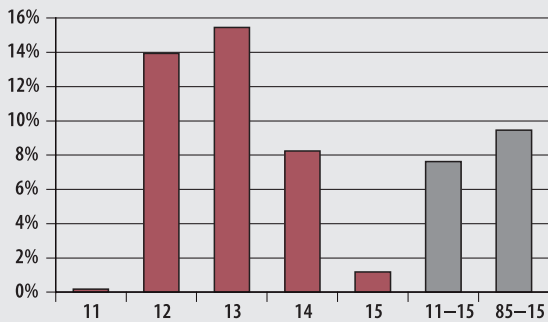
Board Meeting

Third Wednesday of each month

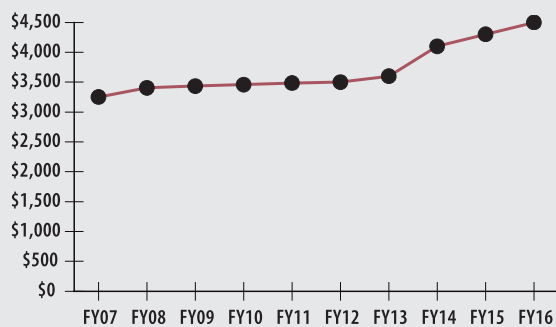
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.47%

30 years 2014

9.76%

29 years 2013

9.82%

10 years 2015

5.99%

10 years 2014

7.14%

10 years 2013

7.74%

5 years 2015

7.62%

5 years 2014

10.17%

5 years 2013

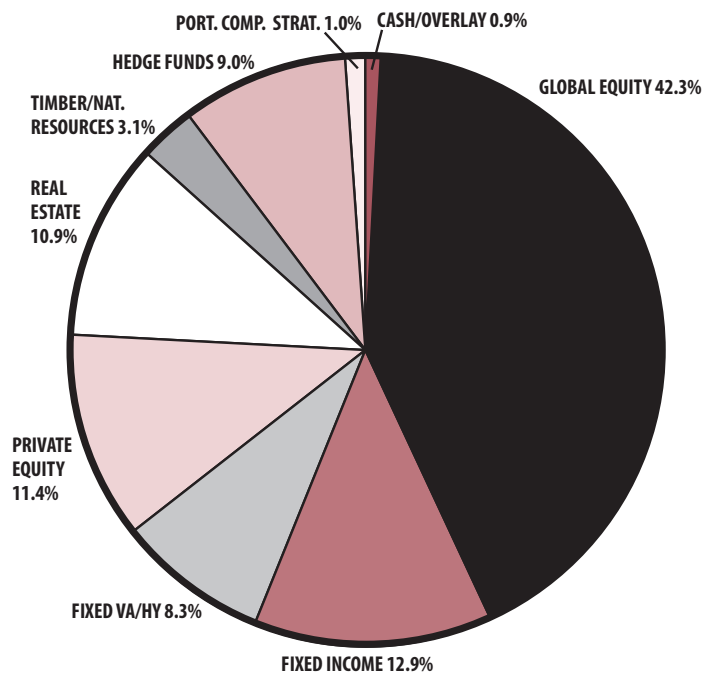
12.06%

ACTUARIAL

▶ Funded Ratio	80.2%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2024
▶ Unfunded Liability	\$24.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.5 M

	ACTIVE	RETIRED
▶ Number of Members	424	320
▶ Total Payroll/Benefit	\$20.5 M	\$8.0 M
▶ Average Salary/Benefit	\$48,400	\$25,000
▶ Average Age	NA	75
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)

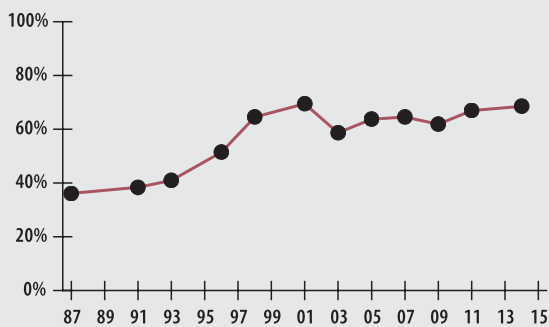


EARNED INCOME OF DISABILITY RETIREES (2014)

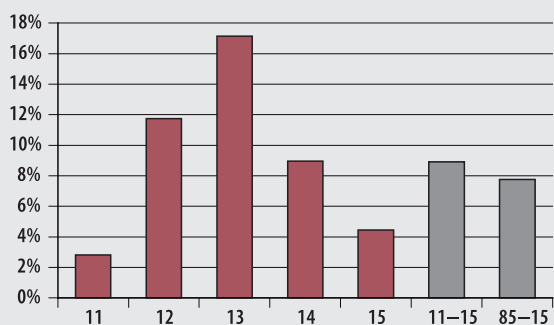
▶ Number of Disability Retirees	47
▶ Number Who Reported Earnings	8
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.19%
▶ 2015 Market Value	\$109.3 M
▶ 2011-2015 (Annualized)	7.62%
▶ 1985-2015 (Annualized)	9.47%

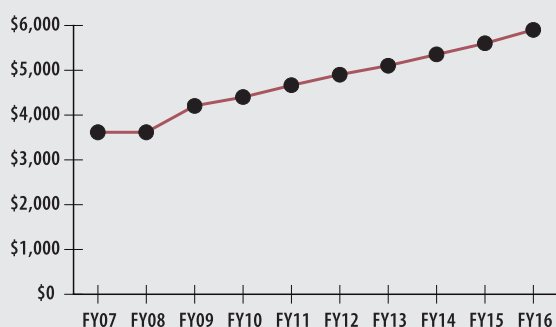
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

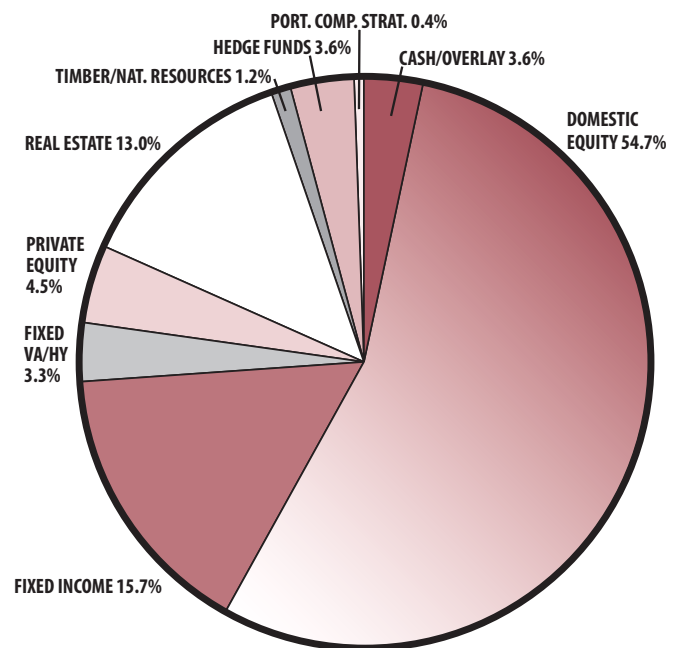
31 years 2015 7.76%	30 years 2014 7.87%	29 years 2013 7.84%
10 years 2015 7.02%	10 years 2014 7.32%	10 years 2013 7.41%
5 years 2015 8.91%	5 years 2014 10.87%	5 years 2013 12.23%

ACTUARIAL

▶ Funded Ratio	68.6%
▶ Date of Last Valuation	01/14
▶ Actuary	KMS Actuaries
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.5% Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$44.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.9 M

	ACTIVE	RETIRED
▶ Number of Members	629	261
▶ Total Payroll/Benefit	\$34.9 M	\$4.7 M
▶ Average Salary/Benefit	\$55,400	\$18,000
▶ Average Age	49	71
▶ Average Service	11.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	22
▶ Number Who Reported Earnings	12
▶ Number of Excess Earners	2
▶ Total Amount of Refund Due	\$11,481.32

▶ 2015 Return	4.45%
▶ 2015 Market Value	\$121.2 M
▶ 2011-2015 (Annualized)	8.91%
▶ 1985-2015 (Annualized)	7.76%

Easthampton

199 Northampton Street, Front
Easthampton, MA 01027
Phone 413-203-1307
Fax 413-203-1308

Board Members

James P. Dunham (Chairperson),
Valerie J. Bernier, Donald C. Emerson,
Jane Sakiewicz, Cornelius E. Sullivan

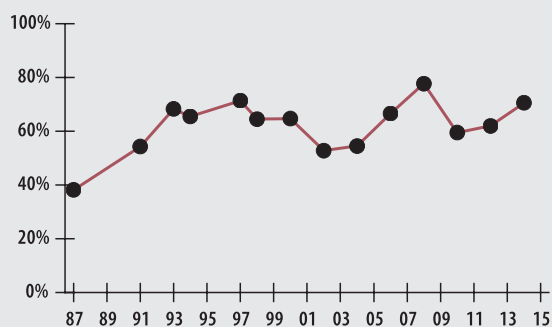
Board Administrator

Tina Schneider

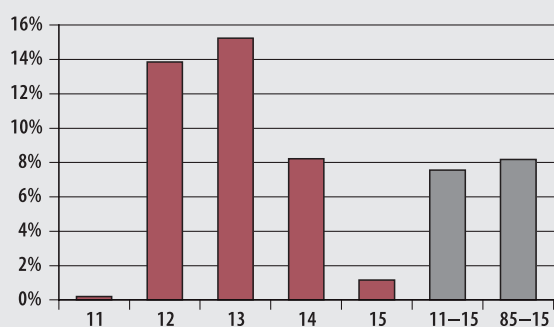
Board Meeting

Fourth Tuesday of each month

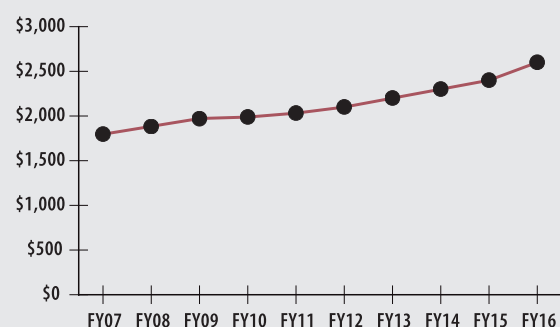
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.19%

30 years 2014

8.43%

29 years 2013

8.44%

10 years 2015

5.92%

10 years 2014

7.06%

10 years 2013

7.68%

5 years 2015

7.56%

5 years 2014

10.06%

5 years 2013

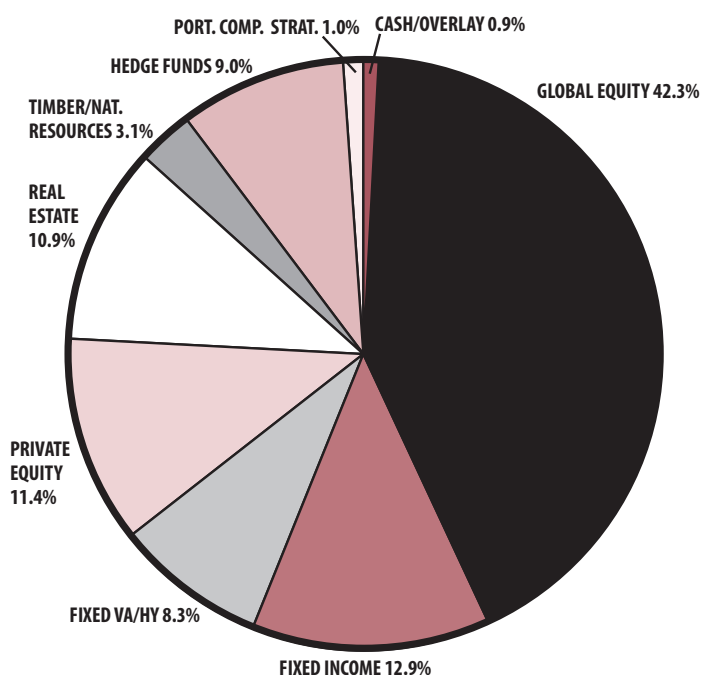
11.89%

ACTUARIAL

▶ Funded Ratio	70.6%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2027
▶ Unfunded Liability	\$16.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$2.6 M

	ACTIVE	RETIRED
▶ Number of Members	223	151
▶ Total Payroll/Benefit	\$9.3 M	\$3.0 M
▶ Average Salary/Benefit	\$41,900	\$19,700
▶ Average Age	48	71
▶ Average Service	12.7 years	NA

ASSET ALLOCATION (12/31/15)

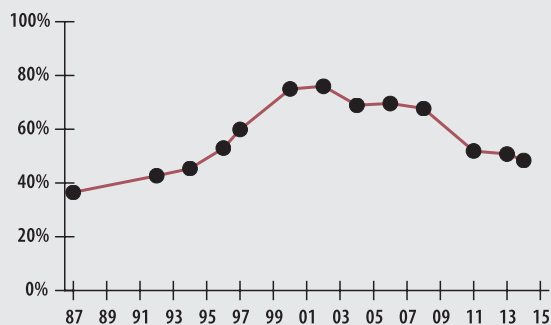


EARNED INCOME OF DISABILITY RETIREES (2014)

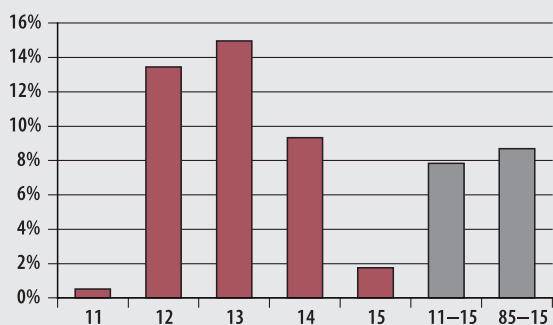
▶ Number of Disability Retirees	18
▶ Number Who Reported Earnings	6
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$43.5 M
▶ 2011-2015 (Annualized)	7.56%
▶ 1985-2015 (Annualized)	8.19%

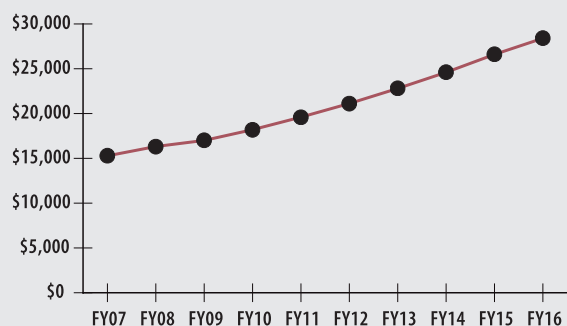
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

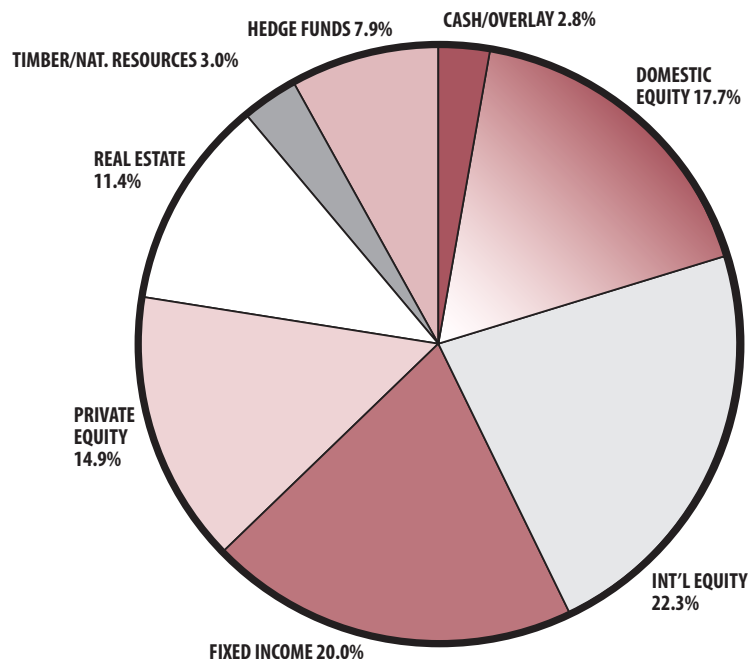
31 years 2015 8.70%	30 years 2014 8.94%	29 years 2013 8.93%
10 years 2015 5.75%	10 years 2014 6.24%	10 years 2013 6.26%
5 years 2015 7.84%	5 years 2014 10.55%	5 years 2013 13.04%

ACTUARIAL

▶ Funded Ratio	48.4%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$348.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$28.4 M

	ACTIVE	RETIRED
▶ Number of Members	2,714	1,725
▶ Total Payroll/Benefit	\$119.7 M	\$35.8 M
▶ Average Salary/Benefit	\$44,100	\$20,800
▶ Average Age	49	73
▶ Average Service	11.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	116
▶ Number Who Reported Earnings	37
▶ Number of Excess Earners	3
▶ Total Amount of Refund Due	\$10,851.88

▶ 2015 Return	1.75%
▶ 2015 Market Value	\$373.5 M
▶ 2011-2015 (Annualized)	7.84%
▶ 1985-2015 (Annualized)	8.70%

Everett

City Hall
484 Broadway, Room 30
Everett, MA 02149
Phone 617-394-2310
Fax 617-381-7016

Board Members

Ronald V. D'Onofrio (Chairperson),
Peter Cocciardi, Eric Demas,
Harold J. Mayo, William Pierce

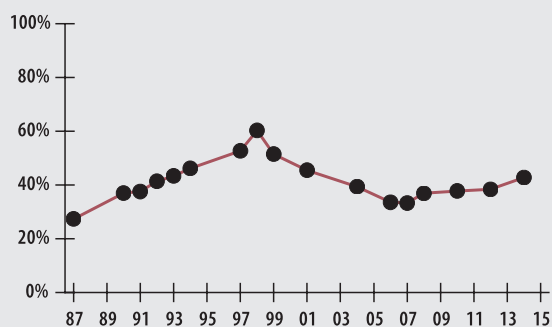
Board Administrator

Robert Shaw

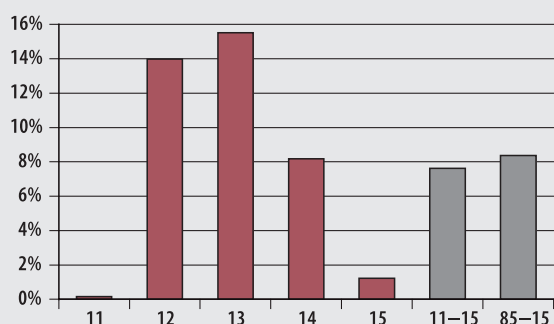
Board Meeting

Last Wednesday of the month at 9:00 am

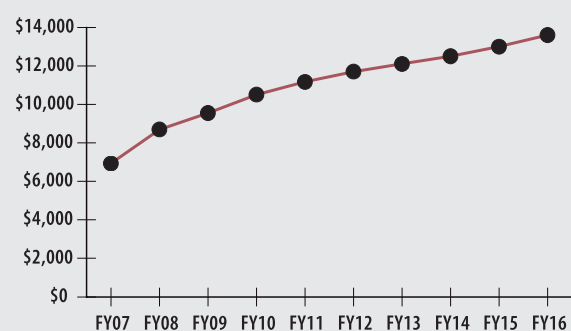
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.37%

30 years 2014

8.62%

29 years 2013

8.63%

10 years 2015

5.96%

10 years 2014

6.86%

10 years 2013

6.96%

5 years 2015

7.63%

5 years 2014

10.24%

5 years 2013

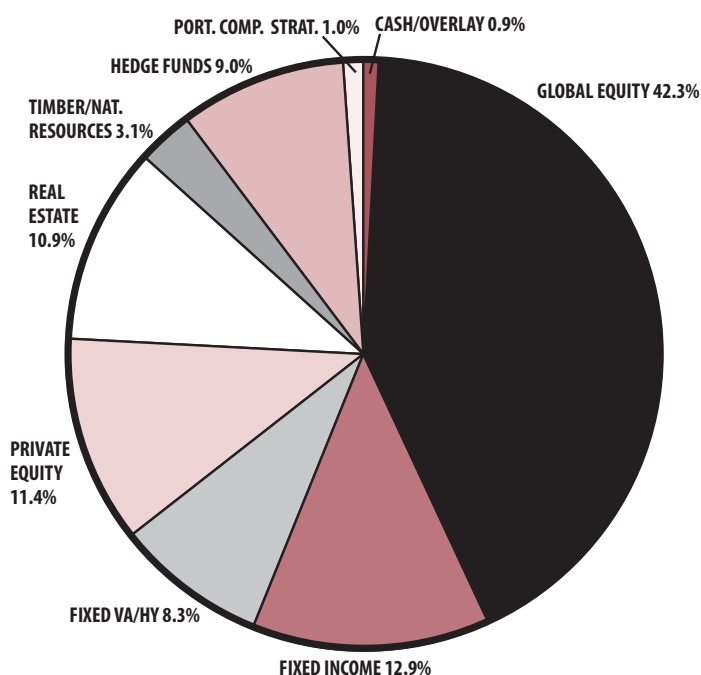
12.18%

ACTUARIAL

▶ Funded Ratio	42.8%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.5% Total Increasing
▶ Year Fully Funded	2029
▶ Unfunded Liability	\$118.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$13.6 M

	ACTIVE	RETIRED
▶ Number of Members	730	541
▶ Total Payroll/Benefit	\$36.2 M	\$12.0 M
▶ Average Salary/Benefit	\$49,500	\$22,200
▶ Average Age	47	77
▶ Average Service	11.0 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	88
▶ Number Who Reported Earnings	20
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$32,002.44

▶ 2015 Return	1.22%
▶ 2015 Market Value	\$110.1 M
▶ 2011-2015 (Annualized)	7.63%
▶ 1985-2015 (Annualized)	8.37%

Fairhaven

Town Hall
40 Centre Street
Fairhaven, MA 02719
Phone 508-979-4020
Fax 508-993-9486

Board Members

Earl M. Faunce (Chairperson),
Anne M. Carreiro, Mark Rees,
Alfred H. Robichaud, Joyce Shepard

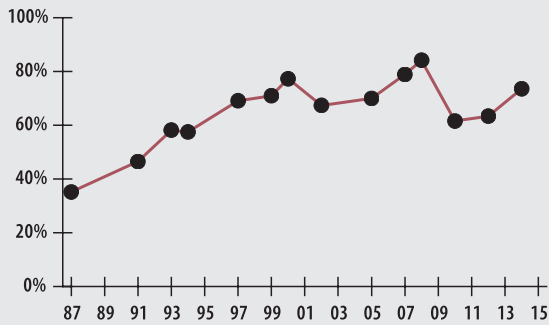
Board Administrator

Mary Sturgeon

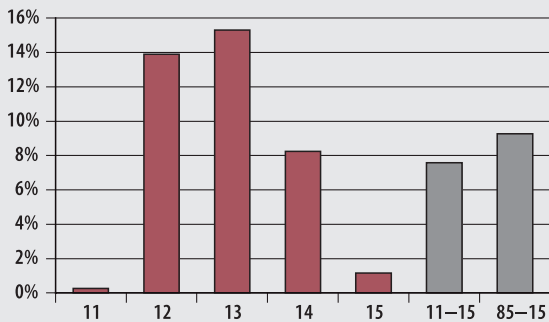
Board Meeting

Varies

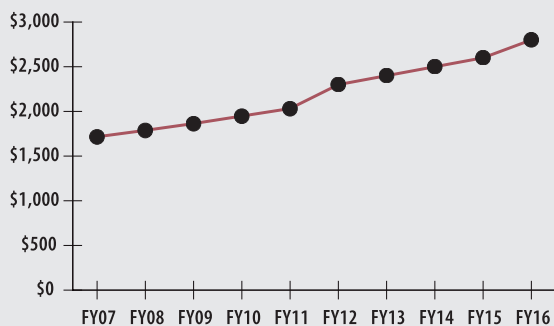
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.26%

30 years 2014

9.54%

29 years 2013

9.58%

10 years 2015

5.90%

10 years 2014

7.05%

10 years 2013

7.64%

5 years 2015

7.59%

5 years 2014

10.07%

5 years 2013

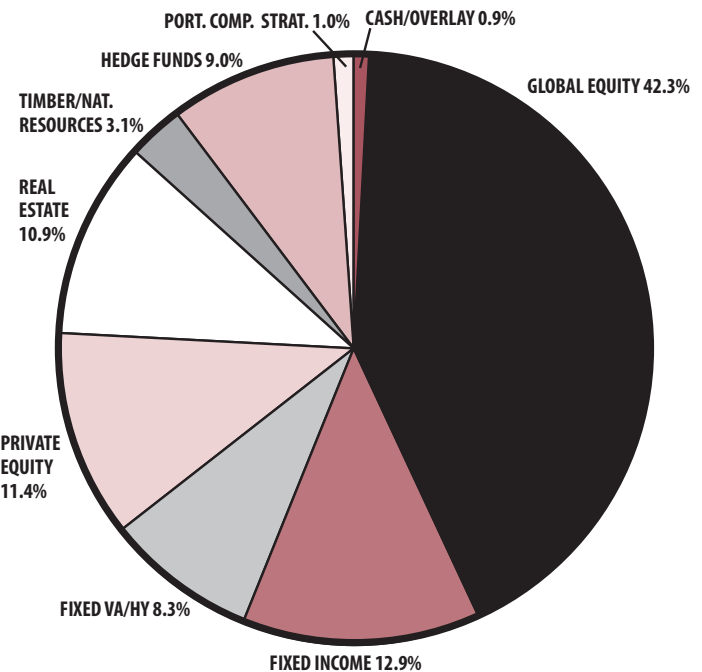
11.93%

ACTUARIAL

▶ Funded Ratio	73.6%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2025
▶ Unfunded Liability	\$17.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$2.8 M

	ACTIVE	RETIRED
▶ Number of Members	261	185
▶ Total Payroll/Benefit	\$10.6 M	\$3.5 M
▶ Average Salary/Benefit	\$40,500	\$19,000
▶ Average Age	49	72
▶ Average Service	12.8 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	21
▶ Number Who Reported Earnings	12
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$50.9 M
▶ 2011-2015 (Annualized)	7.59%
▶ 1985-2015 (Annualized)	9.26%

Fall River

30 Third Street
Suite 301
Fall River, MA 02720
Phone 508-646-9120
Fax 508-646-9123

Board Members

Arthur Viana (Chairperson),
Robert Camara, Krishan Gupta,
David Machado, Mark Nassiff, Jr.

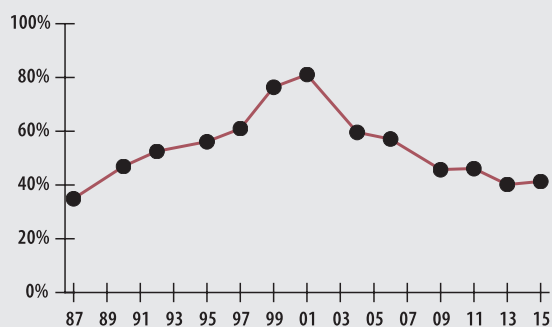
Board Administrator

Christine Tetreault

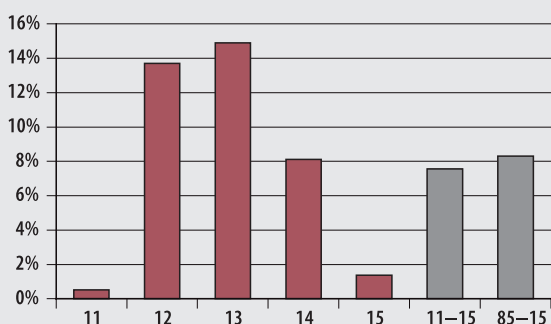
Board Meeting

Varies

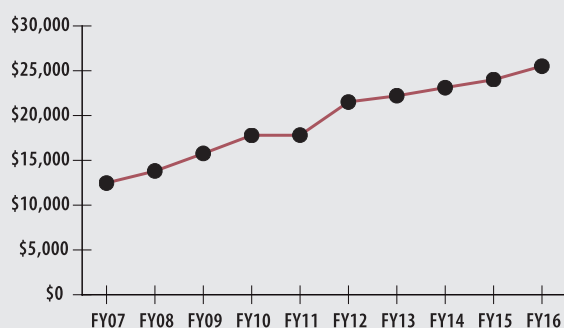
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
8.30%

30 years 2014
8.54%

29 years 2013
8.56%

10 years 2015
5.26%

10 years 2014
5.84%

10 years 2013
5.84%

5 years 2015
7.56%

5 years 2014
9.99%

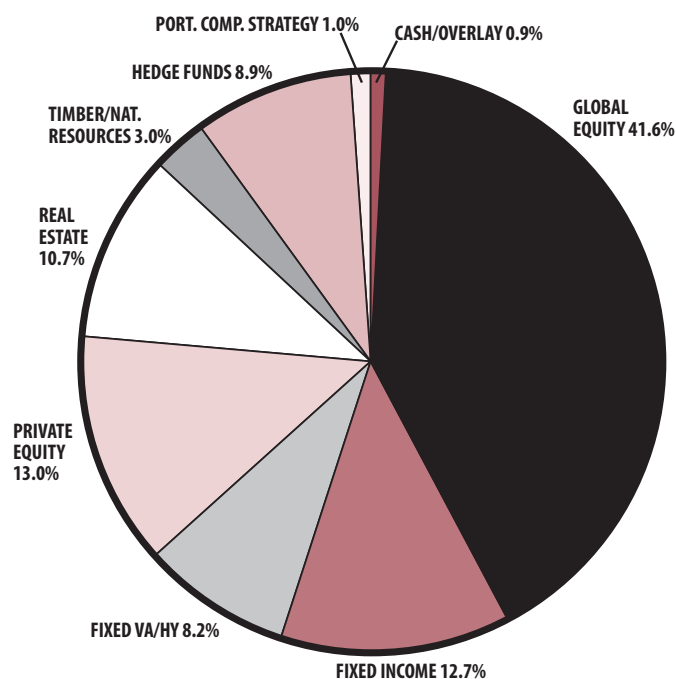
5 years 2013
11.67%

ACTUARIAL

▶ Funded Ratio	41.3%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	6.3% Total Increasing
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$336.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$25.5 M

	ACTIVE	RETIRED
▶ Number of Members	1,586	1,570
▶ Total Payroll/Benefit	\$73.8 M	\$35.7 M
▶ Average Salary/Benefit	\$46,500	\$22,700
▶ Average Age	47	73
▶ Average Service	13.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	212
▶ Number Who Reported Earnings	56
▶ Number of Excess Earners	3
▶ Total Amount of Refund Due	\$17,920.86

▶ 2015 Return	1.38%
▶ 2015 Market Value	\$238.4 M
▶ 2011-2015 (Annualized)	7.56%
▶ 1985-2015 (Annualized)	8.30%

Falmouth

80 Davis Straits, Suite 102
Falmouth, MA 02540
Phone 508-457-0578
Fax 508-540-9962

Board Members

Paul D. Brodeur (Chairperson),
Gary W. Anderson, Russell R. Ferreira,
Jennifer P. Petit, Ellen K. Philbin

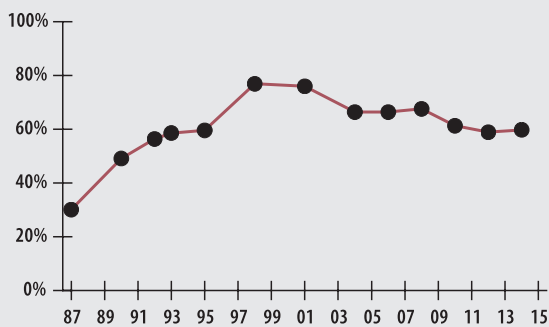
Board Administrator

Francis X. St. Germaine III

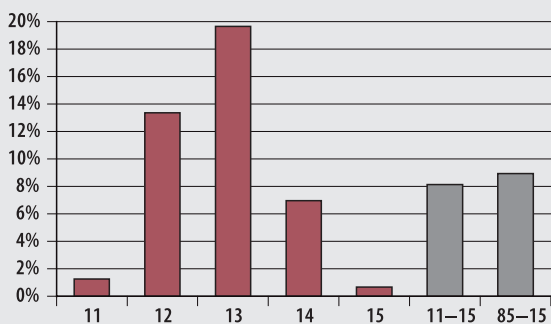
Board Meeting

Varies

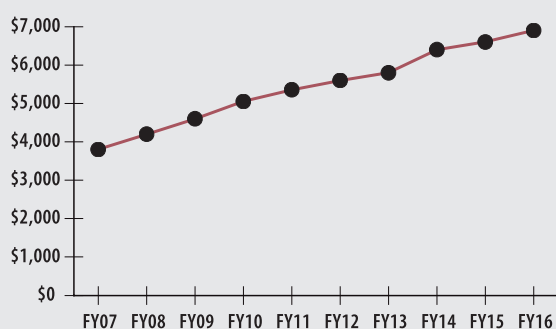
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

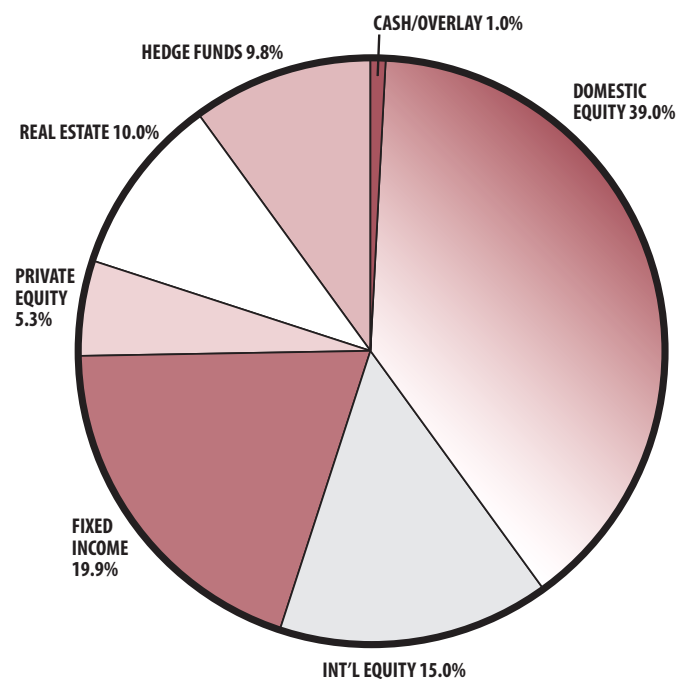
31 years 2015 8.94%	30 years 2014 9.23%	29 years 2013 9.31%
10 years 2015 5.90%	10 years 2014 6.61%	10 years 2013 6.95%
5 years 2015 8.15%	5 years 2014 10.92%	5 years 2013 12.34%

ACTUARIAL

▶ Funded Ratio	59.8%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2033
▶ Unfunded Liability	\$68.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$6.9 M

	ACTIVE	RETIRED
▶ Number of Members	576	374
▶ Total Payroll/Benefit	\$27.5 M	\$9.2 M
▶ Average Salary/Benefit	\$47,700	\$24,600
▶ Average Age	49	72
▶ Average Service	12.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	39
▶ Number Who Reported Earnings	16
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.69%
▶ 2015 Market Value	\$113.9 M
▶ 2011-2015 (Annualized)	8.15%
▶ 1985-2015 (Annualized)	8.94%

Board Members

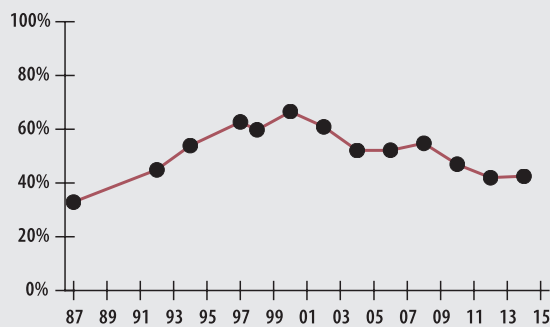
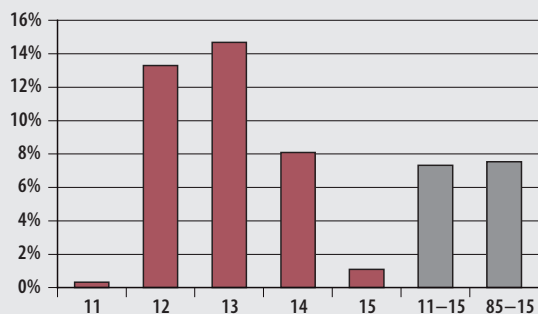
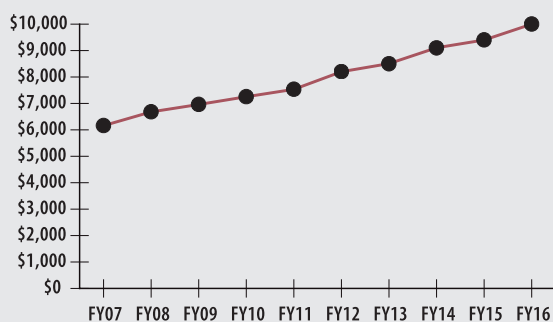
Richard N. Sarasin (Chairperson),
John C. Curran, Thomas A. Dateo, Jr.,
Ellen M. Jerszyk, Norman J. LeBlanc

Board Administrator

Diane G. Vieweg

Board Meeting

Fourth Tuesday of each month at 10:00 am

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

7.54%

30 years 2014

7.76%

29 years 2013

7.75%

10 years 2015

5.11%

10 years 2014

5.65%

10 years 2013

5.62%

5 years 2015

7.33%

5 years 2014

9.53%

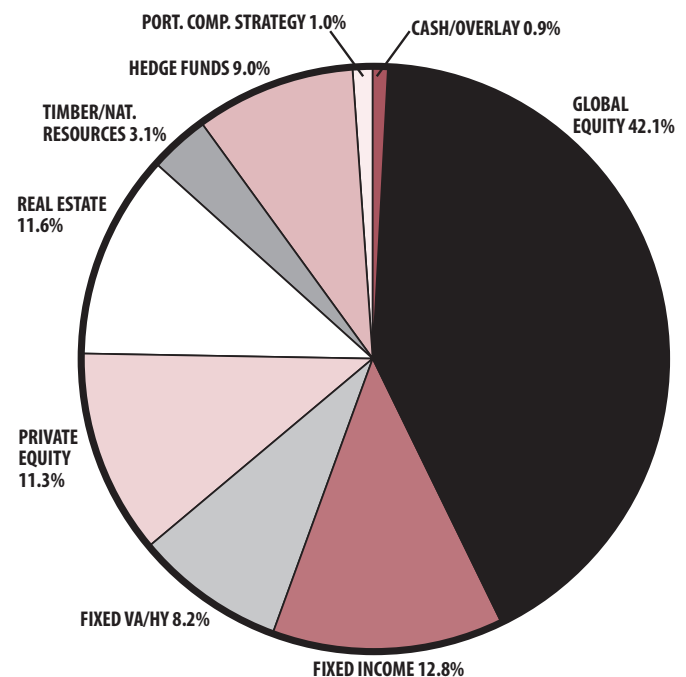
5 years 2013

10.84%

ACTUARIAL

▶ Funded Ratio	42.5%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.95%
▶ Funding Schedule	6.0 % Total Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$122.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$10.0 M

	ACTIVE	RETIRED
▶ Number of Members	605	549
▶ Total Payroll/Benefit	\$27.6 M	\$12.9 M
▶ Average Salary/Benefit	\$45,600	\$23,400
▶ Average Age	47	NA
▶ Average Service	12.6 years	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	54
▶ Number Who Reported Earnings	5
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.09%
▶ 2015 Market Value	\$98.8 M
▶ 2011-2015 (Annualized)	7.33%
▶ 1985-2015 (Annualized)	7.54%

Framingham

Memorial Building
150 Concord Street, Room B-31
Framingham, MA 01702-8325
Phone 508-532-5465
Fax 508-532-5757

Board Members

Richard C. Howarth, Jr. (Chairperson),
Joseph Fonseca, Mary Ellen Kelley,
Peter J. Rovinelli, John W. White, Jr.

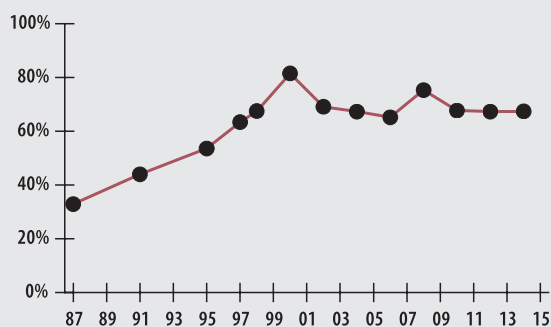
Board Administrator

Laurie A. Lizak

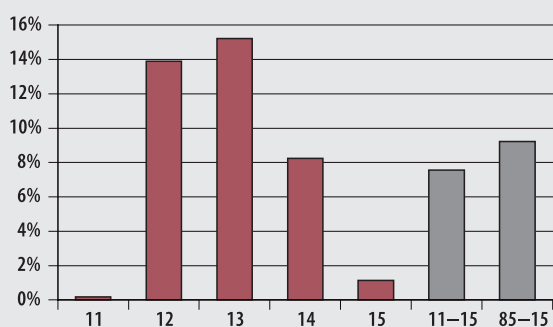
Board Meeting

Varies

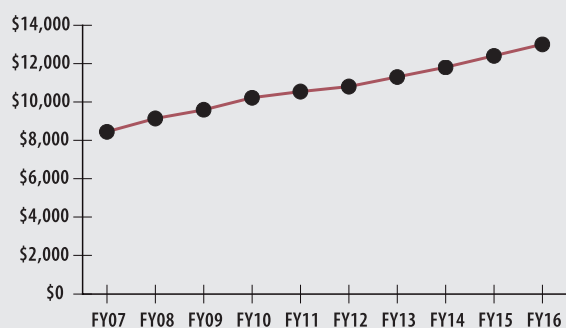
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.23%

30 years 2014

9.51%

29 years 2013

9.55%

10 years 2015

5.92%

10 years 2014

7.08%

10 years 2013

7.68%

5 years 2015

7.56%

5 years 2014

10.07%

5 years 2013

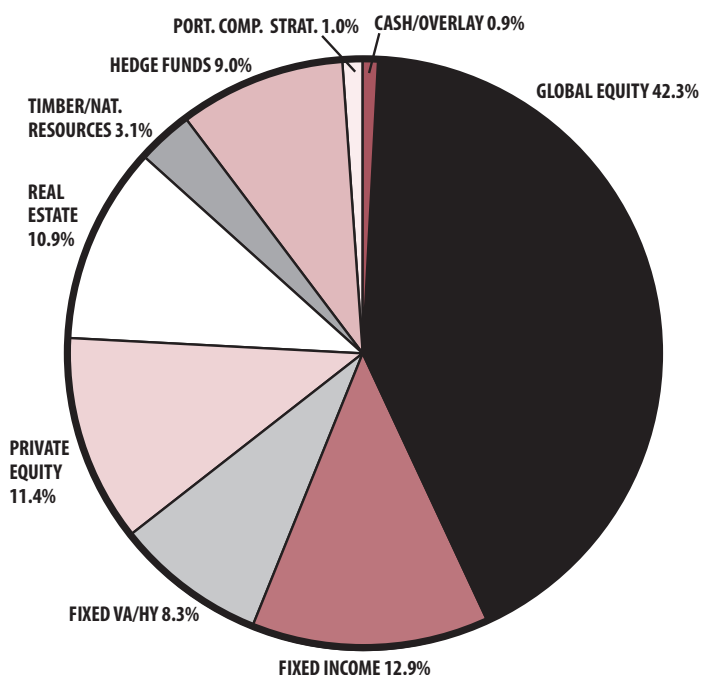
11.90%

ACTUARIAL

▶ Funded Ratio	67.4%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$110.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$13.0 M

	ACTIVE	RETIRED
▶ Number of Members	1,110	806
▶ Total Payroll/Benefit	\$55.7 M	\$19.2 M
▶ Average Salary/Benefit	\$50,200	\$23,900
▶ Average Age	47	74
▶ Average Service	12.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	67
▶ Number Who Reported Earnings	19
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.13%
▶ 2015 Market Value	\$257.7 M
▶ 2011-2015 (Annualized)	7.56%
▶ 1985-2015 (Annualized)	9.23%

Franklin Regional

278 Main Street
Suite 311
Greenfield, MA 01301
Phone 413-774-4837
Fax 413-774-5677

Board Members

Sandra A. Hanks (Chairperson),
David Gendron, Paula Light, Paul Mokrzecki,
Mary A. Stokarski

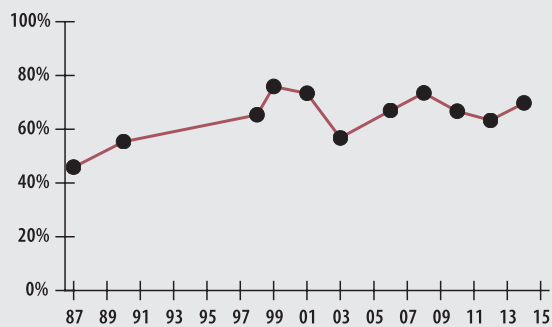
Board Administrator

Dale Kowacki

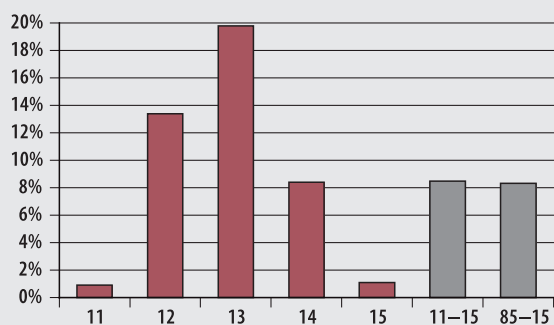
Board Meeting

Usually meets the last Wednesday
of each month

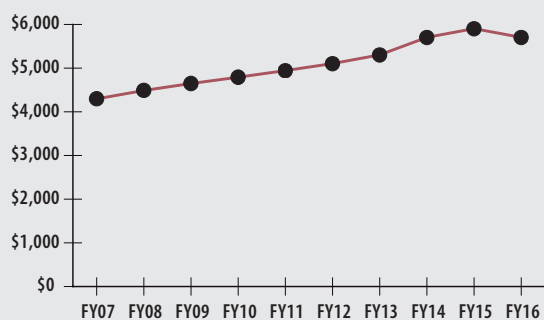
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.34%

30 years 2014

8.59%

29 years 2013

8.59%

10 years 2015

6.57%

10 years 2014

7.25%

10 years 2013

7.28%

5 years 2015

8.49%

5 years 2014

11.39%

5 years 2013

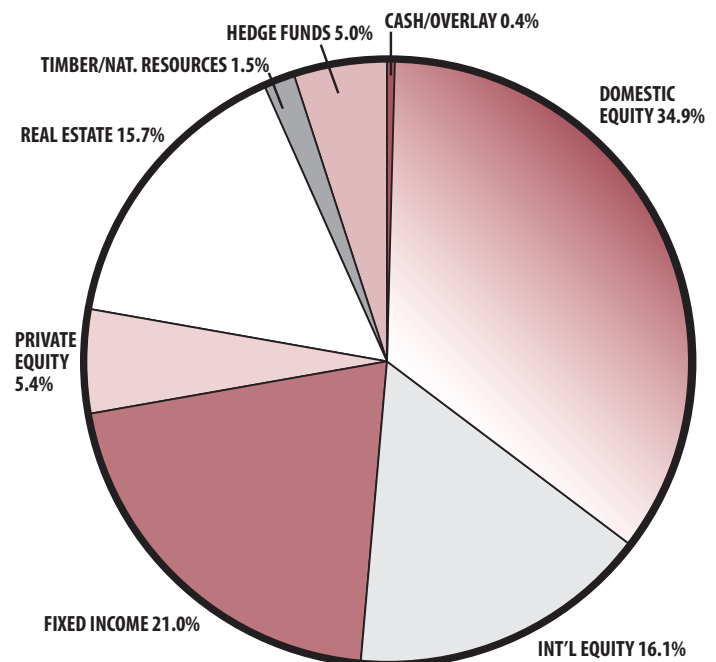
13.33%

ACTUARIAL

▶ Funded Ratio	69.8%
▶ Date of Last Valuation	01/14
▶ Actuary	KMS Actuaries
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$45.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.7M

	ACTIVE	RETIRED
▶ Number of Members	928	520
▶ Total Payroll/Benefit	\$30.9 M	\$7.5 M
▶ Average Salary/Benefit	\$33,200	\$14,500
▶ Average Age	48	72
▶ Average Service	10.5 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	19
▶ Number Who Reported Earnings	7
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.11%
▶ 2015 Market Value	\$119.2 M
▶ 2011-2015 (Annualized)	8.49%
▶ 1985-2015 (Annualized)	8.34%

Gardner

City Hall, Room 17
95 Pleasant Street
Gardner, MA 01440
Phone 978-630-4006
Fax 978-630-4012

Board Members

Denise M. Merriam (Chairperson),
Neil W. Janssens, Kevin McInerney,
Robert W. Newton, John Richard

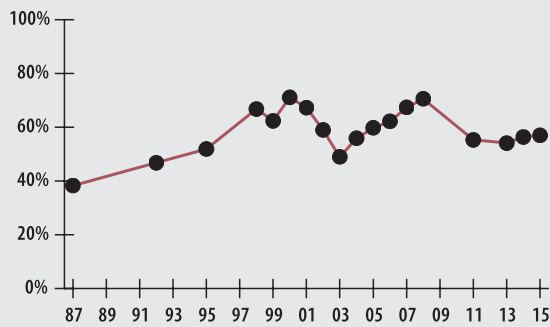
Board Administrator

Clifton J. Melatti

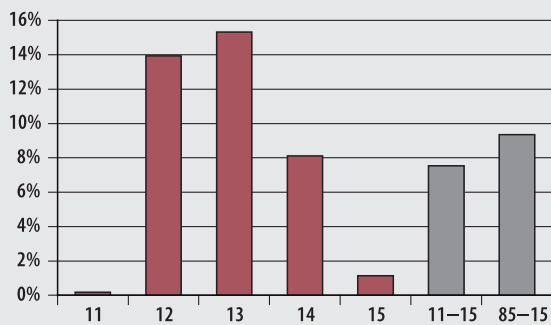
Board Meeting

Varies

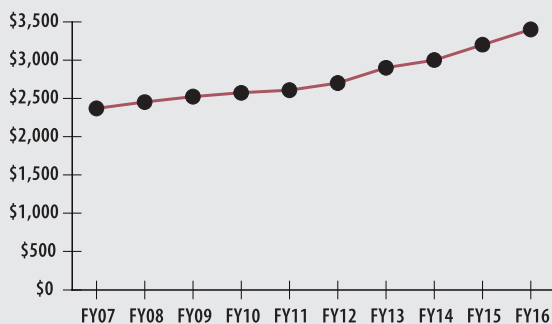
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.35%

30 years 2014

9.63%

29 years 2013

9.68%

10 years 2015

5.87%

10 years 2014

7.05%

10 years 2013

7.66%

5 years 2015

7.55%

5 years 2014

10.06%

5 years 2013

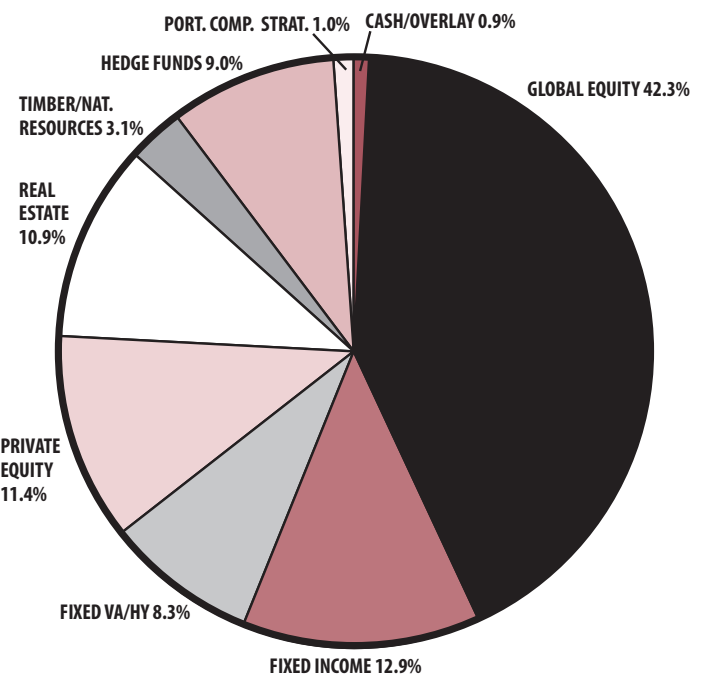
11.93%

ACTUARIAL

▶ Funded Ratio	57.0%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	4.5% Total Increasing
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$35.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.4 M

	ACTIVE	RETIRED
▶ Number of Members	268	230
▶ Total Payroll/Benefit	\$11.4 M	\$5.1 M
▶ Average Salary/Benefit	\$42,400	\$22,100
▶ Average Age	48	72
▶ Average Service	12.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	23
▶ Number Who Reported Earnings	4
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.15%
▶ 2015 Market Value	\$46.3 M
▶ 2011-2015 (Annualized)	7.55%
▶ 1985-2015 (Annualized)	9.35%

Gloucester

127 Eastern Avenue, Lower Level
Gloucester, MA 01930
Phone 978-281-9744
Fax 978-281-9817

Board Members

Douglas A. MacArthur (Chairperson),
Leonard Campanello, Kenny Costa,
Melissa Ann Hobbs

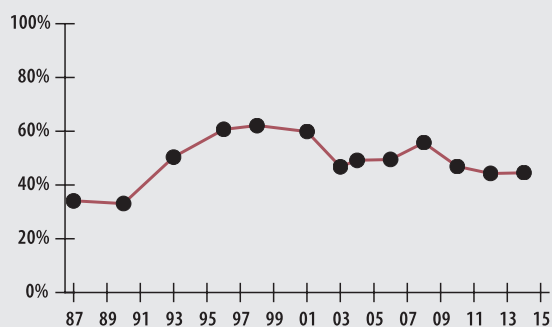
Board Administrator

Patricia Ivas

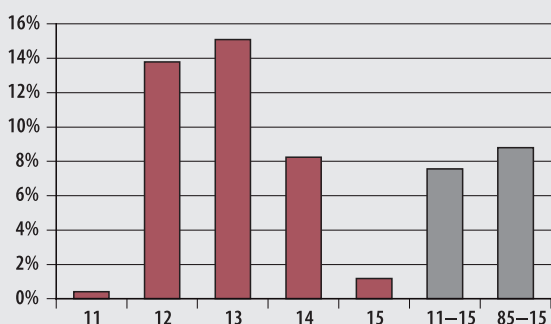
Board Meeting

Generally the last Wednesday
of each month

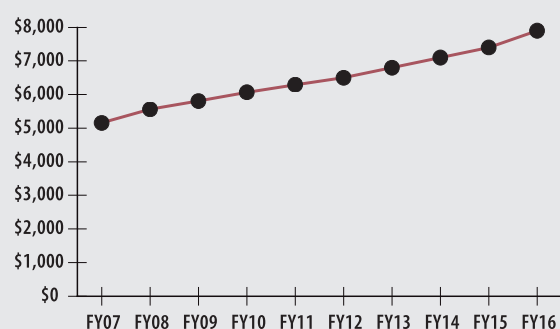
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.79%

30 years 2014

9.06%

29 years 2013

9.08%

10 years 2015

5.46%

10 years 2014

6.22%

10 years 2013

6.51%

5 years 2015

7.57%

5 years 2014

10.04%

5 years 2013

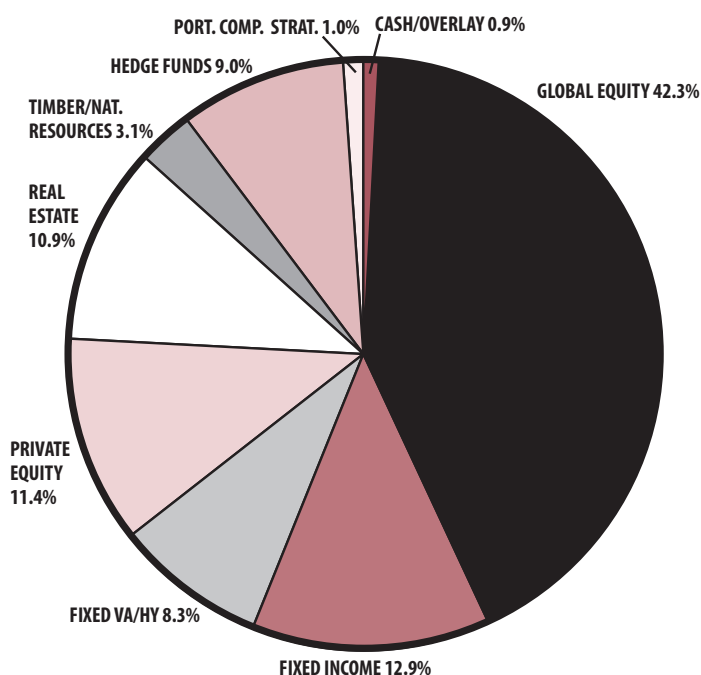
11.87%

ACTUARIAL

▶ Funded Ratio	44.6%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	6.15% Total Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$97.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$7.9 M

	ACTIVE	RETIRED
▶ Number of Members	517	454
▶ Total Payroll/Benefit	\$26.6 M	\$10.4 M
▶ Average Salary/Benefit	\$51,500	\$22,900
▶ Average Age	50	NA
▶ Average Service	12.9 years	NA

ASSET ALLOCATION (12/31/15)

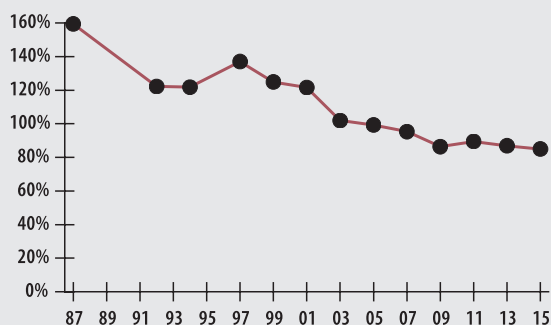


EARNED INCOME OF DISABILITY RETIREES (2014)

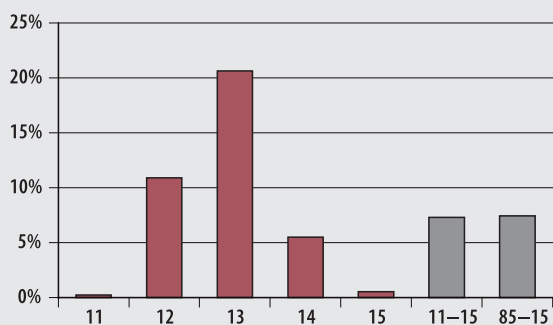
▶ Number of Disability Retirees	43
▶ Number Who Reported Earnings	14
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.19%
▶ 2015 Market Value	\$86.9 M
▶ 2011-2015 (Annualized)	7.57%
▶ 1985-2015 (Annualized)	8.79%

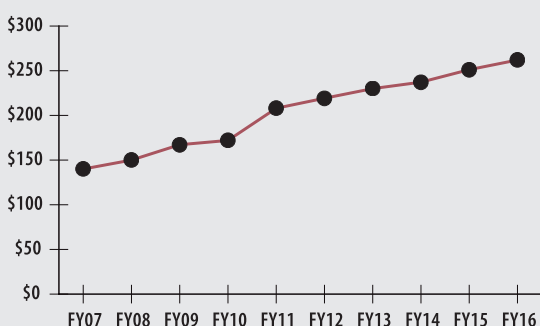
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

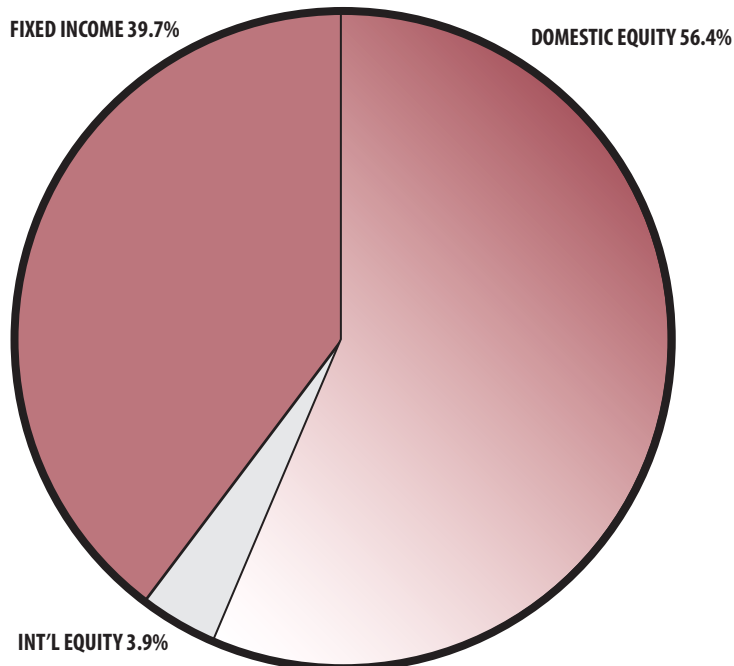
31 years 2015 7.46%	30 years 2014 7.70%	29 years 2013 7.78%
10 years 2015 6.61%	10 years 2014 6.95%	10 years 2013 7.04%
5 years 2015 7.31%	5 years 2014 9.70%	5 years 2013 13.54%

ACTUARIAL

▶ Funded Ratio	85.0%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.00%
▶ Funding Schedule	8.0% Total Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$2.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$262,000

	ACTIVE	RETIRED
▶ Number of Members	41	22
▶ Total Payroll/Benefit	\$2.6 M	\$573,000
▶ Average Salary/Benefit	\$65,200	\$26,000
▶ Average Age	52	72
▶ Average Service	18.8 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	0
▶ Number Who Reported Earnings	0
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.54%
▶ 2015 Market Value	\$14.9 M
▶ 2011-2015 (Annualized)	7.31%
▶ 1985-2015 (Annualized)	7.46%

Greenfield

Town Hall
14 Court Square
Greenfield, MA 01301
Phone 413-772-1503
Fax 413-772-1582

Board Members

William P. Devino (Chairperson),
Elizabeth Braccia, Marilyn Matysiewicz,
Betty L. Rice, Frances K. Stotz

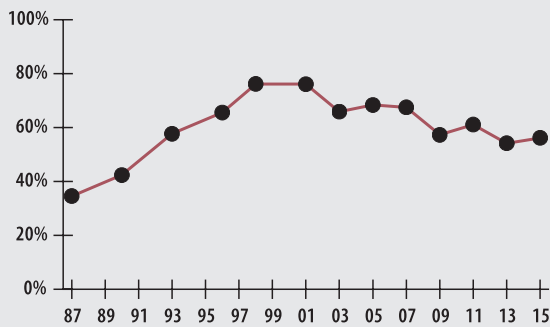
Board Administrator

Shari Hildreth

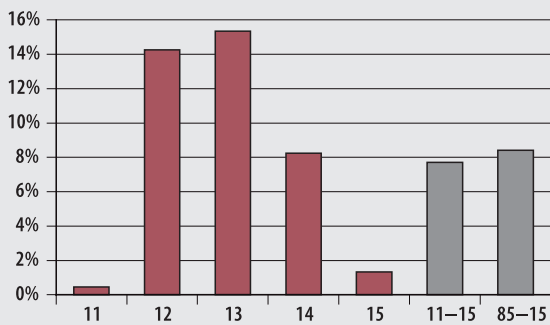
Board Meeting

Varies

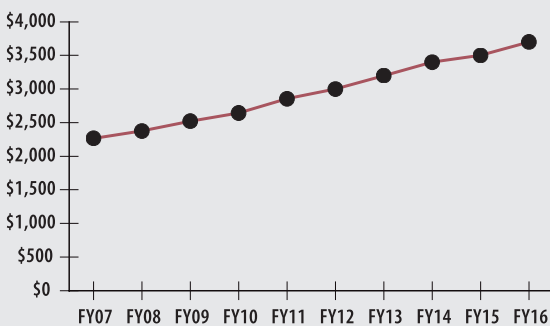
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.42%

30 years 2014

8.67%

29 years 2013

8.68%

10 years 2015

5.72%

10 years 2014

6.60%

10 years 2013

6.82%

5 years 2015

7.74%

5 years 2014

10.22%

5 years 2013

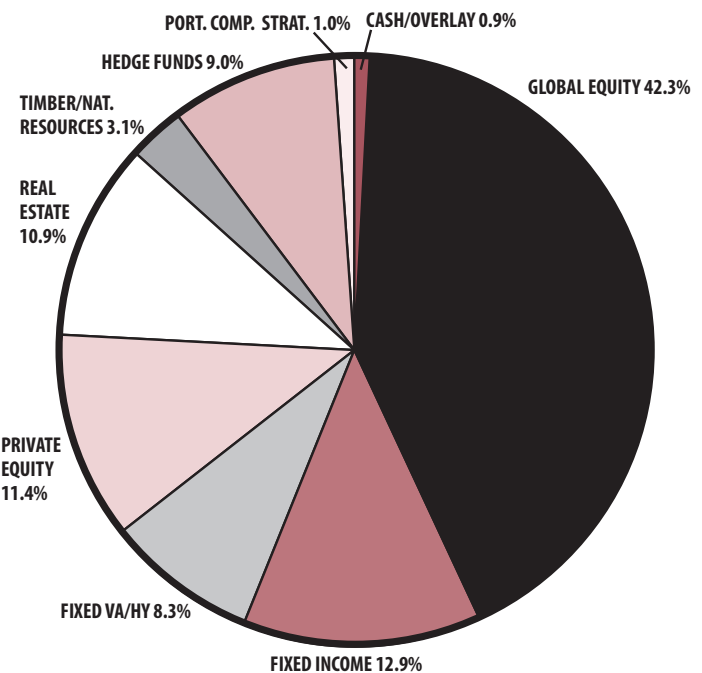
12.22%

ACTUARIAL

▶ Funded Ratio	56.2%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	6.3% Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$44.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.7 M

	ACTIVE	RETIRED
▶ Number of Members	427	259
▶ Total Payroll/Benefit	\$16.1 M	\$5.8 M
▶ Average Salary/Benefit	\$37,600	\$22,400
▶ Average Age	47	71
▶ Average Service	9.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	16
▶ Number Who Reported Earnings	8
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$17,235.75

▶ 2015 Return	1.33%
▶ 2015 Market Value	\$58.3 M
▶ 2011-2015 (Annualized)	7.74%
▶ 1985-2015 (Annualized)	8.42%

Hampden County Regional

Agawam Corporate Center
67 Hunt Street, Suite 116
Agawam, MA 01001
Phone 413-737-1344
Fax 413-732-7999

Board Members

Richard M. Theroux (Chairperson),
Patricia C. Donovan, Patrick O'Neil,
Laurel Placzek, Karl Schmaelzle

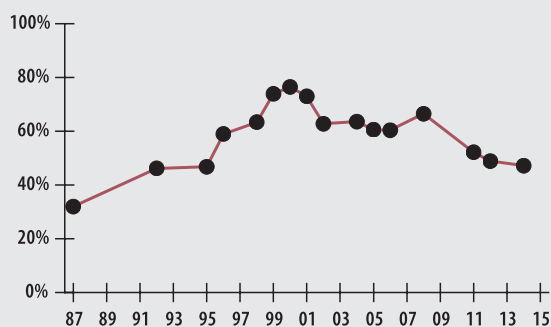
Board Administrator

Julianne Bartley

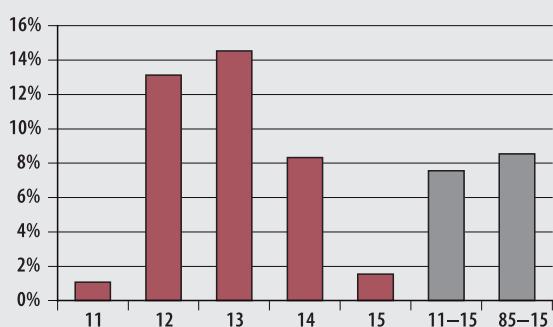
Board Meeting

Next to the last business day of each month

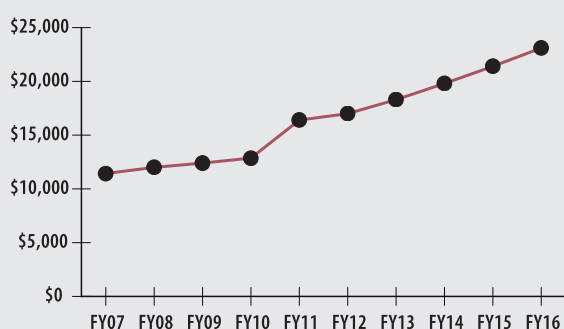
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.54%

30 years 2014

8.78%

29 years 2013

8.79%

10 years 2015

5.37%

10 years 2014

5.91%

10 years 2013

6.04%

5 years 2015

7.57%

5 years 2014

9.84%

5 years 2013

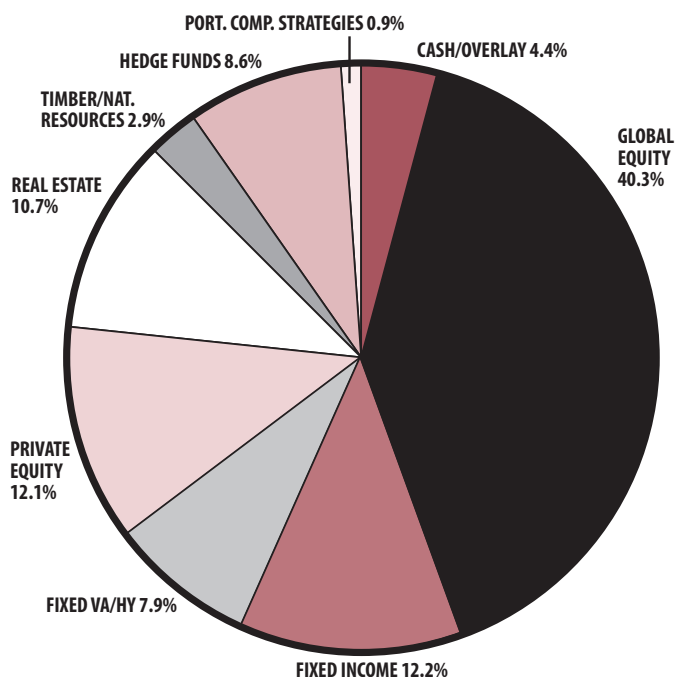
11.18%

ACTUARIAL

▶ Funded Ratio	47.2%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$298.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$23.1 M

▶ Number of Members	2,553	1,581
▶ Total Payroll/Benefit	\$100.1 M	\$28.7 M
▶ Average Salary/Benefit	\$39,200	\$18,100
▶ Average Age	49	NA
▶ Average Service	12.4 years	NA

ASSET ALLOCATION (12/31/15)

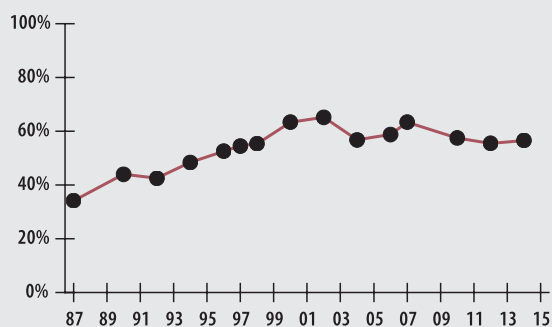


EARNED INCOME OF DISABILITY RETIREES (2014)

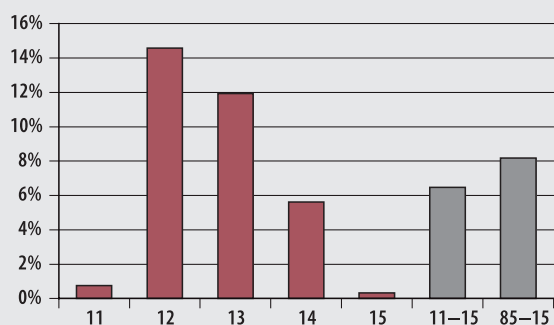
▶ Number of Disability Retirees	104
▶ Number Who Reported Earnings	31
▶ Number of Excess Earners	5
▶ Total Amount of Refund Due	\$34,918.83

▶ 2015 Return	1.55%
▶ 2015 Market Value	\$299.0 M
▶ 2011-2015 (Annualized)	7.57%
▶ 1985-2015 (Annualized)	8.54%

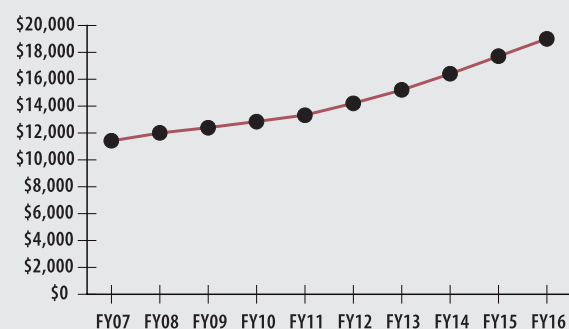
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

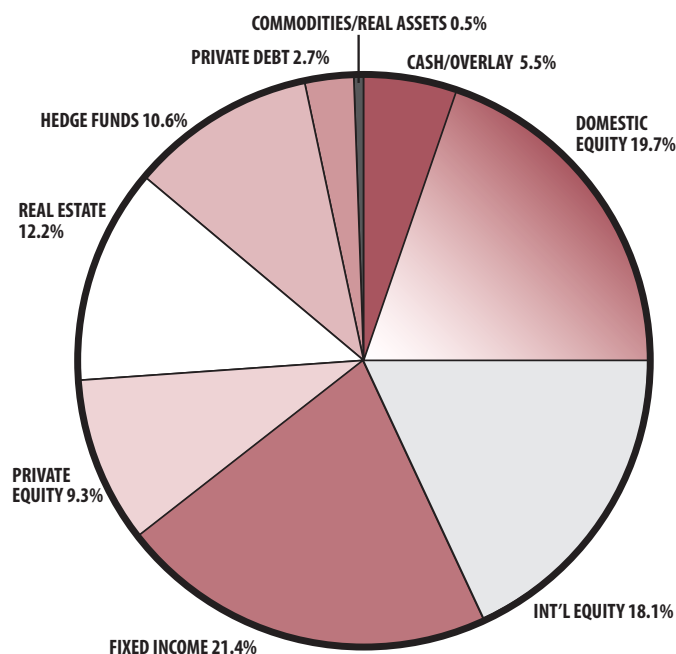
31 years 2015 8.19%	30 years 2014 8.46%	29 years 2013 8.56%
10 years 2015 5.67%	10 years 2014 6.44%	10 years 2013 6.98%
5 years 2015 6.48%	5 years 2014 9.13%	5 years 2013 11.99%

ACTUARIAL

▶ Funded Ratio	56.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$180.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$19.0 M

	ACTIVE	RETIRED
▶ Number of Members	1,899	1,140
▶ Total Payroll/Benefit	\$73.4 M	\$21.0 M
▶ Average Salary/Benefit	\$38,700	\$18,500
▶ Average Age	49	72
▶ Average Service	11.7 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	74
▶ Number Who Reported Earnings	30
▶ Number of Excess Earners	2
▶ Total Amount of Refund Due	\$21,062.22

▶ 2015 Return	.32%
▶ 2015 Market Value	\$255.8 M
▶ 2011-2015 (Annualized)	6.48%
▶ 1985-2015 (Annualized)	8.19%

Haverhill

4 Summer Street
Room 303
Haverhill, MA 01830-5843
Phone 978-374-2358
Fax 978-374-2353

Board Members

William J. Klueber (Chairperson),
Charles Benevento, James P. Cleary, III, Esq.,
Lewis F. Poore, Jr.

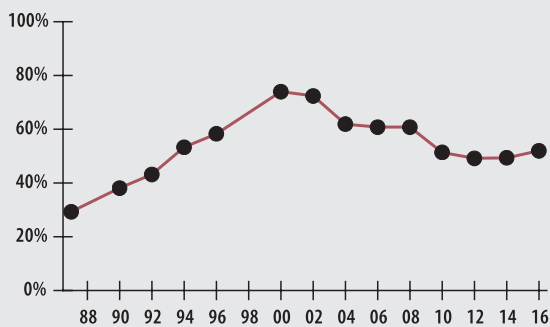
Board Administrator

Sheryl C. Trezise

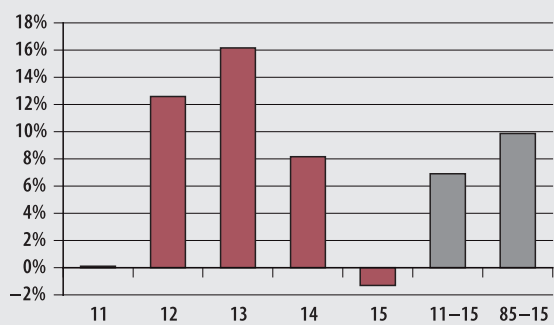
Board Meeting

Second Tuesday each month at 9:00 am

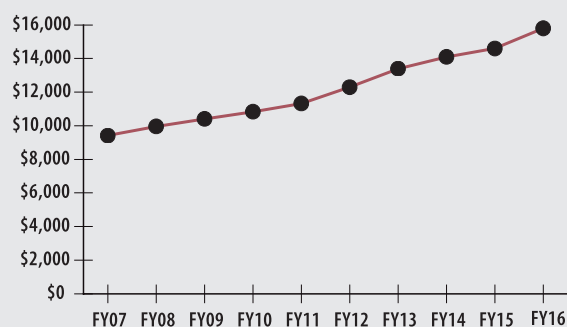
FUNDED RATIO (1987-2016)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.88%

30 years 2014

10.27%

29 years 2013

10.35%

10 years 2015

6.15%

10 years 2014

7.13%

10 years 2013

7.53%

5 years 2015

6.93%

5 years 2014

10.18%

5 years 2013

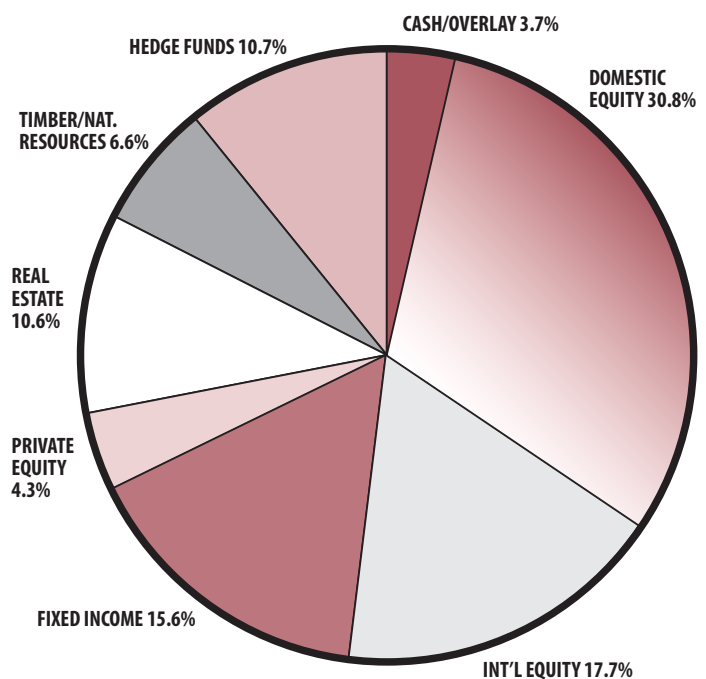
12.47%

ACTUARIAL

▶ Funded Ratio	52.0%
▶ Date of Last Valuation	01/16
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$167.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$15.8 M

	ACTIVE	RETIRED
▶ Number of Members	887	1,074
▶ Total Payroll/Benefit	\$38.3 M	\$23.8 M
▶ Average Salary/Benefit	\$43,100	\$22,100
▶ Average Age	48	73
▶ Average Service	12.7 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	84
▶ Number Who Reported Earnings	19
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-1.30%
▶ 2015 Market Value	\$171.4 M
▶ 2011-2015 (Annualized)	6.93%
▶ 1985-2015 (Annualized)	9.88%

Hingham

210 Central Street
Hingham, MA 02043-2758
Phone 781-804-2478
Fax 781-804-2444

Board Members

Susan M. Nickerson (Chairperson),
James P. Costello, Charles J. Cristello,
Jean M. Montgomery, William A. Powers

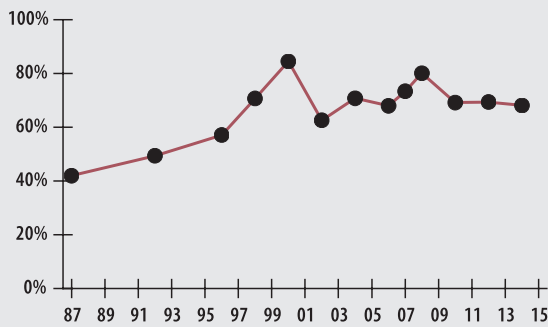
Board Administrator

Nancy M. Hutt

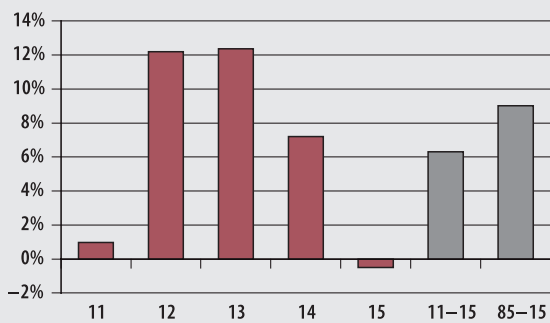
Board Meeting

Fourth Tuesday of each month at 10:00 am

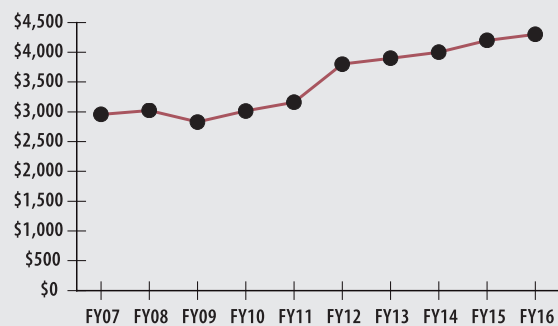
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.01%

30 years 2014

9.34%

29 years 2013

9.42%

10 years 2015

5.32%

10 years 2014

6.64%

10 years 2013

7.32%

5 years 2015

6.31%

5 years 2014

9.16%

5 years 2013

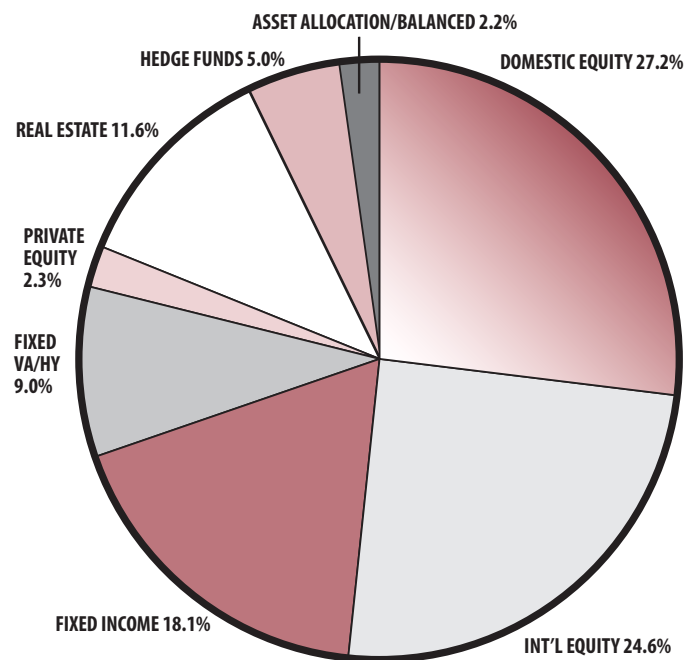
11.22%

ACTUARIAL

▶ Funded Ratio	68.1%
▶ Date of Last Valuation	01/14
▶ Actuary	KMS Actuaries
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2038
▶ Unfunded Liability	\$41.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.3 M

	ACTIVE	RETIRED
▶ Number of Members	597	294
▶ Total Payroll/Benefit	\$27.0 M	\$6.7 M
▶ Average Salary/Benefit	\$45,300	\$22,800
▶ Average Age	49	74
▶ Average Service	10.8 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	13
▶ Number Who Reported Earnings	1
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-0.49%
▶ 2015 Market Value	\$95.5 M
▶ 2011-2015 (Annualized)	6.31%
▶ 1985-2015 (Annualized)	9.01%

Holyoke

20 Korean Veterans Plaza
Room 207
Holyoke, MA 01040-5044
Phone 413-322-5590
Fax 413-322-5591

Board Members

John T. McCarthy (Chairperson),
Michele Aubrey, Daniel R. Owens,
Bellamy Schmidt

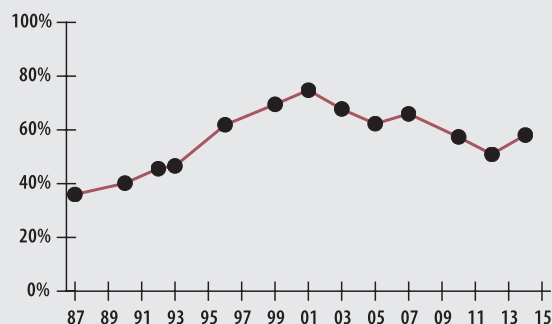
Board Administrator

Cheryl A. Dugre

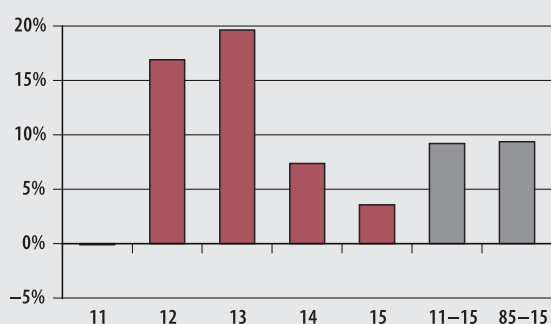
Board Meeting

Third Tuesday of each month at 9:00 am

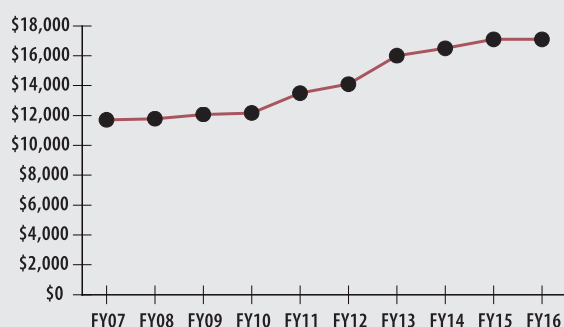
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.37%

30 years 2014

9.57%

29 years 2013

9.64%

10 years 2015

6.51%

10 years 2014

6.78%

10 years 2013

6.96%

5 years 2015

9.23%

5 years 2014

11.94%

5 years 2013

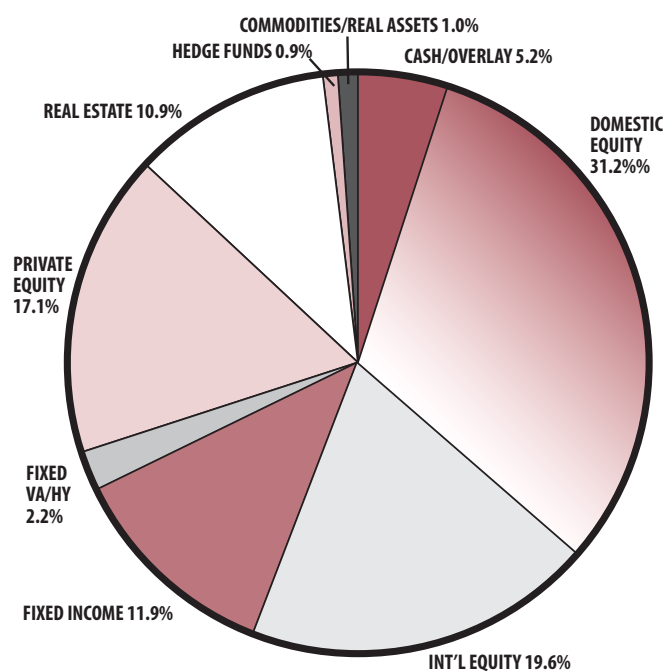
15.83%

ACTUARIAL

▶ Funded Ratio	58.1%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	2.75% Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$153.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$17.1 M

	ACTIVE	RETIRED
▶ Number of Members	1,250	927
▶ Total Payroll/Benefit	\$55.0 M	\$22.2 M
▶ Average Salary/Benefit	\$44,000	\$23,900
▶ Average Age	46	NA
▶ Average Service	12.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	70
▶ Number Who Reported Earnings	16
▶ Number of Excess Earners	2
▶ Total Amount of Refund Due	\$1,388.70

▶ 2015 Return	3.59%
▶ 2015 Market Value	\$238.0 M
▶ 2011-2015 (Annualized)	9.23%
▶ 1985-2015 (Annualized)	9.37%

Board Members

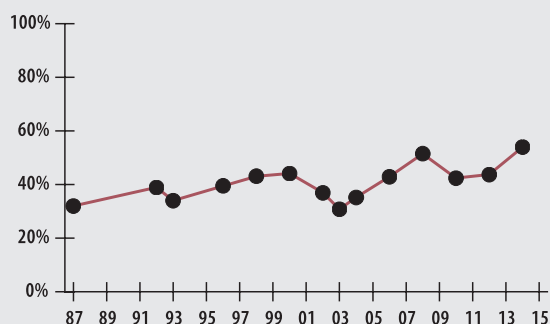
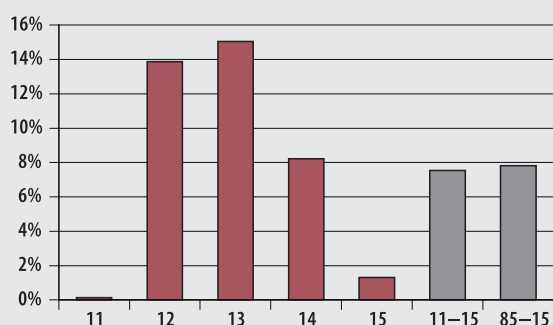
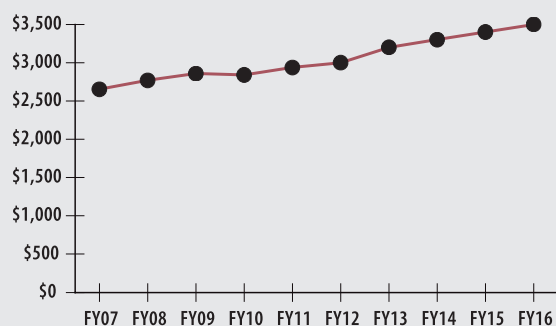
J. Michael Buckley (Chairperson),
Gregory Galvin, John J. King,
John Reilly, Jr., Brian Thompson

Board Administrator

Lauren Durham

Board Meeting

Last Wednesday of the month

FUNDED RATIO (1987-2015)**INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)****10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)****INVESTMENT RETURN HISTORY****31 years 2015**

7.82%

30 years 2014

8.05%

29 years 2013

8.04%

10 years 2015

5.88%

10 years 2014

7.04%

10 years 2013

7.48%

5 years 2015

7.54%

5 years 2014

9.97%

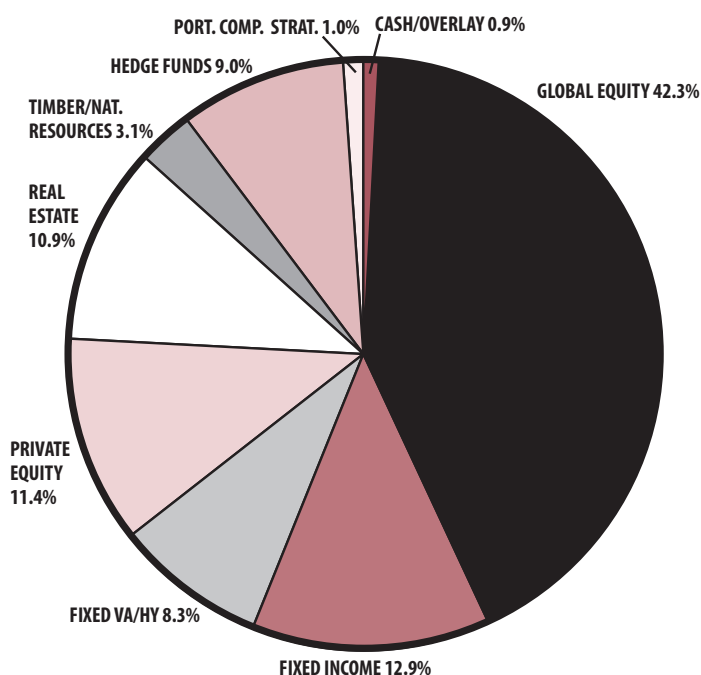
5 years 2013

11.82%

ACTUARIAL

▶ Funded Ratio	54.0%
▶ Date of Last Valuation	01/14
▶ Actuary	Odyssey Advisors
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	3.8% Increasing
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$29.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.5 M

	ACTIVE	RETIRED
▶ Number of Members	178	130
▶ Total Payroll/Benefit	\$9.3 M	\$3.4 M
▶ Average Salary/Benefit	\$52,200	\$26,400
▶ Average Age	52	NA
▶ Average Service	12.9 years	NA

ASSET ALLOCATION (12/31/15)**EARNED INCOME OF DISABILITY RETIREES (2014)**

▶ Number of Disability Retirees	24
▶ Number Who Reported Earnings	10
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.32%
▶ 2015 Market Value	\$38.4 M
▶ 2011-2015 (Annualized)	7.54%
▶ 1985-2015 (Annualized)	7.82%

Lawrence

354 Merrimack Street
Suite 302, Entry C
Lawrence, MA 01843
Phone 978-620-3570
Fax 978-683-5894

Board Members

William F. Bateman (Chairperson),
Ramona Ceballos, Thomas M. Cuddy,
Kevin Loughlin, Gina M. Rizzo

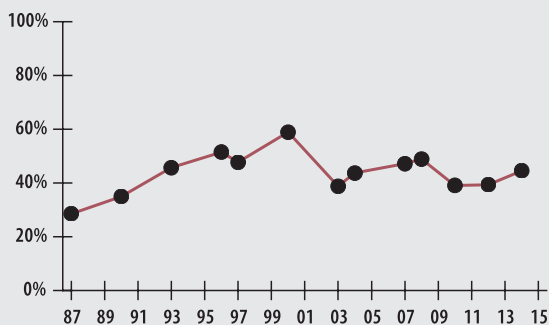
Board Administrator

Diane Cockroft

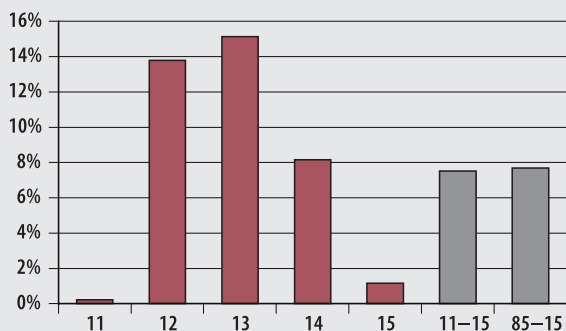
Board Meeting

Varies

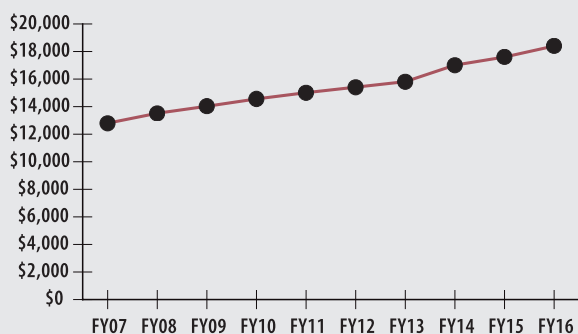
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
7.70%

30 years 2014
7.92%

29 years 2013
7.91%

10 years 2015
5.29%

10 years 2014
5.81%

10 years 2013
5.92%

5 years 2015
7.52%

5 years 2014
10.03%

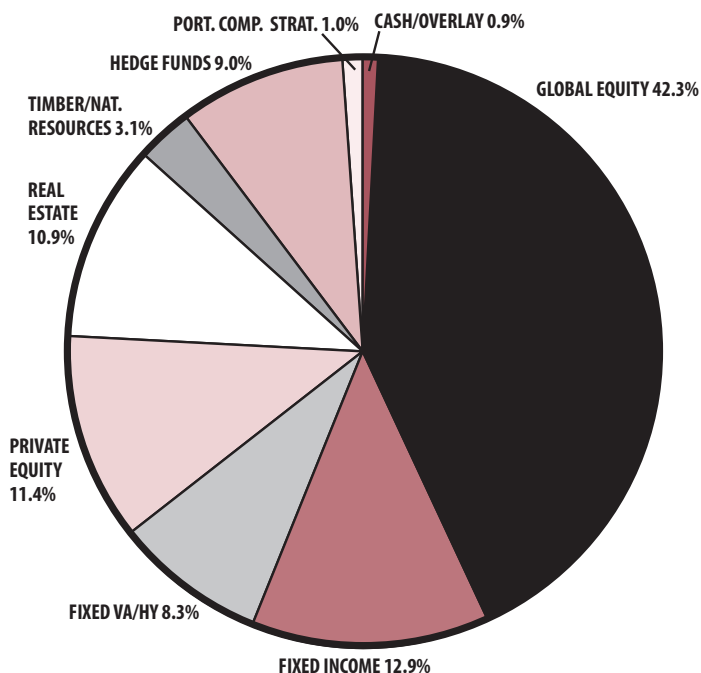
5 years 2013
11.91%

ACTUARIAL

▶ Funded Ratio	44.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	3.42% Increasing
▶ Year Fully Funded	2038
▶ Unfunded Liability	\$210.2 M
▶ Total Pension Appropriation (Fiscal 2016)	\$18.4 M

	ACTIVE	RETIRED
▶ Number of Members	1,519	879
▶ Total Payroll/Benefit	\$67.8 M	\$21.6 M
▶ Average Salary/Benefit	\$44,600	\$24,600
▶ Average Age	46	74
▶ Average Service	10.8 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	109
▶ Number Who Reported Earnings	21
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$1,261.56

▶ 2015 Return	1.16%
▶ 2015 Market Value	\$183.0 M
▶ 2011-2015 (Annualized)	7.52%
▶ 1985-2015 (Annualized)	7.70%

Leominster

City Hall, Room 15
25 West Street
Leominster, MA 01453
Phone 978-534-7507, ext. 246
Fax 978-534-7508

Board Members

John J. Richard (Chairperson),
David R. LaPlante, John P. Perry,
William Thibodeau

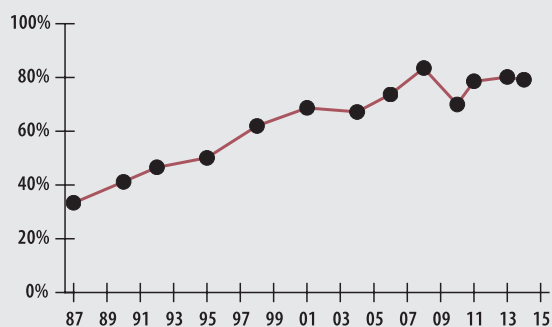
Board Administrator

Erin S. Kelley

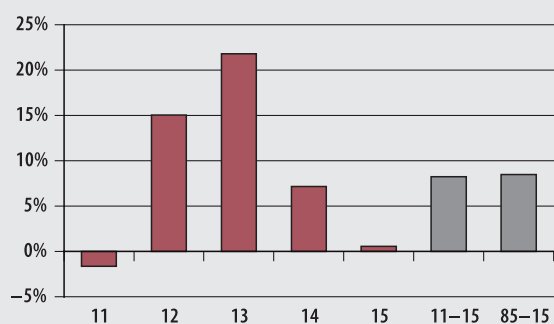
Board Meeting

Varies

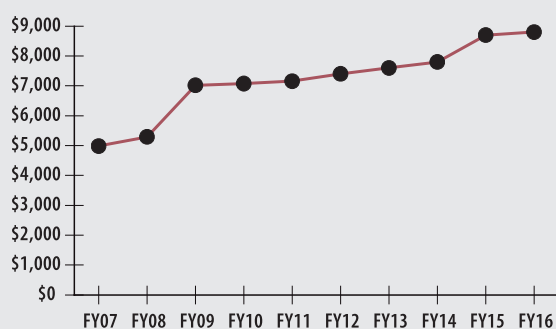
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.50%

30 years 2014

8.77%

29 years 2013

8.83%

10 years 2015

6.35%

10 years 2014

6.98%

10 years 2013

7.48%

5 years 2015

8.25%

5 years 2014

10.63%

5 years 2013

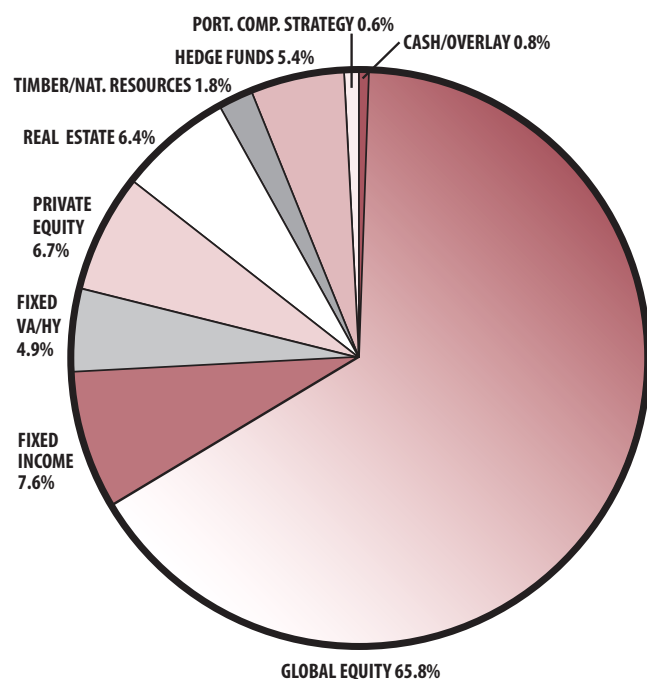
13.31%

ACTUARIAL

▶ Funded Ratio	79.2%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	5.50%
▶ Funding Schedule	Level
▶ Year Fully Funded	2022
▶ Unfunded Liability	\$37.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$8.8 M

	ACTIVE	RETIRED
▶ Number of Members	592	374
▶ Total Payroll/Benefit	\$26.2 M	\$7.6 M
▶ Average Salary/Benefit	\$44,200	\$20,400
▶ Average Age	47	74
▶ Average Service	12.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	28
▶ Number Who Reported Earnings	13
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.59%
▶ 2015 Market Value	\$158.1 M
▶ 2011-2015 (Annualized)	8.25%
▶ 1985-2015 (Annualized)	8.50%

Lexington

1625 Massachusetts Avenue
Lexington, MA 02420
Phone 781-861-2720
Fax 781-861-2794

Board Members

Robert Cunha (Chairperson),
Robert Addelson, Alan Fields, Joseph Foley,
Frederick Weiss

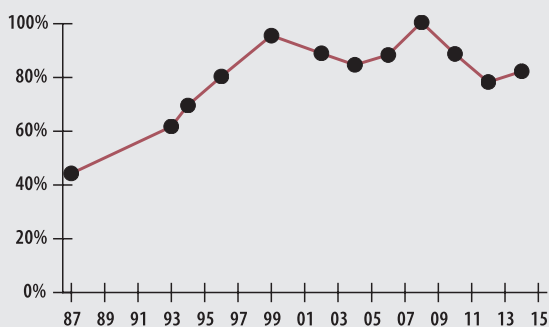
Board Administrator

Marguerite Oliva

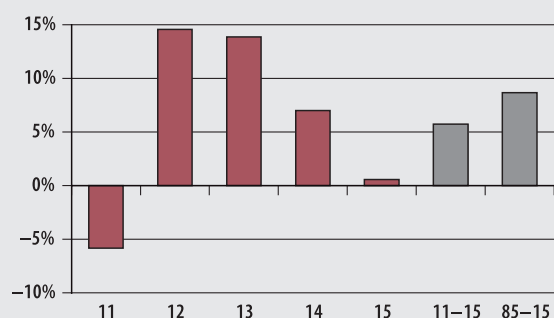
Board Meeting

Varies

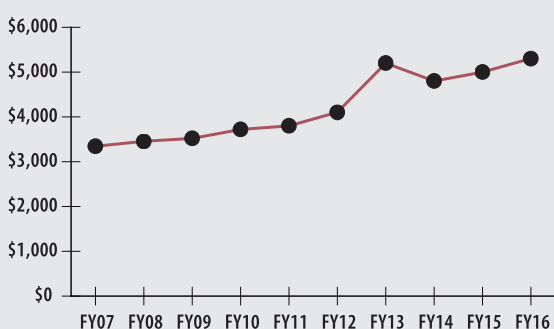
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.69%

30 years 2014

8.97%

29 years 2013

9.04%

10 years 2015

5.18%

10 years 2014

6.16%

10 years 2013

6.74%

5 years 2015

5.75%

5 years 2014

8.57%

5 years 2013

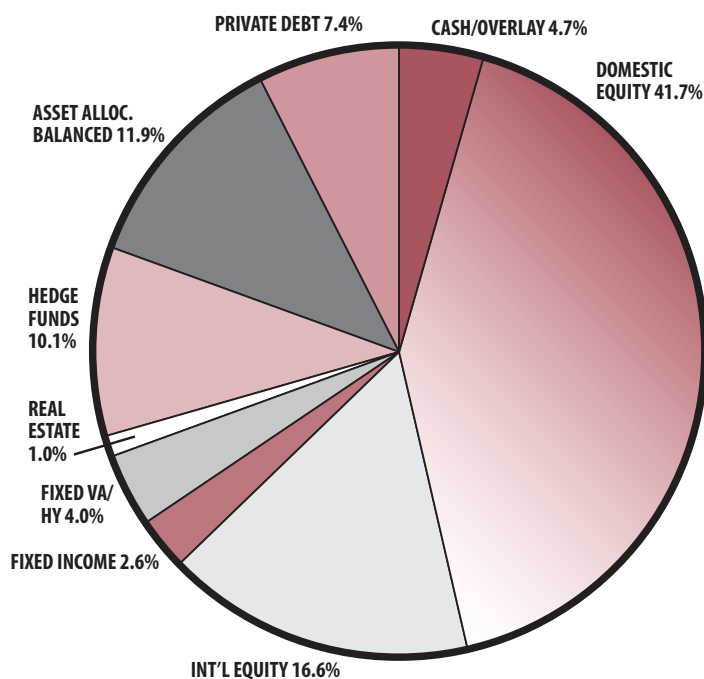
12.04%

ACTUARIAL

▶ Funded Ratio	82.3%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2025
▶ Unfunded Liability	\$28.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.3 M

	ACTIVE	RETIRED
▶ Number of Members	646	392
▶ Total Payroll/Benefit	\$32.9 M	\$8.8 M
▶ Average Salary/Benefit	\$50,900	\$22,400
▶ Average Age	NA	74
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	19
▶ Number Who Reported Earnings	10
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.58%
▶ 2015 Market Value	\$136.8 M
▶ 2011-2015 (Annualized)	5.75%
▶ 1985-2015 (Annualized)	8.69%

Lowell

City Hall, Room 3
375 Merrimack Street
Lowell, MA 01852-5998
Phone 978-674-4094
Fax 978-446-7019

Board Members

Joseph Mahoney (Chairperson),
Michael M. Brennan, William Desrosiers,
David Keene, Brian T. Perry

Board Administrator

Shannon Dowd

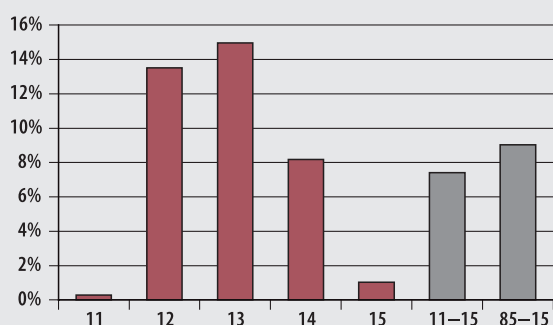
Board Meeting

Varies

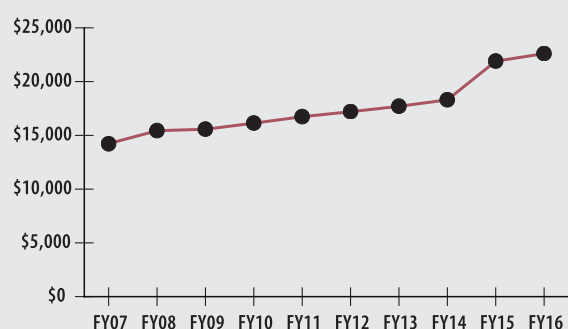
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.04%

30 years 2014

9.32%

29 years 2013

9.36%

10 years 2015

5.73%

10 years 2014

6.83%

10 years 2013

7.27%

5 years 2015

7.42%

5 years 2014

9.90%

5 years 2013

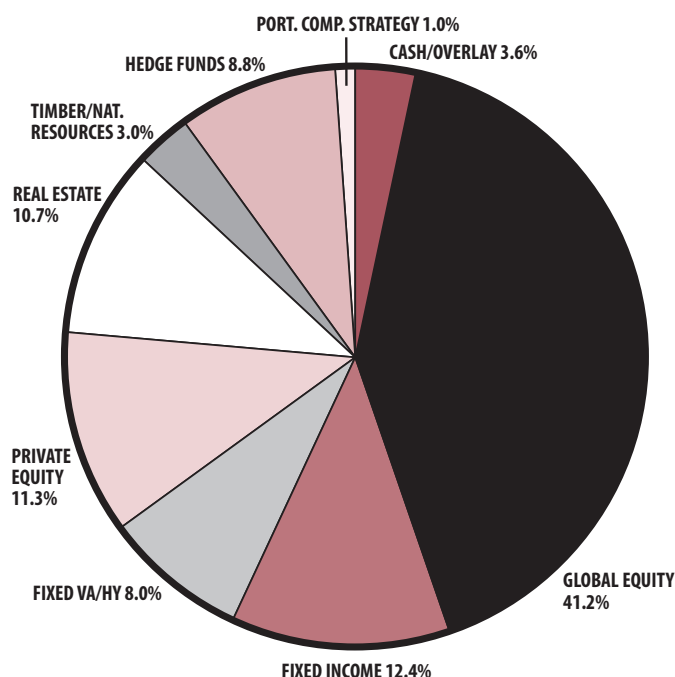
11.57%

ACTUARIAL

▶ Funded Ratio	55.0%
▶ Date of Last Valuation	01/15
▶ Actuary	KMS Actuaries
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$251.3M
▶ Total Pension Appropriation (Fiscal 2016)	\$22.6 M

	ACTIVE	RETIRED
▶ Number of Members	1,702	1,193
▶ Total Payroll/Benefit	\$89.5 M	\$32.9 M
▶ Average Salary/Benefit	\$52,600	\$27,500
▶ Average Age	47	72
▶ Average Service	13.0 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	158
▶ Number Who Reported Earnings	43
▶ Number of Excess Earners	2
▶ Total Amount of Refund Due	\$40,412.08

▶ 2015 Return	1.03%
▶ 2015 Market Value	\$310.9 M
▶ 2011-2015 (Annualized)	7.42%
▶ 1985-2015 (Annualized)	9.04%

Board Members

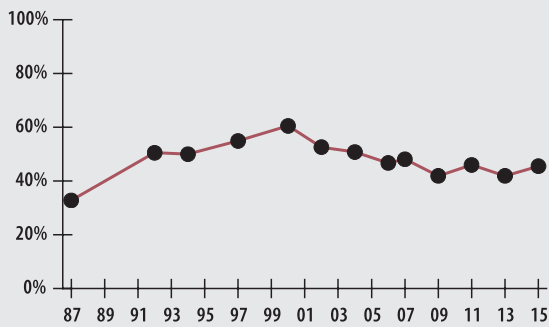
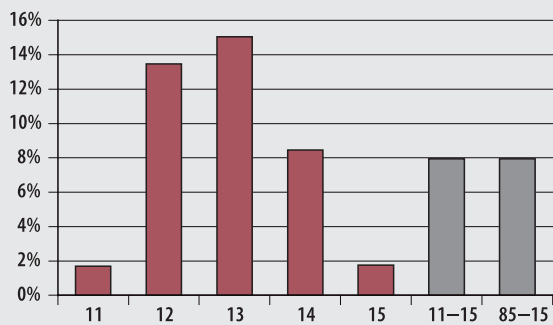
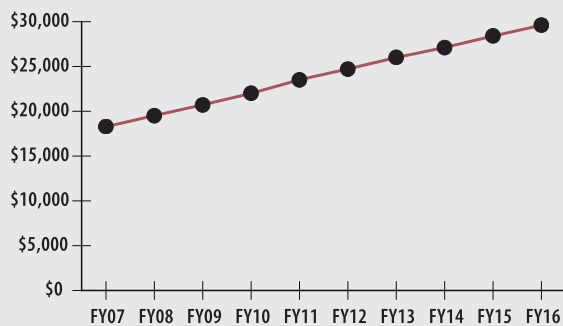
Michael J. Marks, Esq. (Chairperson),
Gordon "Buzzy" Barton, Richard Biagiotti,
Claire A. Cavanagh, Stephen Spencer

Board Administrator

Gary Brenner

Board Meeting

Last Tuesday of each month at 9:30 am

FUNDED RATIO (1987-2015)**INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)****10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)****INVESTMENT RETURN HISTORY****31 years 2015**

7.94%

30 years 2014

8.15%

29 years 2013

8.14%

10 years 2015

4.98%

10 years 2014

5.74%

10 years 2013

6.15%

5 years 2015

7.94%

5 years 2014

10.07%

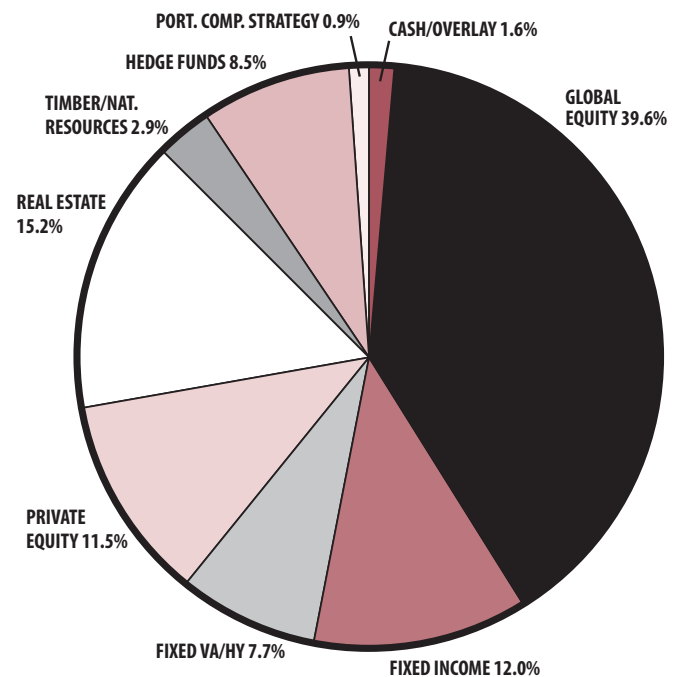
5 years 2013

10.56%

ACTUARIAL

▶ Funded Ratio	45.5%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$320.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$29.6 M

	ACTIVE	RETIRED
▶ Number of Members	1,307	1,189
▶ Total Payroll/Benefit	73.5 M	\$33.8 M
▶ Average Salary/Benefit	\$56,200	\$28,400
▶ Average Age	50	75
▶ Average Service	15.4 years	NA

ASSET ALLOCATION (12/31/15)**EARNED INCOME OF DISABILITY RETIREES (2014)**

▶ Number of Disability Retirees	148
▶ Number Who Reported Earnings	37
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$3,643.04

▶ 2015 Return	1.75%
▶ 2015 Market Value	\$281.4 M
▶ 2011-2015 (Annualized)	7.94%
▶ 1985-2015 (Annualized)	7.94%

Malden

Government Center, Room 222
200 Pleasant Street
Malden, MA 02148
Phone 781-397-7086
Fax 781-397-7358

Board Members

Warren Atkinson, Jr. (Chairperson),
Douglas Eisnor, Dominic Fermano,
Charles Ranaghan

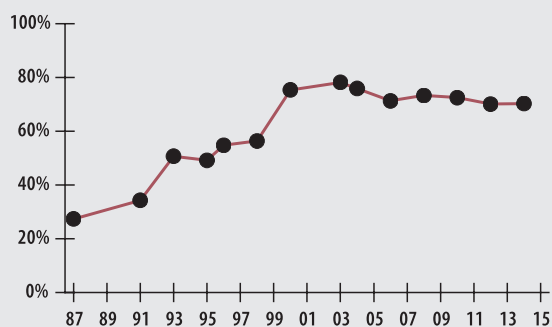
Board Administrator

James M. Ryan

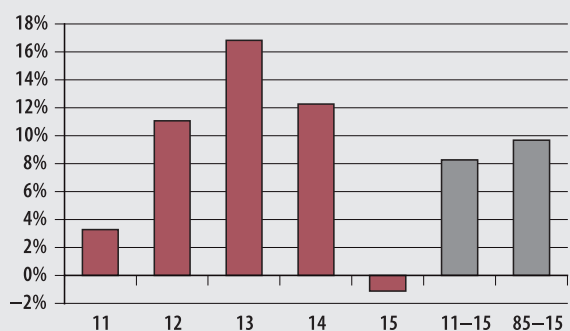
Board Meeting

Third Wednesday of each month

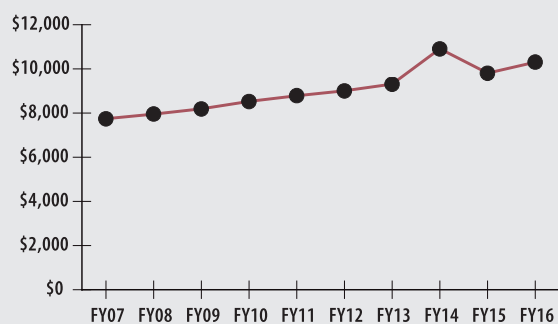
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.70%

30 years 2014

10.08%

29 years 2013

10.00%

10 years 2015

7.02%

10 years 2014

8.29%

10 years 2013

7.79%

5 years 2015

8.29%

5 years 2014

11.18%

5 years 2013

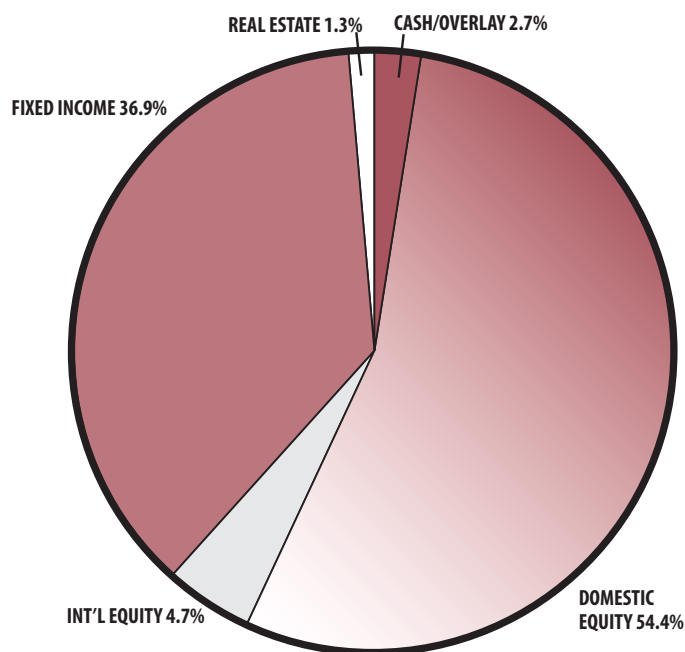
12.03%

ACTUARIAL

▶ Funded Ratio	70.3%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	2.3% Increasing Phase-in
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$83.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$10.3 M

	ACTIVE	RETIRED
▶ Number of Members	807	657
▶ Total Payroll/Benefit	\$40.0 M	\$16.4 M
▶ Average Salary/Benefit	\$49,500	\$24,900
▶ Average Age	48	74
▶ Average Service	13.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	83
▶ Number Who Reported Earnings	31
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-1.10%
▶ 2015 Market Value	\$222.2 M
▶ 2011-2015 (Annualized)	8.29%
▶ 1985-2015 (Annualized)	9.70%

Marblehead

Mary Alley Municipal Building
7 Widger Road
Marblehead, MA 01945
Phone 781-639-3418
Fax 781-631-2617

Board Members

Robert F. Peck, Jr., Esq. (Chairperson),
Charles Gessner, Jason R. Gilliland,
Paul Jalbert, Alison Nieto

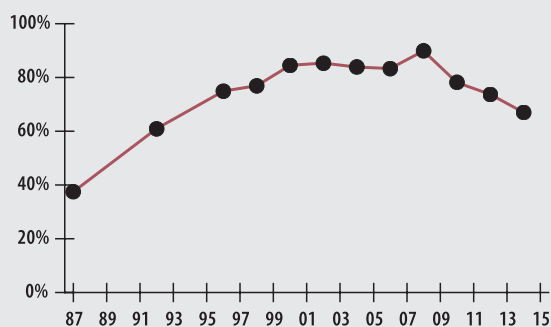
Board Administrator

Linda Gifford

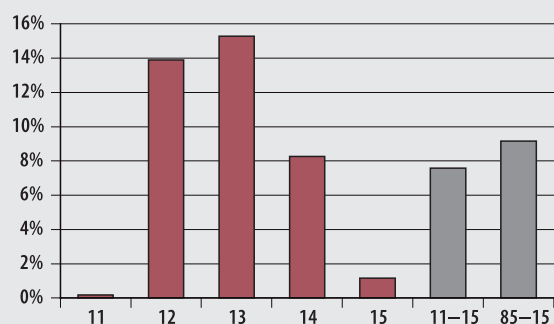
Board Meeting

Varies

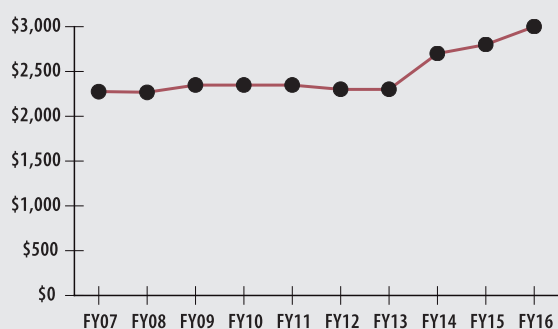
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.17%

30 years 2014

9.45%

29 years 2013

9.49%

10 years 2015

5.95%

10 years 2014

7.10%

10 years 2013

7.70%

5 years 2015

7.58%

5 years 2014

10.11%

5 years 2013

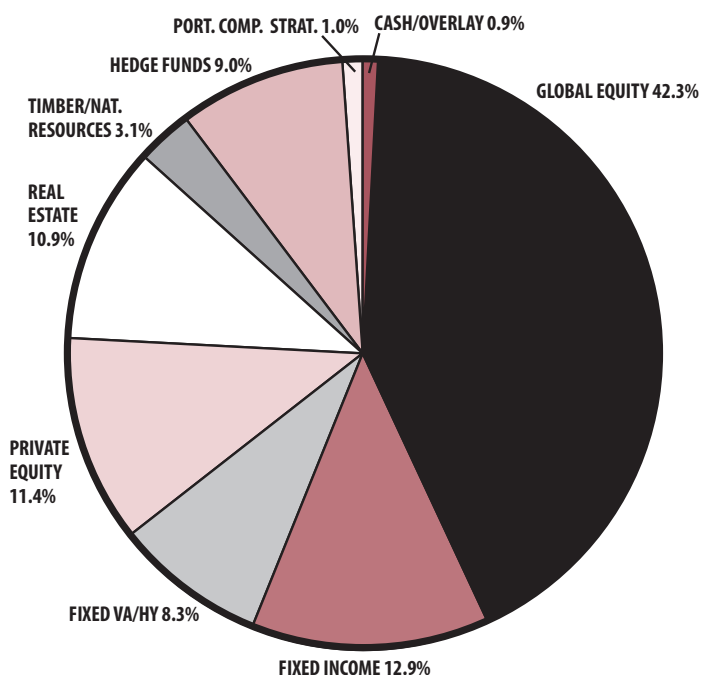
11.98%

ACTUARIAL

▶ Funded Ratio	67.0%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	8.0% Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$40.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.0 M

	ACTIVE	RETIRED
▶ Number of Members	436	342
▶ Total Payroll/Benefit	\$18.8 M	\$7.9 M
▶ Average Salary/Benefit	\$43,200	\$23,100
▶ Average Age	48	74
▶ Average Service	10.0 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	18
▶ Number Who Reported Earnings	7
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$87.0 M
▶ 2011-2015 (Annualized)	7.58%
▶ 1985-2015 (Annualized)	9.17%

Board Members

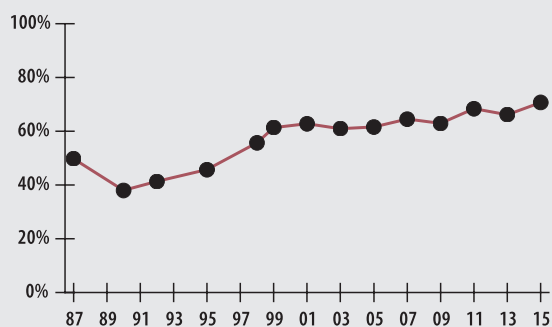
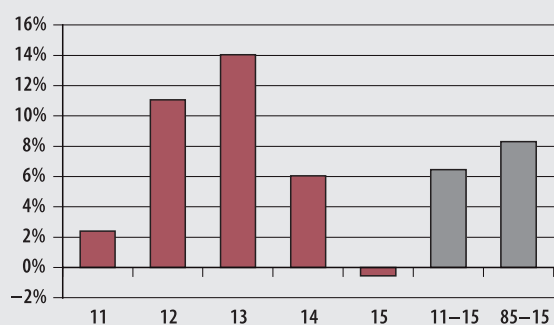
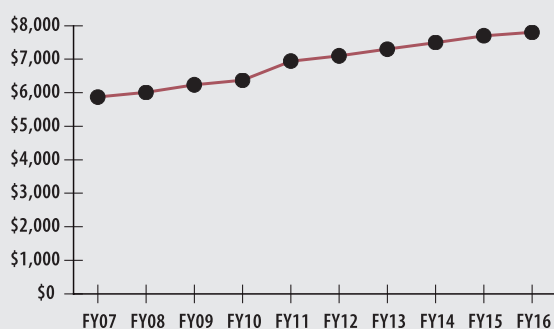
Gregory P. Brewster (Chairperson),
Thomas J. Abel, Christopher M. Sandini, Sr.,
Diane Smith, William S. Taylor

Board Administrator

Margaret R. Shea

Board Meeting

Varies

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

8.30%

30 years 2014

8.61%

29 years 2013

8.70%

10 years 2015

5.63%

10 years 2014

6.41%

10 years 2013

7.01%

5 years 2015

6.47%

5 years 2014

9.08%

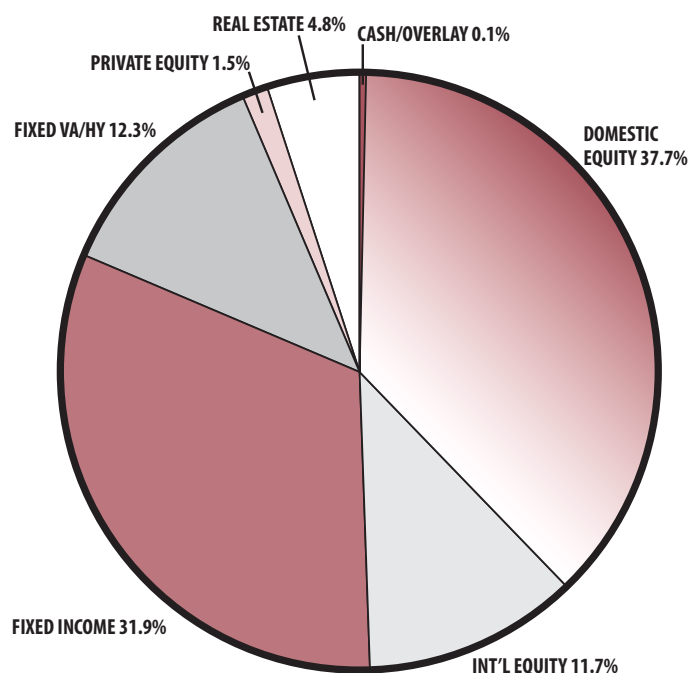
5 years 2013

11.25%

ACTUARIAL

▶ Funded Ratio	70.7%
▶ Date of Last Valuation	01/15
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	4.43% Total Increasing
▶ Year Fully Funded	2027
▶ Unfunded Liability	\$60.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$7.8 M

	ACTIVE	RETIRED
▶ Number of Members	661	377
▶ Total Payroll/Benefit	\$33.3 M	\$10.3 M
▶ Average Salary/Benefit	\$50,300	\$27,400
▶ Average Age	47	NA
▶ Average Service	12.2 years	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	28
▶ Number Who Reported Earnings	10
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-.56%
▶ 2015 Market Value	\$143.0 M
▶ 2011-2015 (Annualized)	6.47%
▶ 1985-2015 (Annualized)	8.30%

Board Members

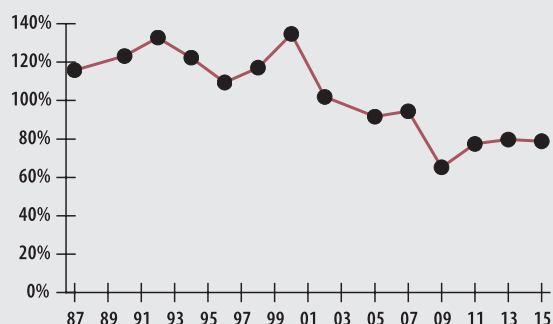
Andris Silins (Chairperson),
Michael J. Dirrane, Michael Fitzmaurice,
Paul T. Hynes, Esq., Antonio Torres

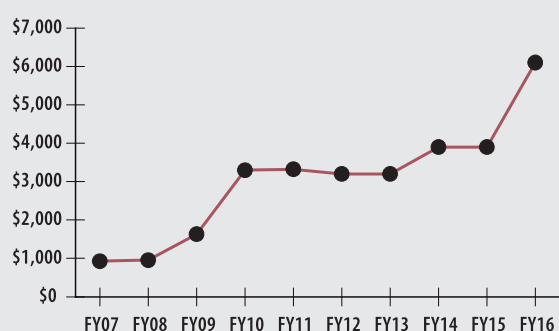
Board Administrator

Joseph M. Petty

Board Meeting

Second Tuesday of each month at 1:30 pm

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

7.29%

30 years 2014

7.63%

29 years 2013

7.73%

10 years 2015

4.63%

10 years 2014

5.41%

10 years 2013

6.05%

5 years 2015

5.57%

5 years 2014

8.62%

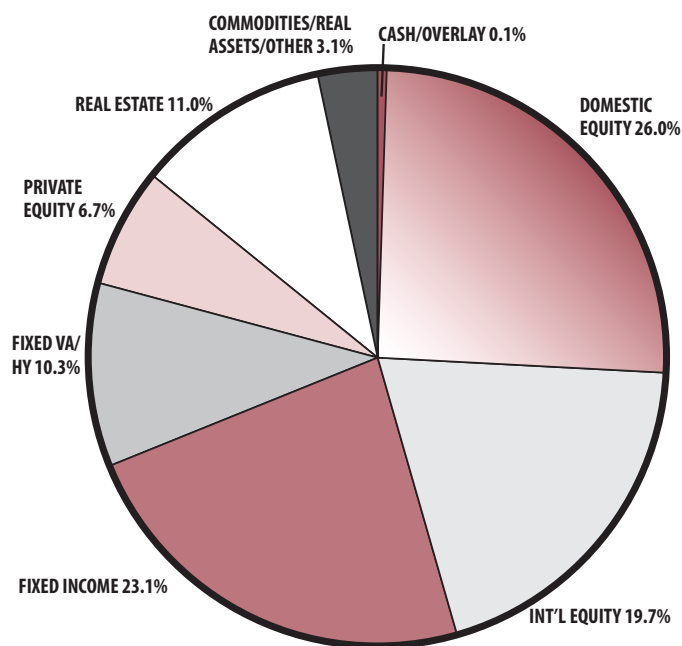
5 years 2013

11.25%

ACTUARIAL

▶ Funded Ratio	78.8%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	Level
▶ Year Fully Funded	2022
▶ Unfunded Liability	\$30.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$6.1 M

	ACTIVE	RETIRED
▶ Number of Members	337	130
▶ Total Payroll/Benefit	\$31.2 M	\$5.0 M
▶ Average Salary/Benefit	\$92,700	\$38,600
▶ Average Age	51	70
▶ Average Service	15.0 years	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	0
▶ Number Who Reported Earnings	0
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-2.30%
▶ 2015 Market Value	\$114.4 M
▶ 2011-2015 (Annualized)	5.57%
▶ 1985-2015 (Annualized)	7.29%

Massport

One Harborside Drive
Suite 2005
East Boston, MA 02128-2909
Phone 617-568-3951
Fax 617-568-3957

Board Members

James Hoyte (Chairperson),
Michael A. Grieco, Philip H. Mallett,
John P. Pranckevicius, Betsy Taylor

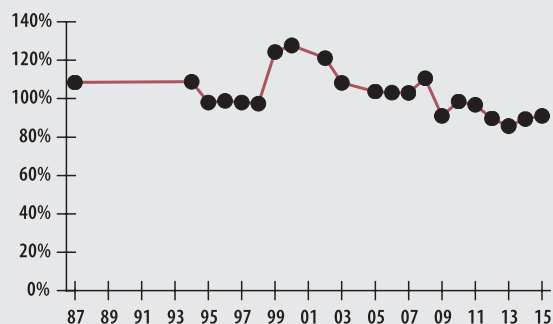
Board Administrator

Irene E. Moran

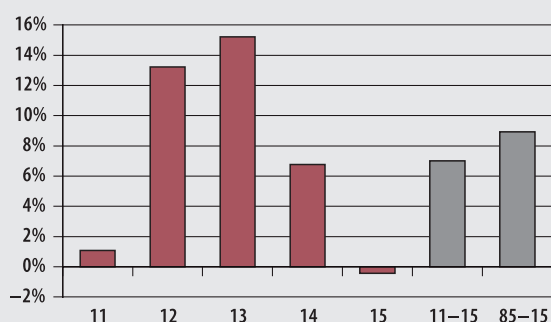
Board Meeting

Last Thursday of the month

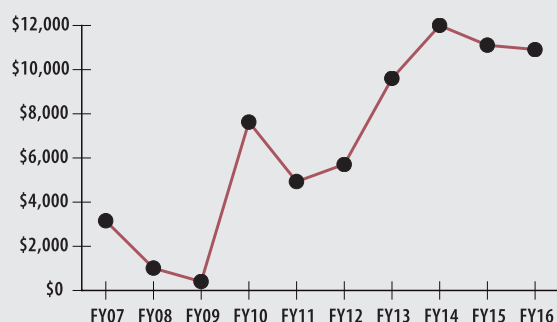
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.93%

30 years 2014

9.25%

29 years 2013

9.34%

10 years 2015

5.91%

10 years 2014

6.83%

10 years 2013

7.31%

5 years 2015

7.00%

5 years 2014

9.65%

5 years 2013

12.82%

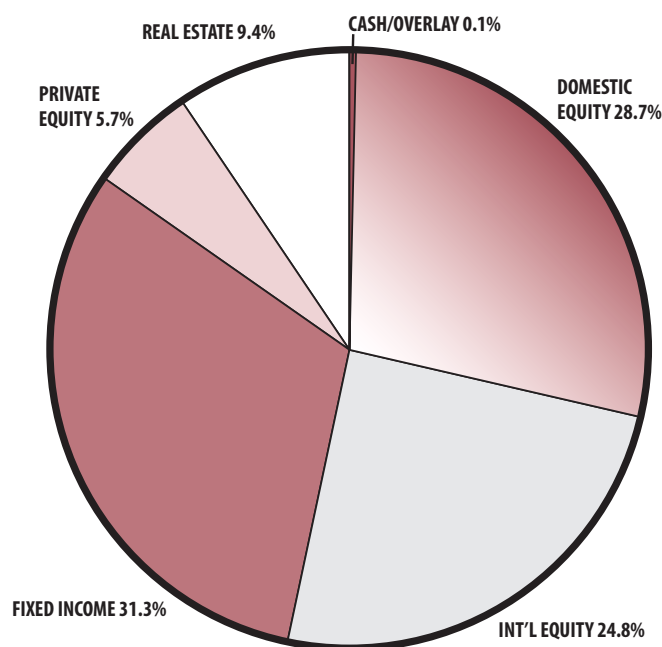
ACTUARIAL

▶ Funded Ratio	91.0%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	Frozen entry age*
▶ Year Fully Funded	NA
▶ Unfunded Liability	\$51.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$10.8 M

	ACTIVE	RETIRED
▶ Number of Members	1,191	718
▶ Total Payroll/Benefit	\$95.5 M	\$25.7 M
▶ Average Salary/Benefit	\$80,200	\$35,800
▶ Average Age	48	69
▶ Average Service	14.2 years	NA

*by statute

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	48
▶ Number Who Reported Earnings	14
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-.42%
▶ 2015 Market Value	\$525.6 M
▶ 2011-2015 (Annualized)	7.00%
▶ 1985-2015 (Annualized)	8.93%

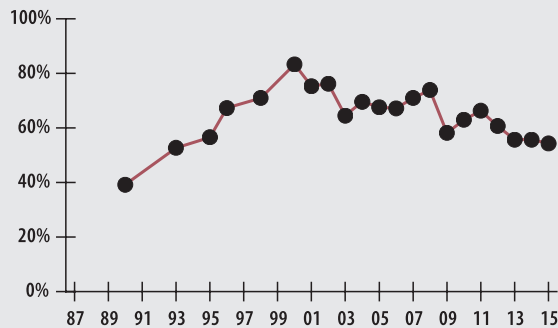
MTRS

One Charles Park, 2nd Floor
Cambridge, MA 02142-1206
Phone 617-679-MTRS (6877)
Fax 617-679-1661

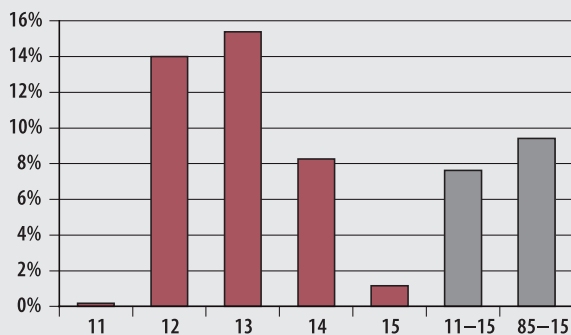
Board Members
Jeff Wulfson (Chairperson),
Auditor Suzanne M. Bump, Nicola Favorito,
Jacqueline A. Gorrie,
Treasurer Deborah B. Goldberg,
Richard L. Liston, Dennis J. Naughton,

Joannah M. Quinn, Anne Wass
Board Administrator
Erika Glaster
Board Meeting
Last Friday of the month

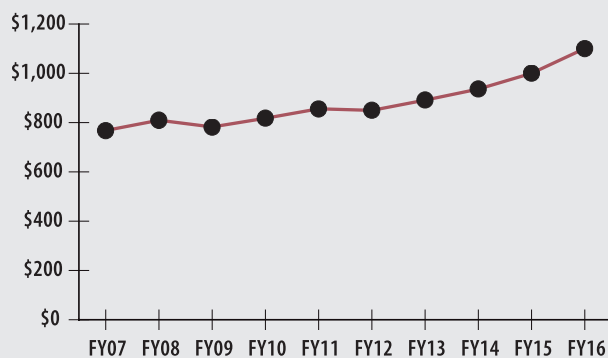
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN MILLIONS)



INVESTMENT RETURN HISTORY

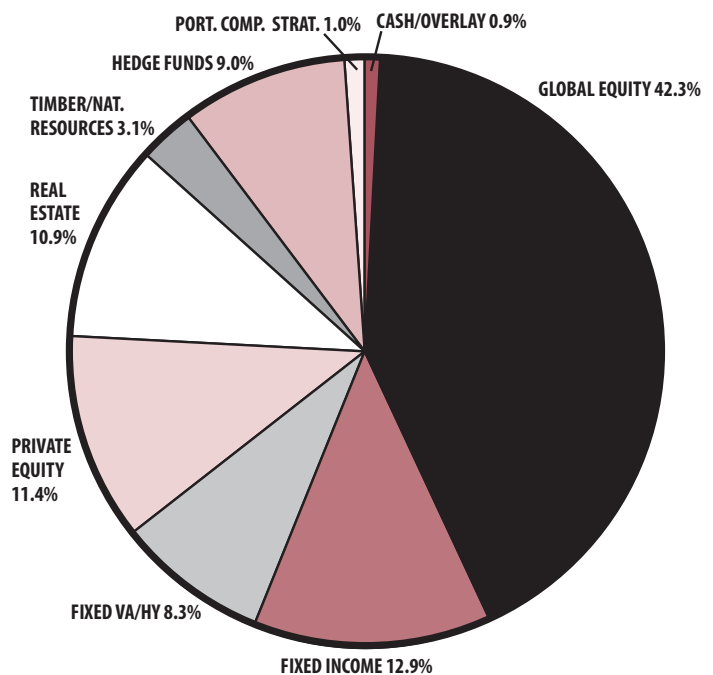
31 years 2015 9.41%	30 years 2014 9.70%	29 years 2013 9.75%
10 years 2015 5.96%	10 years 2014 7.12%	10 years 2013 7.72%
5 years 2015 7.62%	5 years 2014 10.16%	5 years 2013 12.05%

ACTUARIAL

▶ Funded Ratio	54.3%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$20.2 B
▶ Total Pension Appropriation (Fiscal 2016)	\$1.1 B

	ACTIVE	RETIRED
▶ Number of Members	90,070	62,312
▶ Total Payroll/Benefit	\$6.2 B	\$2.6 B
▶ Average Salary/Benefit	\$68,900	\$42,100
▶ Average Age	44	72
▶ Average Service	12.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	601
▶ Number Who Reported Earnings	125
▶ Number of Excess Earners	3
▶ Total Amount of Refund Due	\$40,664.68

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$24.3 B
▶ 2011-2015 (Annualized)	7.62%
▶ 1985-2015 (Annualized)	9.41%

MWRA

MWRA Chelsea Facility
Two Griffin Way
Chelsea, MA 02150
Phone 617-305-5595
Fax 617-371-1616

Board Members

James M. Fleming, Esq. (Chairperson),
Thomas J. Durkin, Joseph C. Foti,
Kevin McKenna, Frank J. Zecha

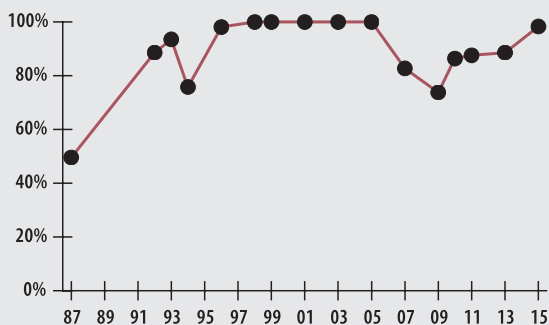
Board Administrator

Carolyn M. Russo

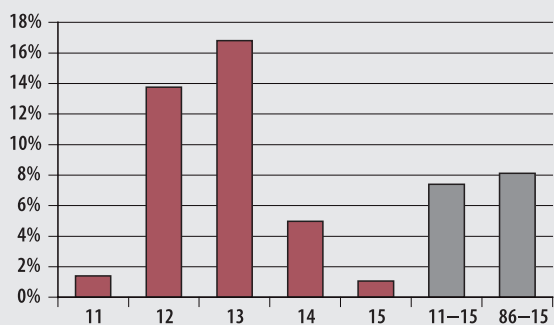
Board Meeting

Last Thursday of the month,
unless otherwise posted

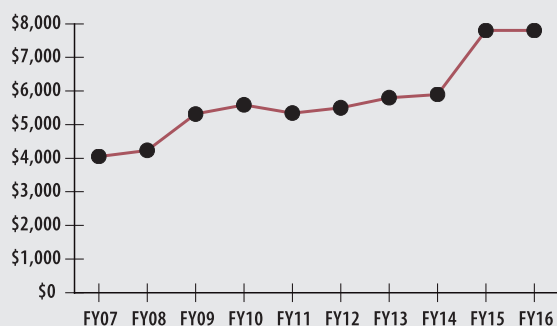
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 30 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

30 years 2015
8.13%

29 years 2014
8.38%

28 years 2013
8.51%

10 years 2015
6.67%

10 years 2014
7.43%

10 years 2013
8.01%

5 years 2015
7.41%

5 years 2014
9.92%

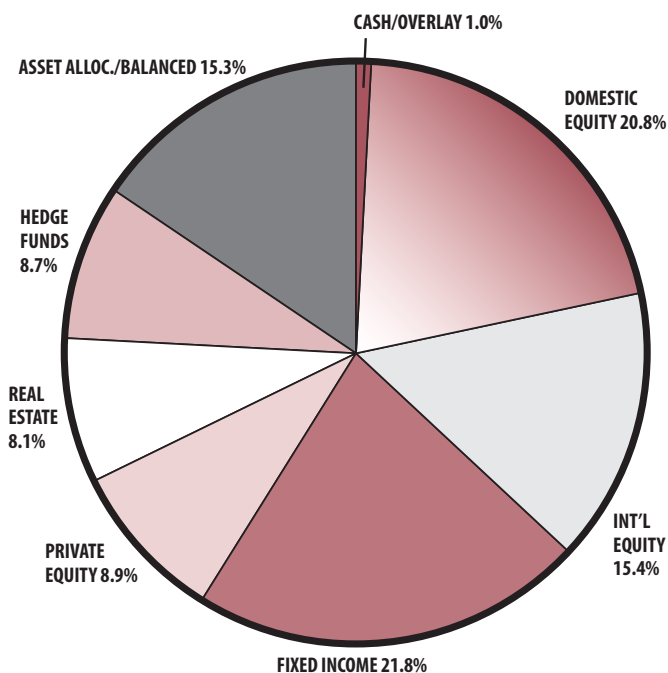
5 years 2013
13.38%

ACTUARIAL

▶ Funded Ratio	98.3%
▶ Date of Last Valuation	01/15
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.5% Increasing
▶ Year Fully Funded	2024
▶ Unfunded Liability	\$7.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$8.2 M

	ACTIVE	RETIRED
▶ Number of Members	1,090	476
▶ Total Payroll/Benefit	\$85.5 M	\$14.6 M
▶ Average Salary/Benefit	\$78,500	\$30,600
▶ Average Age	52	70
▶ Average Service	18.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	57
▶ Number Who Reported Earnings	14
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$4,829.28

▶ 2015 Return	1.07%
▶ 2015 Market Value	\$444.8 M
▶ 2011-2015 (Annualized)	7.41%
▶ 1986-2015 (Annualized)	8.13%

Maynard

195 Main Street
Maynard, MA 01754
Phone 978-897-1820
Fax 978-897-1013

Board Members

Christopher F. Connolly, Sr. (Chairperson),
Michael A. Guzzo, Jean Ignachuck,
Kevin C. Peterson, Clifford C. Wilson

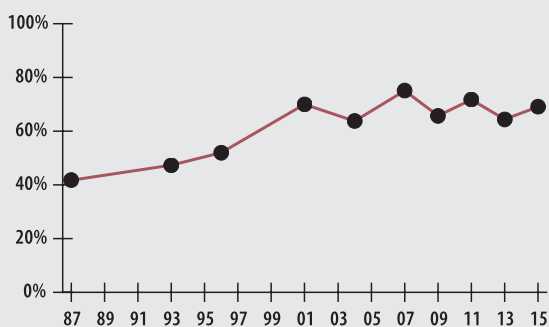
Board Administrator

Kenneth R. DeMars

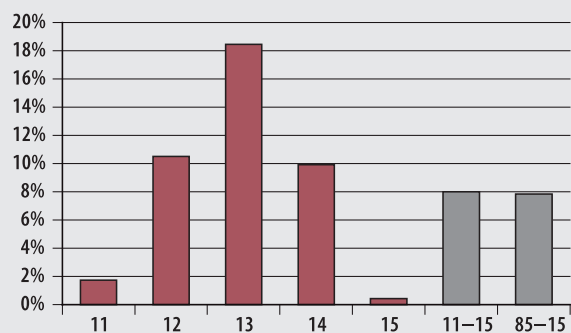
Board Meeting

Last Thursday of each month at 12:15 pm

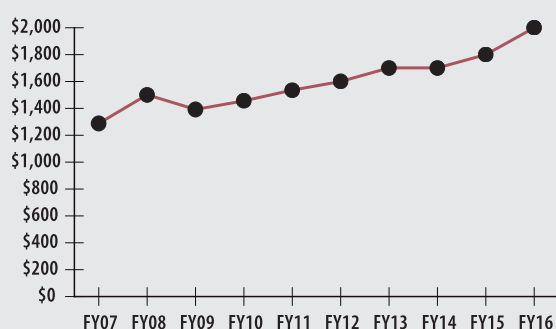
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

7.86%

30 years 2014

8.11%

29 years 2013

8.05%

10 years 2015

5.31%

10 years 2014

6.23%

10 years 2013

6.31%

5 years 2015

8.02%

5 years 2014

10.65%

5 years 2013

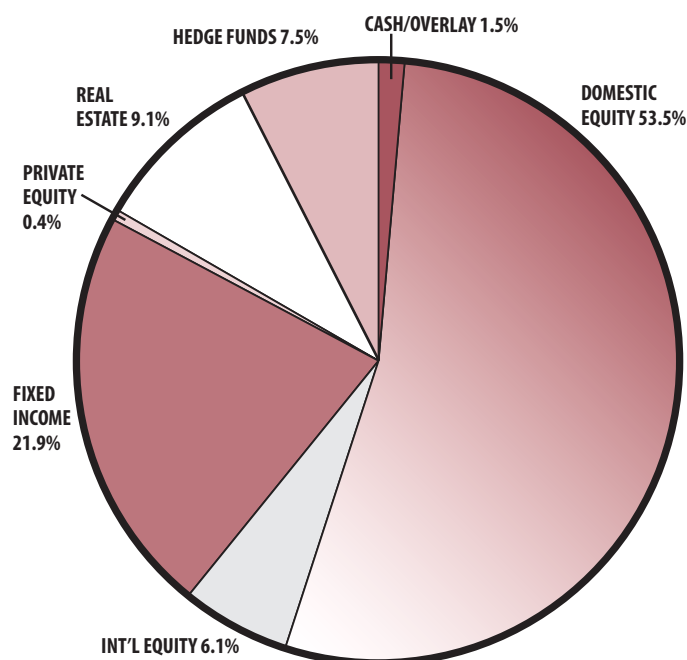
12.05%

ACTUARIAL

▶ Funded Ratio	69.1%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	6.0% Total Increasing
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$15.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$2.0 M

	ACTIVE	RETIRED
▶ Number of Members	208	103
▶ Total Payroll/Benefit	\$9.3 M	\$2.5 M
▶ Average Salary/Benefit	\$44,600	\$24,700
▶ Average Age	47	73
▶ Average Service	10.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	7
▶ Number Who Reported Earnings	4
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.45%
▶ 2015 Market Value	\$36.7 M
▶ 2011-2015 (Annualized)	8.02%
▶ 1985-2015 (Annualized)	7.86%

Medford

85 George P. Hassett Drive
City Hall, Room 215
Medford, MA 02155
Phone 781-393-2517
Fax 781-393-2522

Board Members

Rick Jordan (Chairperson),
Anne C. Baker, John Granara, Patrick Ripley,
James Vieira

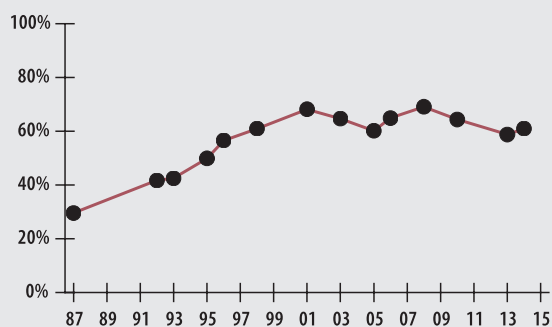
Board Administrator

Tina Rapatano

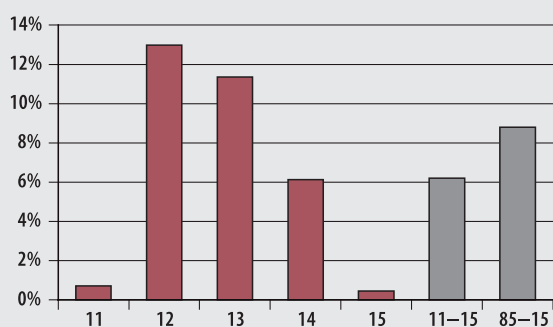
Board Meeting

Varies

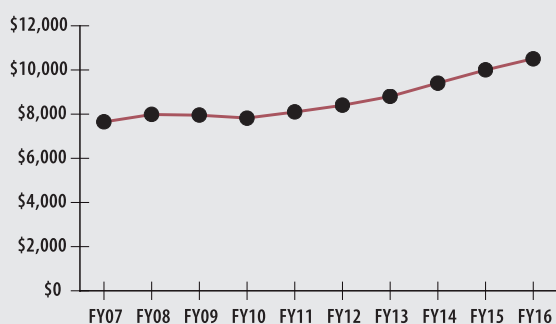
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.80%

30 years 2014

9.08%

29 years 2013

9.19%

10 years 2015

5.74%

10 years 2014

6.43%

10 years 2013

7.00%

5 years 2015

6.20%

5 years 2014

8.73%

5 years 2013

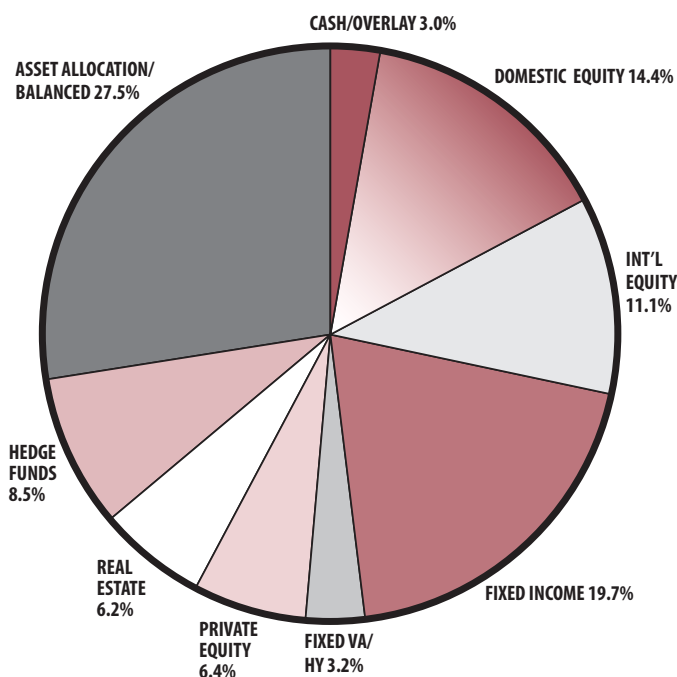
11.81%

ACTUARIAL

▶ Funded Ratio	61.0%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$104.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$10.5 M

	ACTIVE	RETIRED
▶ Number of Members	698	577
▶ Total Payroll/Benefit	\$37.9 M	\$15.6 M
▶ Average Salary/Benefit	\$54,200	\$27,000
▶ Average Age	NA	76
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	92
▶ Number Who Reported Earnings	17
▶ Number of Excess Earners	2
▶ Total Amount of Refund Due	\$28,830.02

▶ 2015 Return	.46%
▶ 2015 Market Value	\$174.3 M
▶ 2011-2015 (Annualized)	6.20%
▶ 1985-2015 (Annualized)	8.80%

Melrose

City Hall
562 Main Street
Melrose, MA 02176
Phone 781-979-4151
Fax 781-979-4206

Board Members

Patrick D. Dello Russo (Chairperson),
Scott Colborne, Michael Lindstrom,
Michael L. Lyle, Richard E. Pitts

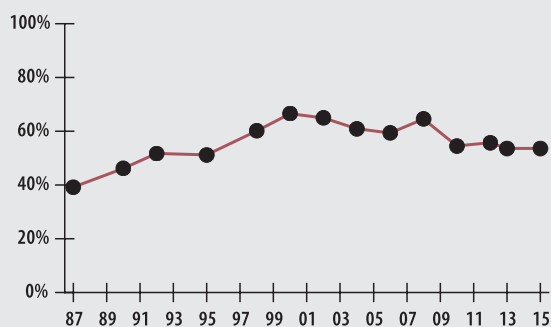
Board Director

Adam Travinski

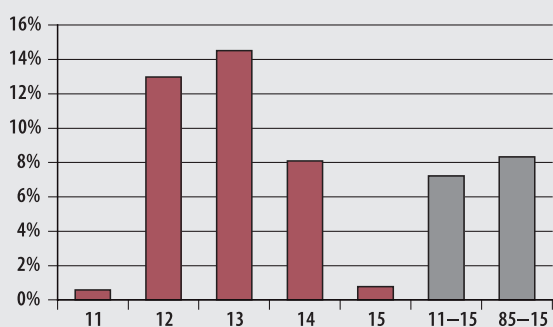
Board Meeting

Usually the last Wednesday of each month

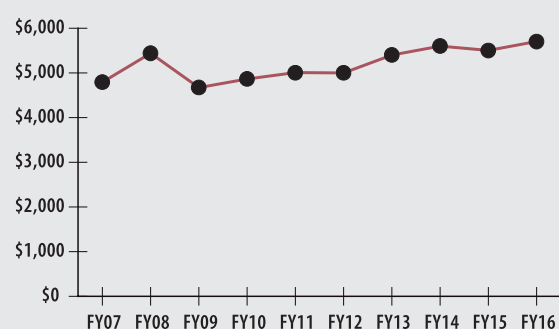
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
8.32%

30 years 2014
8.58%

29 years 2013
8.59%

10 years 2015
5.29%

10 years 2014
6.23%

10 years 2013
6.43%

5 years 2015
7.23%

5 years 2014
9.71%

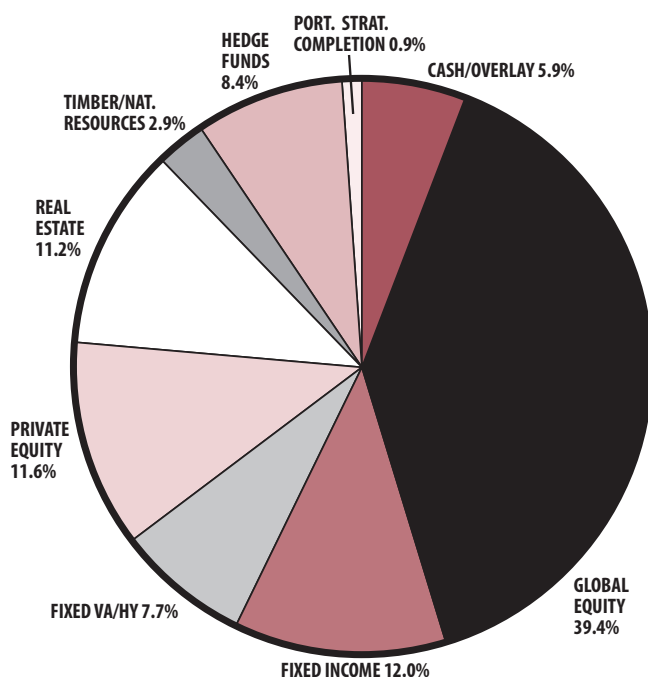
5 years 2013
10.93%

ACTUARIAL

▶ Funded Ratio	54.6%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	3.93% Increasing
▶ Year Fully Funded	2037
▶ Unfunded Liability	\$59.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.7 M

	ACTIVE	RETIRED
▶ Number of Members	432	378
▶ Total Payroll/Benefit	\$19.2 M	\$8.3 M
▶ Average Salary/Benefit	\$44,700	\$21,900
▶ Average Age	48	74
▶ Average Service	11.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	33
▶ Number Who Reported Earnings	11
▶ Number of Excess Earners	2
▶ Total Amount of Refund Due	\$2,026.20

▶ 2015 Return	.78%
▶ 2015 Market Value	\$72.8 M
▶ 2011-2015 (Annualized)	7.23%
▶ 1985-2015 (Annualized)	8.32%

Methuen

41 Pleasant Street
Suite 303
Methuen, MA 01844
Phone 978-983-8620
Fax 978-983-8972

Board Members

Thomas J. Kelly (Chairperson),
Michael Hennessy, Robert Sheehan,
John T. Sheehy, Albert J. Trott, III

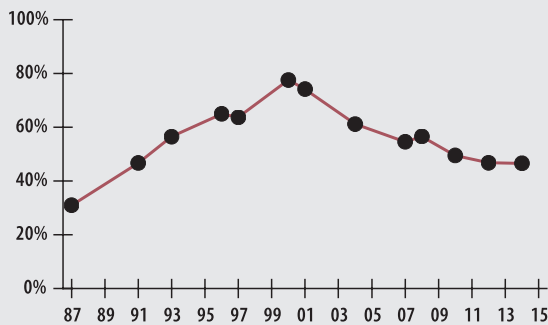
Board Administrator

Krysten Wallace

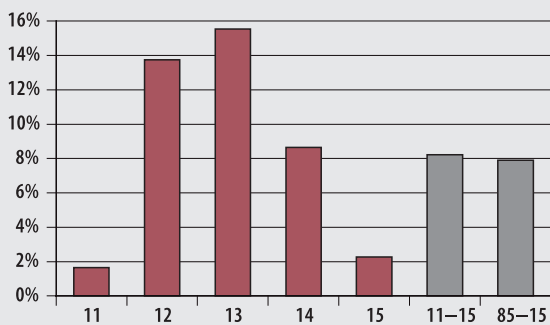
Board Meeting

Last Thursday of each month at 9:30 am

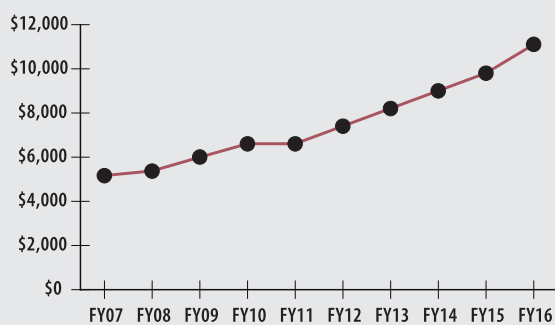
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

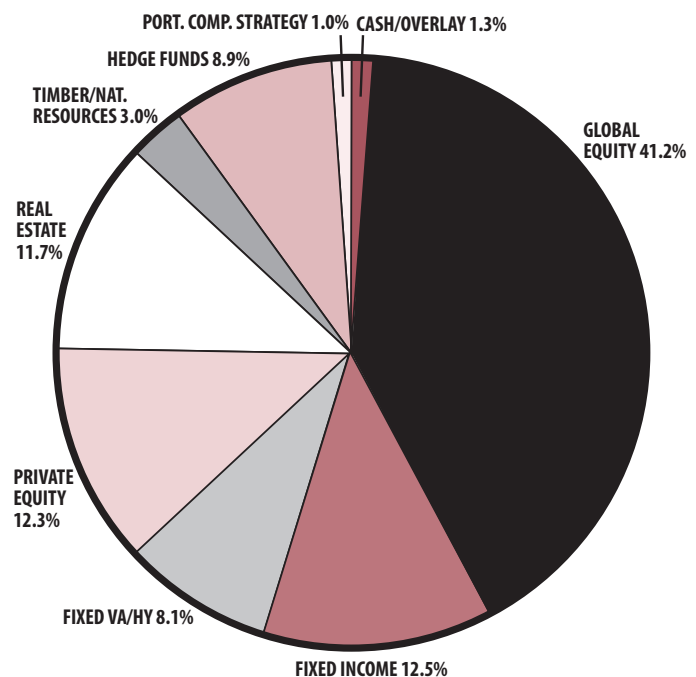
31 years 2015 7.91%	30 years 2014 8.10%	29 years 2013 8.08%
10 years 2015 5.30%	10 years 2014 5.56%	10 years 2013 5.58%
5 years 2015 8.22%	5 years 2014 10.78%	5 years 2013 11.34%

ACTUARIAL

▶ Funded Ratio	46.6%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$112.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$11.1 M

	ACTIVE	RETIRED
▶ Number of Members	616	420
▶ Total Payroll/Benefit	\$32.3 M	\$10.9 M
▶ Average Salary/Benefit	\$52,400	\$26,000
▶ Average Age	47	72
▶ Average Service	14.1 years	NA

ASSET ALLOCATION (12/31/15)

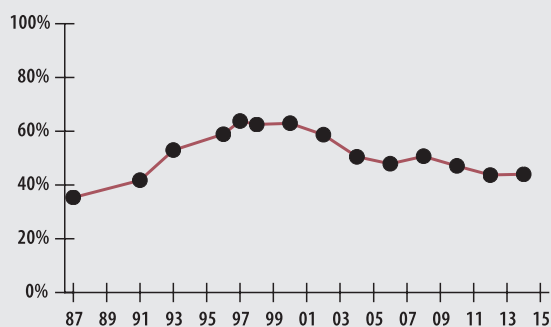


EARNED INCOME OF DISABILITY RETIREES (2014)

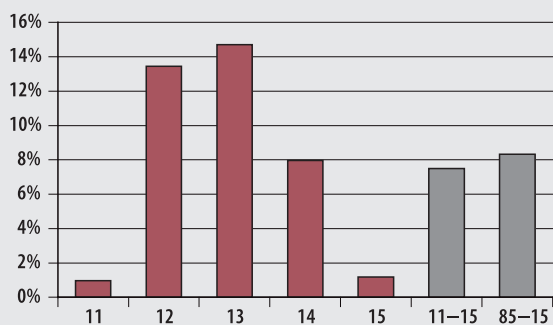
▶ Number of Disability Retirees	48
▶ Number Who Reported Earnings	16
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	2.27%
▶ 2015 Market Value	\$118.6 M
▶ 2011-2015 (Annualized)	8.22%
▶ 1985-2015 (Annualized)	7.91%

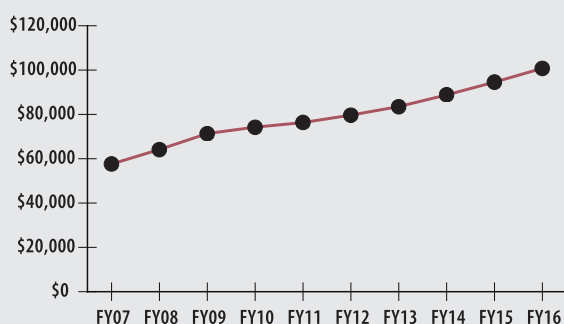
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

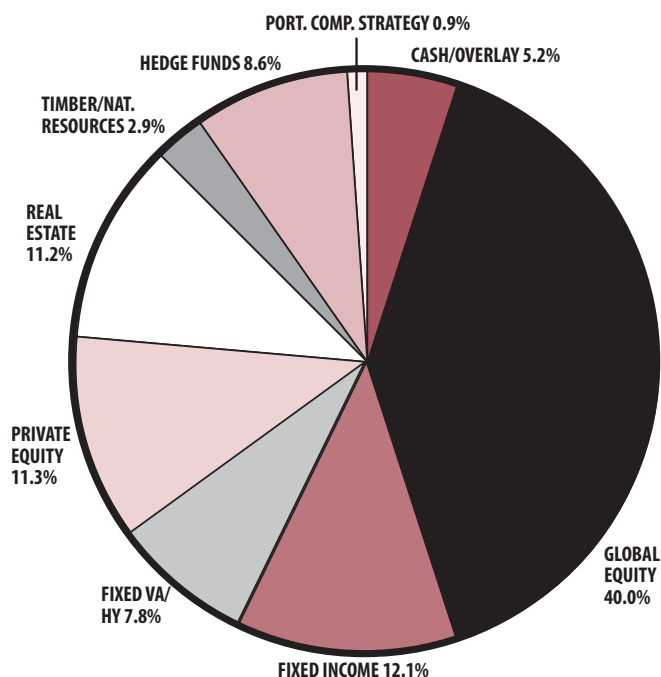
31 years 2015 8.34%	30 years 2014 8.58%	29 years 2013 8.60%
10 years 2015 5.64%	10 years 2014 6.28%	10 years 2013 6.58%
5 years 2015 7.49%	5 years 2014 9.85%	5 years 2013 10.82%

ACTUARIAL

▶ Funded Ratio	44.0%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$1.2 B
▶ Total Pension Appropriation (Fiscal 2016)	\$100.7 M

	ACTIVE	RETIRED
▶ Number of Members	9,082	5,077
▶ Total Payroll/Benefit	\$415.8 M	\$114.8 M
▶ Average Salary/Benefit	\$45,800	\$22,600
▶ Average Age	48	NA
▶ Average Service	11.7 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	367
▶ Number Who Reported Earnings	128
▶ Number of Excess Earners	6
▶ Total Amount of Refund Due	\$68,538.12

▶ 2015 Return	1.18%
▶ 2015 Market Value	\$1.1 B
▶ 2011-2015 (Annualized)	7.49%
▶ 1985-2015 (Annualized)	8.34%

Milford

Town Hall, Room 17
52 Main Street
Milford, MA 01757
Phone 508-634-2321
Fax 508-634-0902

Board Members

Zachary A. Taylor (Chairperson),
Linda P. DeDominick, Michael A. Diorio, C.P.A.
Gerald Hennessy, Ernest Pettinari, Esq.

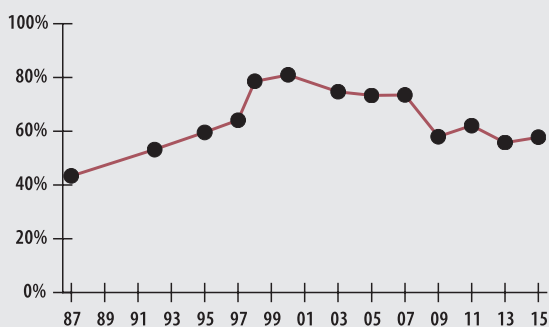
Board Administrator

Alberta J. Farley

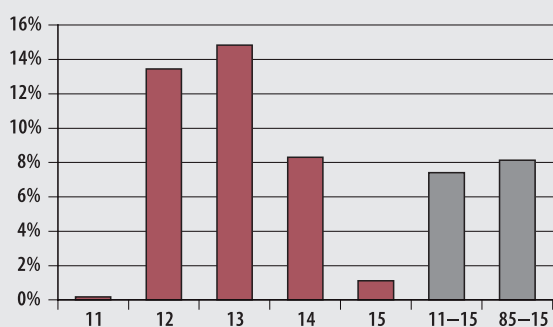
Board Meeting

Third Tuesday of each month at 1:00 pm

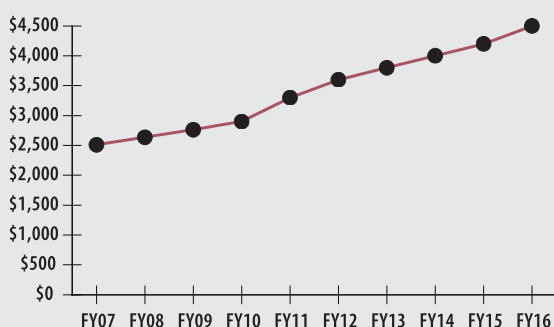
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.13%

30 years 2014

8.37%

29 years 2013

8.37%

10 years 2015

4.43%

10 years 2014

5.27%

10 years 2013

5.61%

5 years 2015

7.41%

5 years 2014

9.82%

5 years 2013

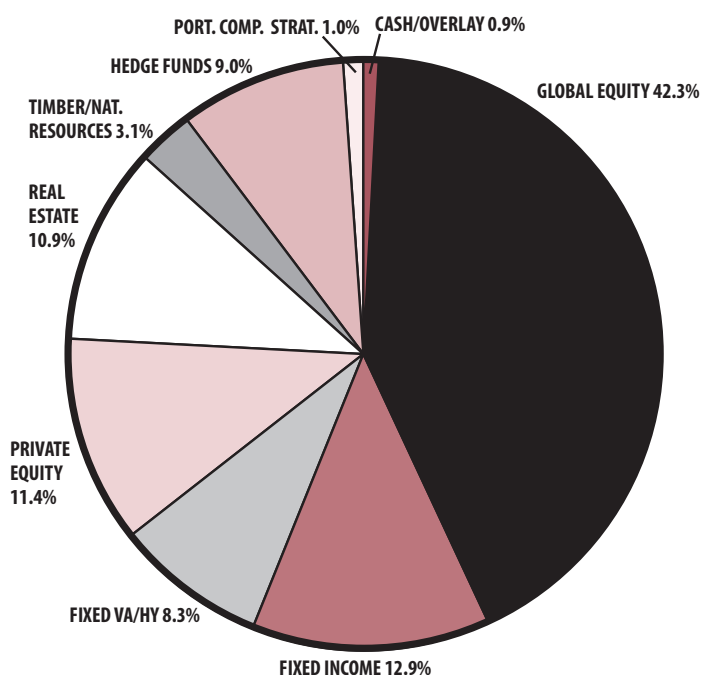
11.56%

ACTUARIAL

▶ Funded Ratio	57.8%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	5.5% Total Increasing
▶ Year Fully Funded	2038
▶ Unfunded Liability	\$53.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.5 M

	ACTIVE	RETIRED
▶ Number of Members	463	293
▶ Total Payroll/Benefit	\$19.5 M	\$6.7 M
▶ Average Salary/Benefit	\$42,100	\$22,900
▶ Average Age	48	73
▶ Average Service	12.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	22
▶ Number Who Reported Earnings	12
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$10,533.37

▶ 2015 Return	1.12%
▶ 2015 Market Value	\$73.9 M
▶ 2011-2015 (Annualized)	7.41%
▶ 1985-2015 (Annualized)	8.13%

Milton

525 Canton Avenue
Milton, MA 02186
Phone 617-898-4887
Fax 617-698-1540

Board Members

Kevin J. Cleary (Chairperson),
Robert J. Byron, Amy Dexter, John E. King,
Richard J. Madigan

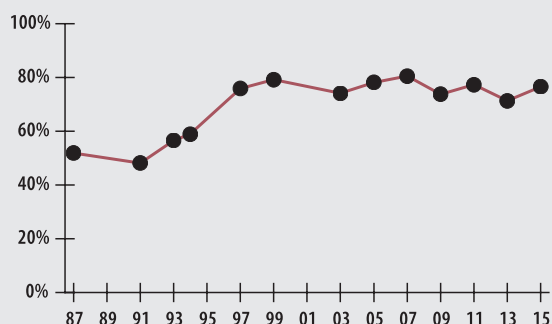
Board Administrator

Kevin J. Cleary

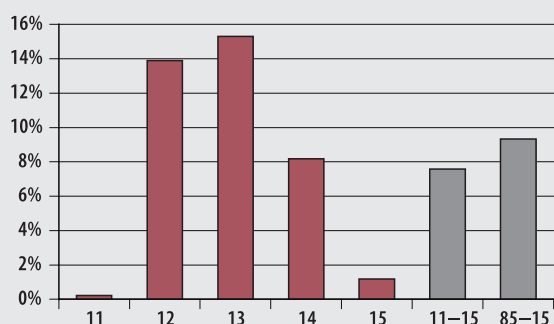
Board Meeting

Last Thursday of each month at 3:30 pm

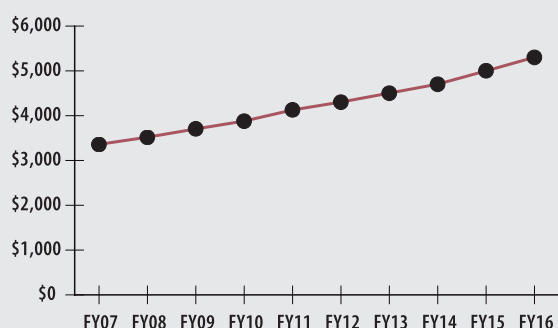
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.33%

30 years 2014

9.61%

29 years 2013

9.66%

10 years 2015

5.82%

10 years 2014

6.90%

10 years 2013

7.45%

5 years 2015

7.58%

5 years 2014

10.11%

5 years 2013

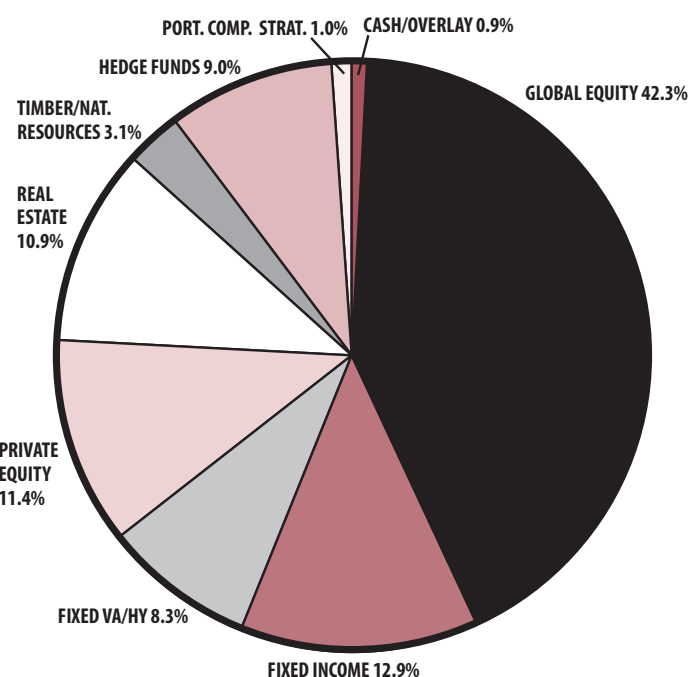
12.00%

ACTUARIAL

▶ Funded Ratio	76.6%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	6.0% Total Increasing
▶ Year Fully Funded	2025
▶ Unfunded Liability	\$31.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.3 M

	ACTIVE	RETIRED
▶ Number of Members	361	268
▶ Total Payroll/Benefit	\$21.0 M	\$7.6 M
▶ Average Salary/Benefit	\$58,300	\$28,200
▶ Average Age	47	75
▶ Average Service	12.7 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	34
▶ Number Who Reported Earnings	6
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.18%
▶ 2015 Market Value	\$108.7 M
▶ 2011-2015 (Annualized)	7.58%
▶ 1985-2015 (Annualized)	9.33%

Board Members

Kevin F. Mahoney (Chairperson),
Norman Cohen, Esq., Laurie A. Elliott,
Maria Oliveria, Elizabeth Rozan

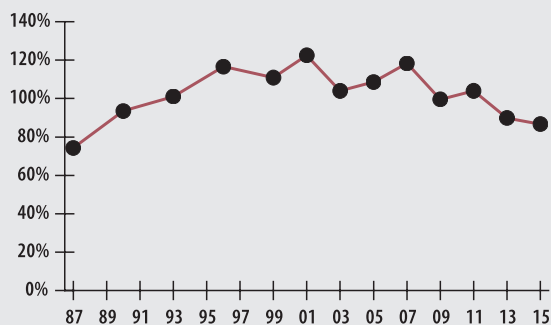
Board Administrator

Sandor Zapolin

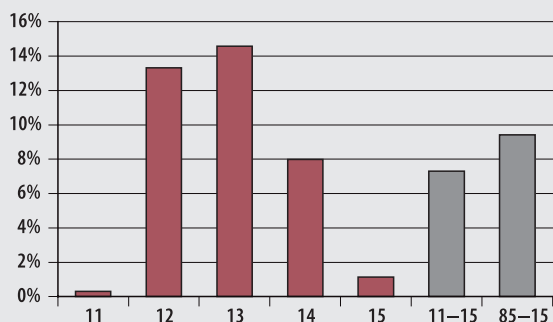
Board Meeting

Generally the fourth Thursday
of each month

FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.42%

30 years 2014

9.70%

29 years 2013

9.76%

10 years 2015

5.80%

10 years 2014

6.97%

10 years 2013

7.60%

5 years 2015

7.31%

5 years 2014

9.88%

5 years 2013

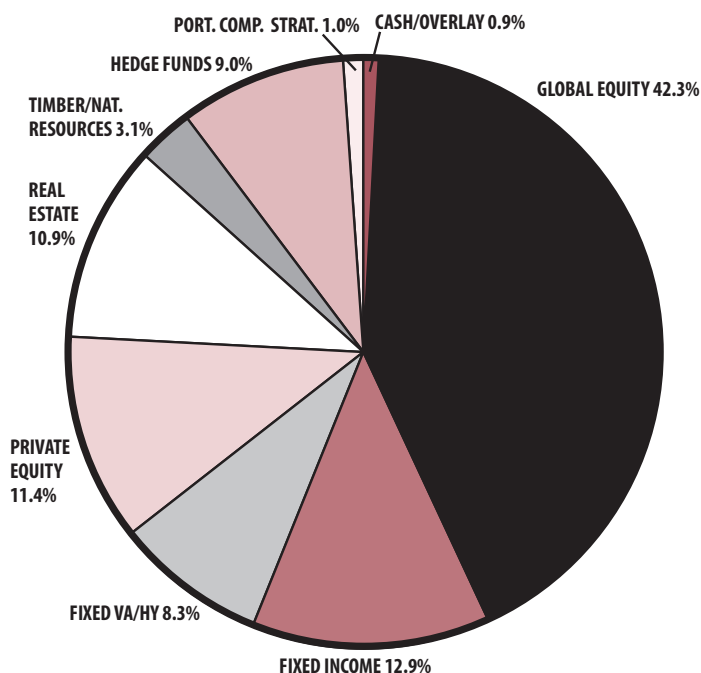
11.79%

ACTUARIAL

▶ Funded Ratio	86.7%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	8.0% Total Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$1.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$170,000

	ACTIVE	RETIRED
▶ Number of Members	53	39
▶ Total Payroll/Benefit	\$2.7 M	\$894,000
▶ Average Salary/Benefit	\$47,700	\$22,900
▶ Average Age	48	74
▶ Average Service	9.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	0
▶ Number Who Reported Earnings	0
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.15%
▶ 2015 Market Value	\$12.7 M
▶ 2011-2015 (Annualized)	7.31%
▶ 1985-2015 (Annualized)	9.42%

Montague

One Avenue A
Turners Falls, MA 01376
Phone 413-863-3200
Fax 413-863-3224

Board Members

David R. Dion (Chairperson),
Frank Abbondanzio, Cheryl Clark,
Marianne Fiske, Carolyn S. Olsen

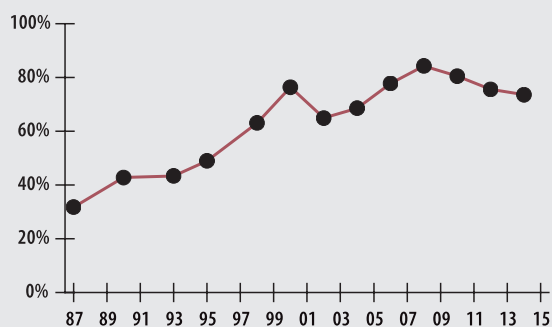
Board Administrator

Debra Underhill

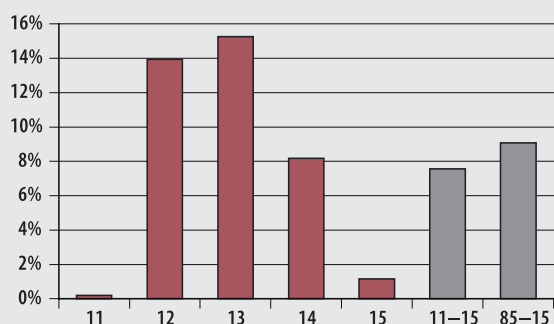
Board Meeting

Usually the fourth Tuesday of each
month at 1:00 pm

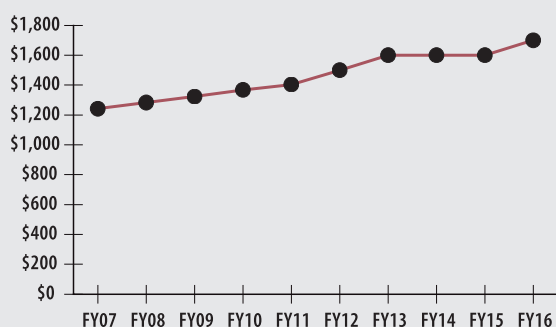
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.07%

30 years 2014

9.34%

29 years 2013

9.38%

10 years 2015

5.91%

10 years 2014

7.06%

10 years 2013

7.67%

5 years 2015

7.56%

5 years 2014

10.07%

5 years 2013

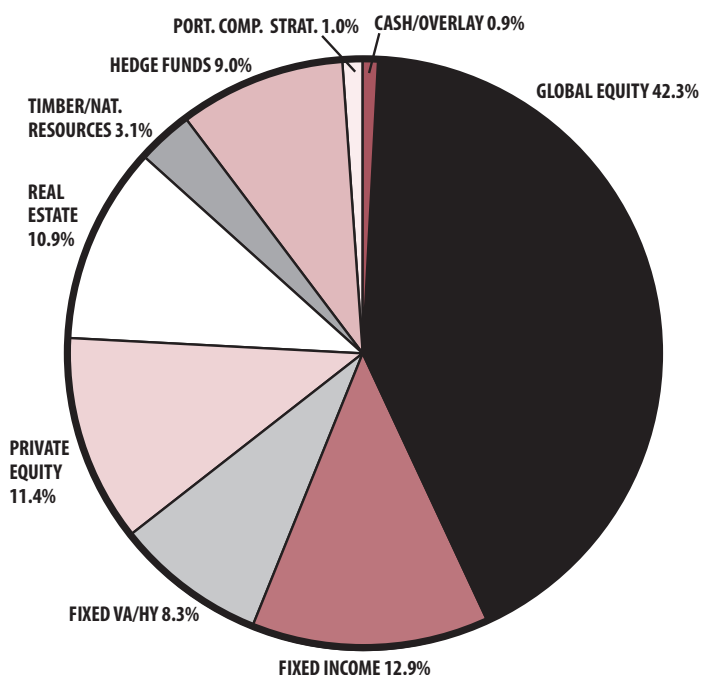
11.90%

ACTUARIAL

▶ Funded Ratio	73.6%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	2.5% Total Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$10.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$1.7 M

	ACTIVE	RETIRED
▶ Number of Members	195	121
▶ Total Payroll/Benefit	\$6.4 M	\$2.1 M
▶ Average Salary/Benefit	\$33,000	\$17,600
▶ Average Age	49	72
▶ Average Service	11.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	13
▶ Number Who Reported Earnings	2
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.16%
▶ 2015 Market Value	\$34.5 M
▶ 2011-2015 (Annualized)	7.56%
▶ 1985-2015 (Annualized)	9.07%

Board Members

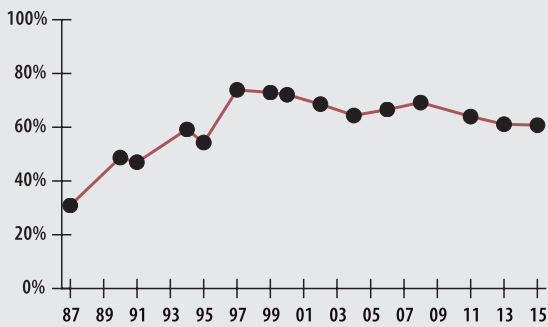
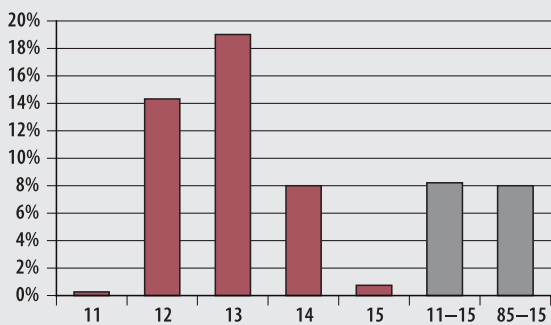
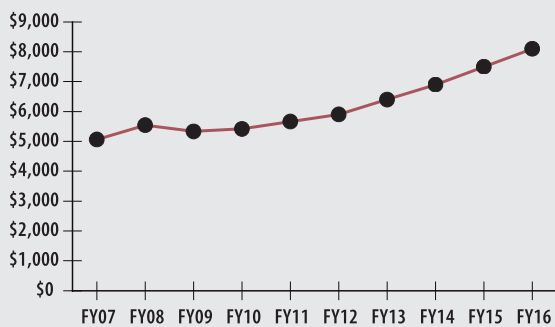
Robert J. Drew (Chairperson),
Virginia Cahill, David Given,
Michael J. Melchiorri, B. Michael Reardon

Board Administrator

Kathleen S. Bacon

Board Meeting

Usually the last Wednesday of each month

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

8.02%

30 years 2014

8.28%

29 years 2013

8.28%

10 years 2015

5.26%

10 years 2014

5.74%

10 years 2013

5.67%

5 years 2015

8.23%

5 years 2014

10.96%

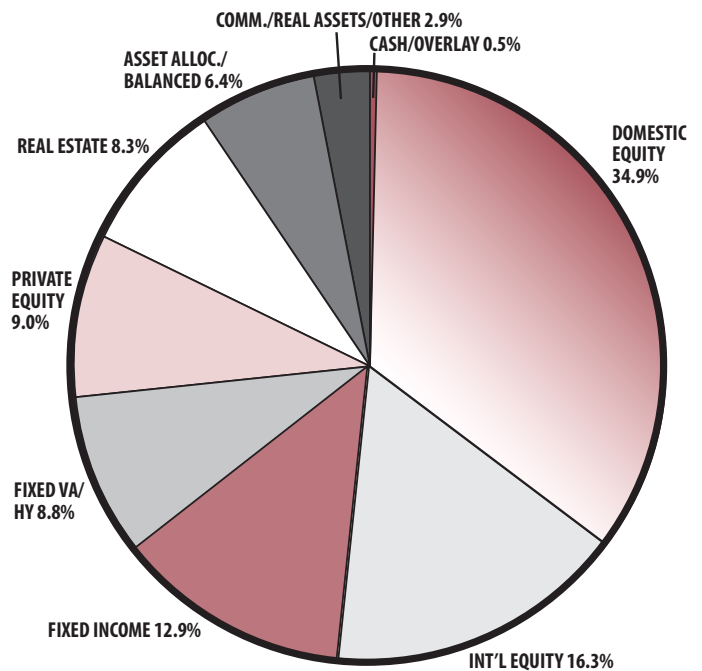
5 years 2013

13.09%

ACTUARIAL

▶ Funded Ratio	60.8%
▶ Date of Last Valuation	01/15
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$77.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$8.1 M

	ACTIVE	RETIRED
▶ Number of Members	620	383
▶ Total Payroll/Benefit	\$34.8 M	\$10.2 M
▶ Average Salary/Benefit	\$56,100	\$26,500
▶ Average Age	47	NA
▶ Average Service	11.9 years	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	19
▶ Number Who Reported Earnings	7
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.76%
▶ 2015 Market Value	\$112.5 M
▶ 2011-2015 (Annualized)	8.23%
▶ 1985-2015 (Annualized)	8.02%

Needham

Town Hall
1471 Highland Avenue
Needham, MA 02492-2605
Phone 781-455-7500, Ext. 231
Fax 781-449-4569

Board Members

Evelyn M. Poness (Chairperson),
Sandra J. Cincotta, John P. Krawiecki,
Robert P. Mearls, Thomas A. Welch II

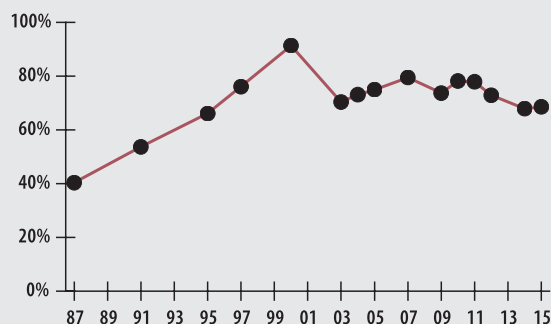
Board Administrator

Juanita Hearn

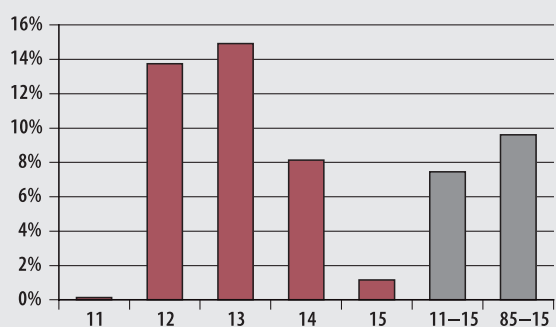
Board Meeting

Usually second Wednesday of each
month at 9:00 am

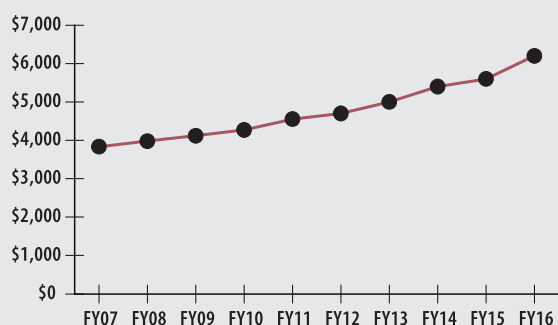
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.60%

30 years 2014

9.89%

29 years 2013

9.95%

10 years 2015

5.85%

10 years 2014

6.99%

10 years 2013

7.57%

5 years 2015

7.45%

5 years 2014

9.92%

5 years 2013

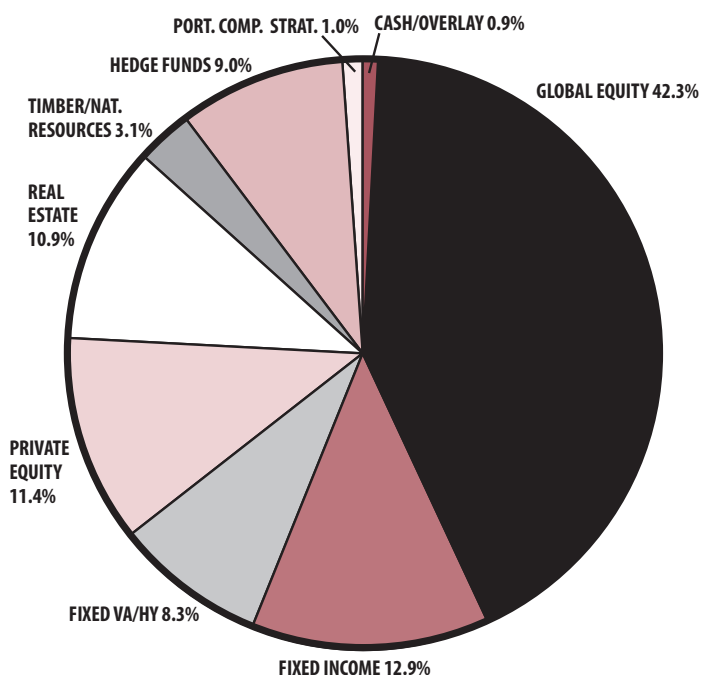
11.68%

ACTUARIAL

▶ Funded Ratio	68.6%
▶ Date of Last Valuation	01/15
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.5% Increasing Phase-in
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$60.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$6.2 M

	ACTIVE	RETIRED
▶ Number of Members	647	462
▶ Total Payroll/Benefit	\$33.7 M	\$10.7 M
▶ Average Salary/Benefit	\$52,100	\$23,100
▶ Average Age	48	NA
▶ Average Service	11.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	24
▶ Number Who Reported Earnings	5
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$134.5 M
▶ 2011-2015 (Annualized)	7.45%
▶ 1985-2015 (Annualized)	9.60%

New Bedford

651 Orchard Street, #203A
New Bedford, MA 02744-1008
Phone 508-979-1538
Fax 508-979-1799

Board Members

Arthur J. Caron, Jr., Esq. (Chairperson),
Paul M. Lestage, Brennan Morsette,
Susan Mandra Thompson,
Edward J. Wiley

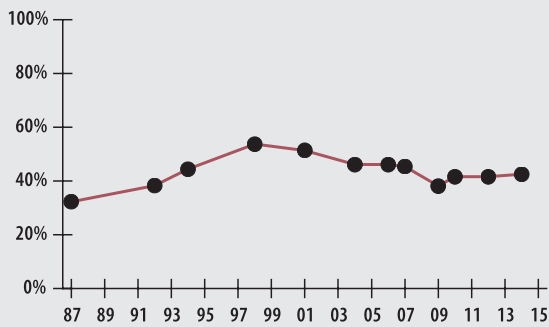
Board Administrator

Gerard Arnaudet

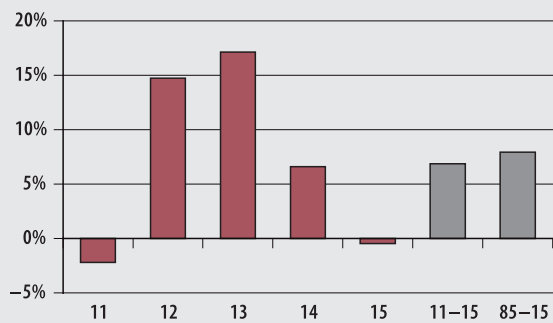
Board Meeting

Usually last Thursday of each
month at 9:00 am

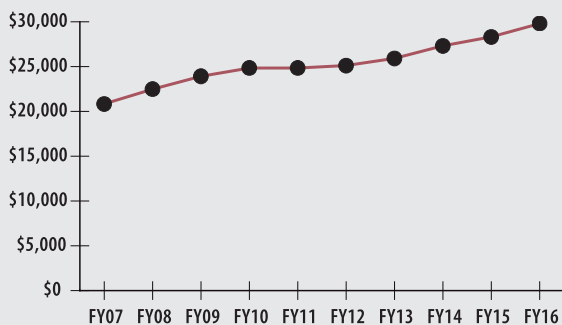
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

7.94%

30 years 2014

8.23%

29 years 2013

8.29%

10 years 2015

5.75%

10 years 2014

6.86%

10 years 2013

7.47%

5 years 2015

6.89%

5 years 2014

9.75%

5 years 2013

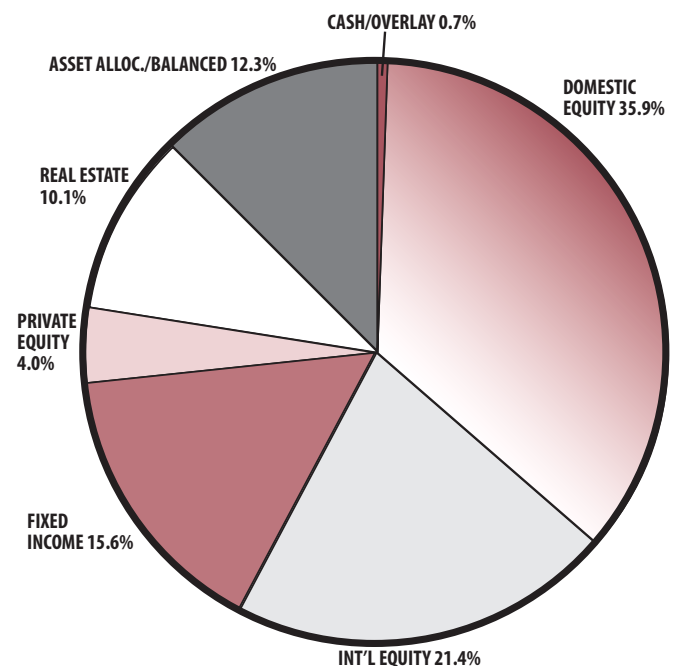
12.38%

ACTUARIAL

▶ Funded Ratio	42.5%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$348.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$29.8 M

	ACTIVE	RETIRED
▶ Number of Members	1,903	1,812
▶ Total Payroll/Benefit	\$84.4 M	\$40.9 M
▶ Average Salary/Benefit	\$44,400	\$22,600
▶ Average Age	NA	74
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	278
▶ Number Who Reported Earnings	75
▶ Number of Excess Earners	6
▶ Total Amount of Refund Due	\$46,790.11

▶ 2015 Return	-0.46%
▶ 2015 Market Value	\$275.4 M
▶ 2011-2015 (Annualized)	6.89%
▶ 1985-2015 (Annualized)	7.94%

Newburyport

16 Unicorn Street
Newburyport, MA 01950
Phone 978-465-6619
Fax 978-462-4042

Board Members

Joseph Spaulding (Chairperson),
Jeffrey R. Cutter, Alexander Kravchuk,
John Moak, Ethan R. Manning

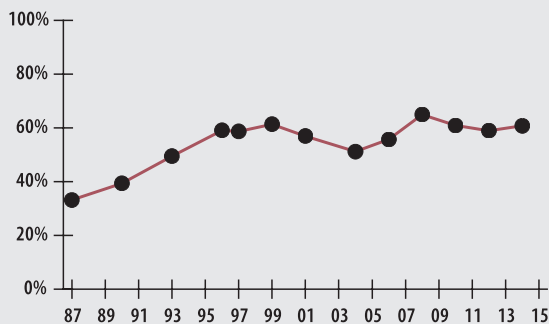
Board Administrator

Laurie Burton

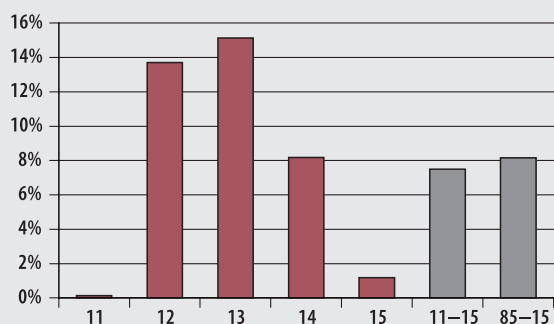
Board Meeting

Varies

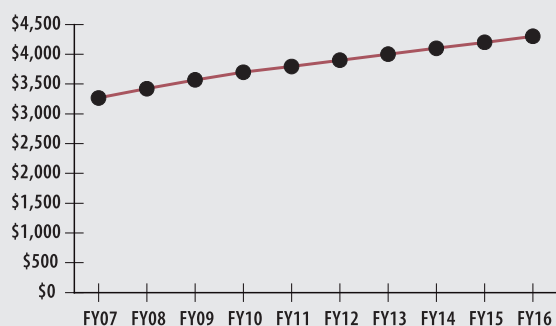
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.15%

30 years 2014

8.39%

29 years 2013

8.39%

10 years 2015

5.85%

10 years 2014

7.00%

10 years 2013

7.50%

5 years 2015

7.49%

5 years 2014

9.98%

5 years 2013

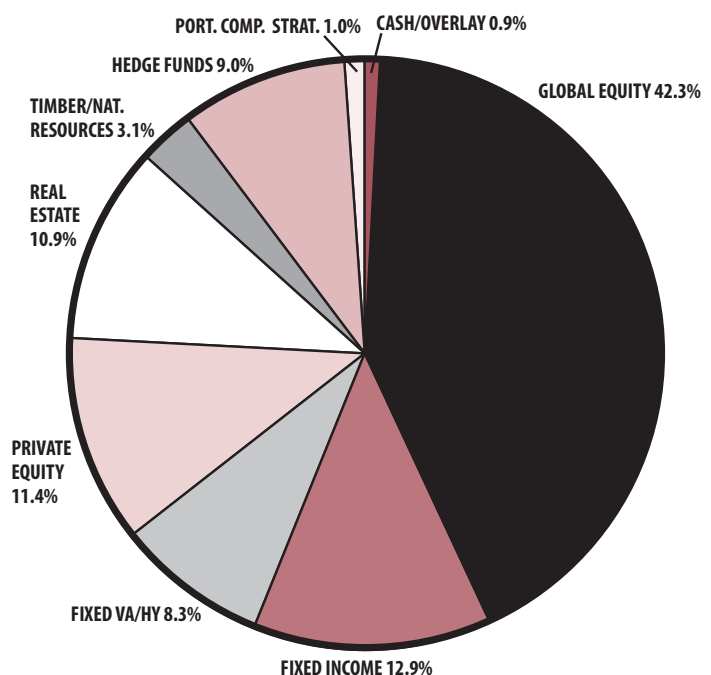
11.81%

ACTUARIAL

▶ Funded Ratio	60.8%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.0% Total Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$38.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.3 M

	ACTIVE	RETIRED
▶ Number of Members	364	224
▶ Total Payroll/Benefit	\$15.6 M	\$5.5 M
▶ Average Salary/Benefit	\$42,700	\$24,600
▶ Average Age	48	73
▶ Average Service	11.1 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	25
▶ Number Who Reported Earnings	9
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.19%
▶ 2015 Market Value	\$67.0 M
▶ 2011-2015 (Annualized)	7.49%
▶ 1985-2015 (Annualized)	8.15%

Newton

City Hall
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449
Phone 617-796-1095
Fax 617-796-1098

Board Members

Nunzio J. Piselli (Chairperson),
Paul Bianchi, Francis P. Capello, Jr.,
Kimberly A. Fletcher, Esq.,
David C. Wilkinson

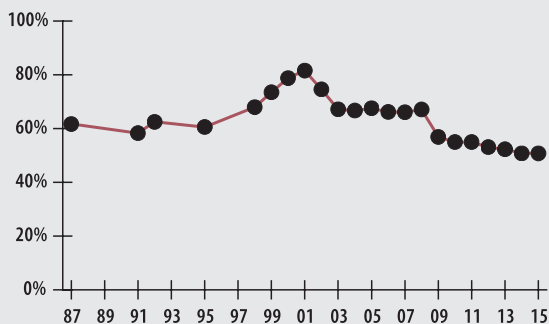
Board Administrator

Kelly Byrne

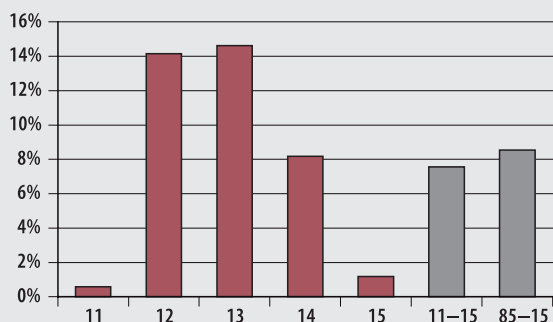
Board Meeting

Third Wednesday of the month at 3:00 pm

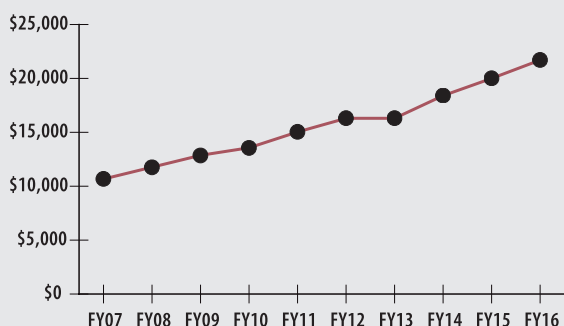
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.55%

30 years 2014

8.80%

29 years 2013

8.82%

10 years 2015

5.44%

10 years 2014

6.00%

10 years 2013

6.43%

5 years 2015

7.57%

5 years 2014

9.90%

5 years 2013

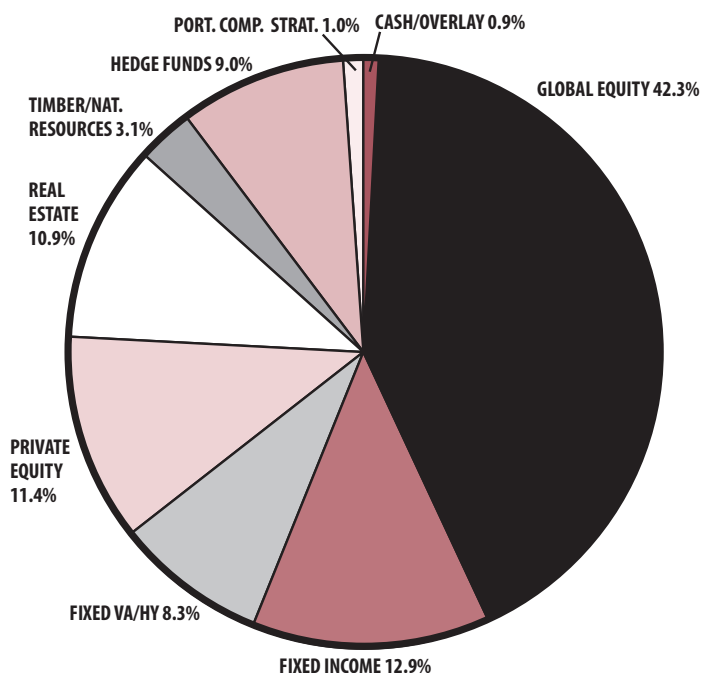
11.45%

ACTUARIAL

▶ Funded Ratio	50.8%
▶ Date of Last Valuation	01/15
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.65%
▶ Funding Schedule	8.75% Total Increasing
▶ Year Fully Funded	2029
▶ Unfunded Liability	\$284.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$21.7 M

	ACTIVE	RETIRED
▶ Number of Members	1,723	1,317
▶ Total Payroll/Benefit	\$92.1 M	\$34.1 M
▶ Average Salary/Benefit	\$53,500	\$25,900
▶ Average Age	45	NA
▶ Average Service	11.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	143
▶ Number Who Reported Earnings	38
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$40,265.52

▶ 2015 Return	1.19%
▶ 2015 Market Value	\$289.3 M
▶ 2011-2015 (Annualized)	7.57%
▶ 1985-2015 (Annualized)	8.55%

Norfolk County

480 Neponset Street
Building 15
Canton, MA 02021
Phone 781-821-0664
Fax 781-821-0981

Board Members

Joseph A. Connolly (Chairperson),
Paul J. Connors, Karen Jelloe, Edwin S. Little,
Josephine E. Shea

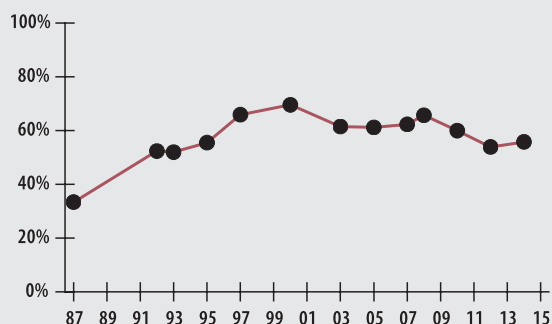
Board Administrator

Kathleen Kiely-Becchetti

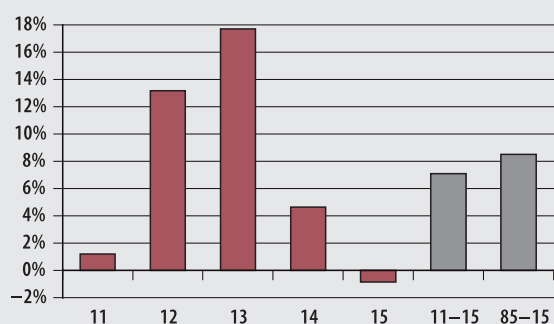
Board Meeting

Last Wednesday of each month

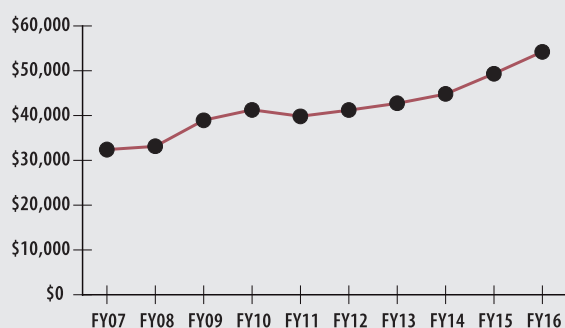
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.52%

30 years 2014

8.85%

29 years 2013

8.97%

10 years 2015

5.62%

10 years 2014

6.40%

10 years 2013

6.92%

5 years 2015

7.11%

5 years 2014

10.11%

5 years 2013

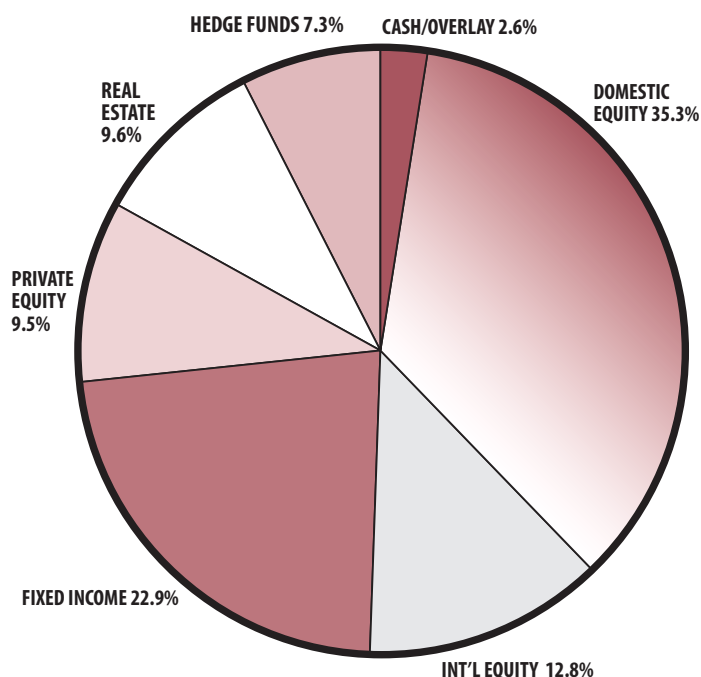
13.05%

ACTUARIAL

▶ Funded Ratio	55.8%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.25%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$550.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$54.2 M

	ACTIVE	RETIRED
▶ Number of Members	5,153	3,023
▶ Total Payroll/Benefit	\$246.7 M	\$69.7 M
▶ Average Salary/Benefit	\$47,900	\$23,000
▶ Average Age	NA	73
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	297
▶ Number Who Reported Earnings	90
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$1,721.05

▶ 2015 Return	-.84%
▶ 2015 Market Value	\$761.8 M
▶ 2011-2015 (Annualized)	7.11%
▶ 1985-2015 (Annualized)	8.52%

North Adams

61 Main Street, Room 247
North Adams, MA 01247
Phone 413-663-5185
Fax 413-664-9412

Board Members

Lawrence R. O'Brien (Chairperson),
Matthew LaBonte, Alan Marden,
Fred T. Thompson, Esq., Kathleen A. Wall

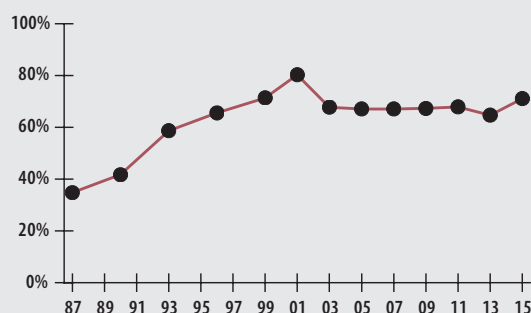
Board Administrator

Beth Matson

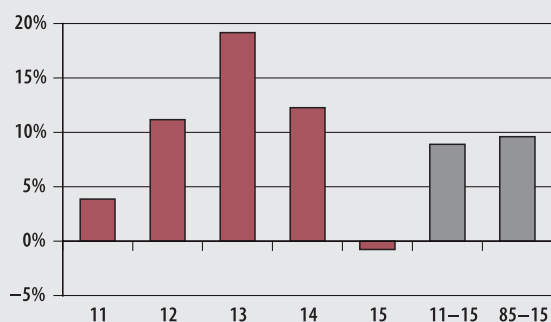
Board Meeting

Varies

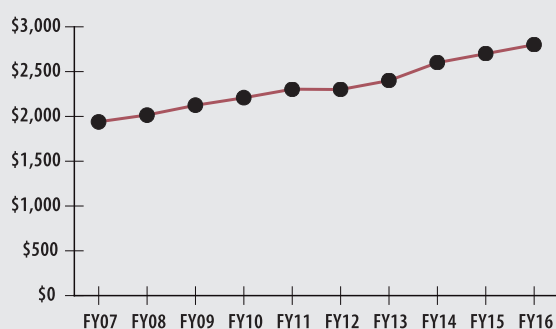
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.62%

30 years 2014

9.98%

29 years 2013

9.90%

10 years 2015

7.43%

10 years 2014

8.74%

10 years 2013

8.20%

5 years 2015

8.93%

5 years 2014

11.82%

5 years 2013

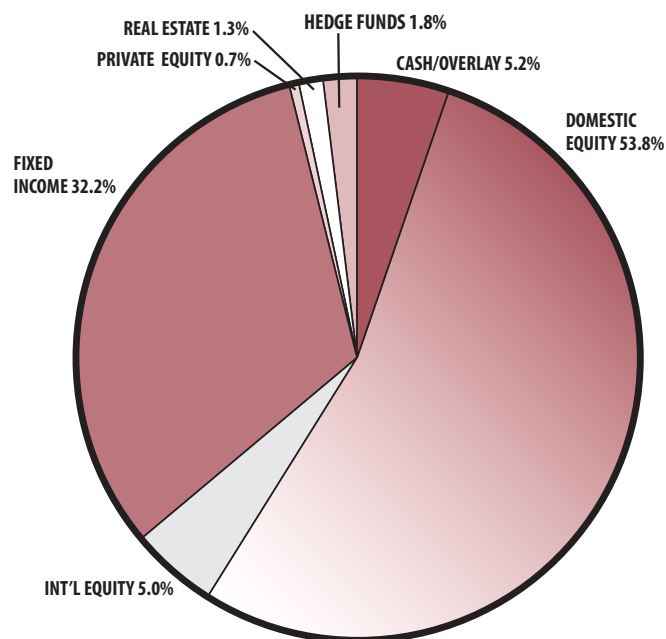
12.91%

ACTUARIAL

▶ Funded Ratio	71.1%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	4.32% Total Increasing
▶ Year Fully Funded	2029
▶ Unfunded Liability	\$20.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$2.8 M

	ACTIVE	RETIRED
▶ Number of Members	334	217
▶ Total Payroll/Benefit	\$10.4 M	\$4.1 M
▶ Average Salary/Benefit	\$31,000	\$18,800
▶ Average Age	48	74
▶ Average Service	11.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	29
▶ Number Who Reported Earnings	13
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$7,188.65

▶ 2015 Return	-.75%
▶ 2015 Market Value	\$54.9 M
▶ 2011-2015 (Annualized)	8.93%
▶ 1985-2015 (Annualized)	9.62%

North Attleboro

500 East Washington Street, 2nd Floor
North Attleboro, MA 02760
Phone 508-699-0119
Fax 508-699-0127

Board Members

Craig R. Chapman (Chairperson),
John Q. Adams, Brian D. Brousseau,
Lynn M. Carley, Michael R. Cornetta

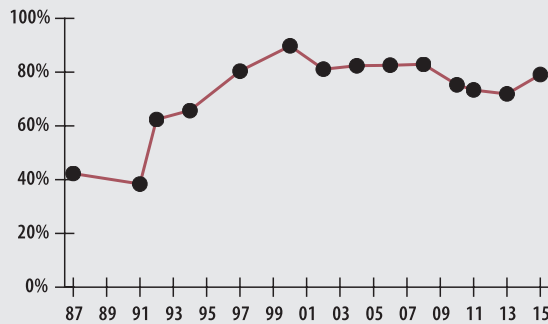
Board Administrator

Debra A. Bush

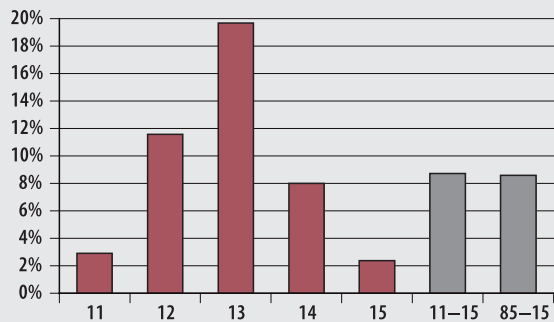
Board Meeting

Fourth Tuesday of each month

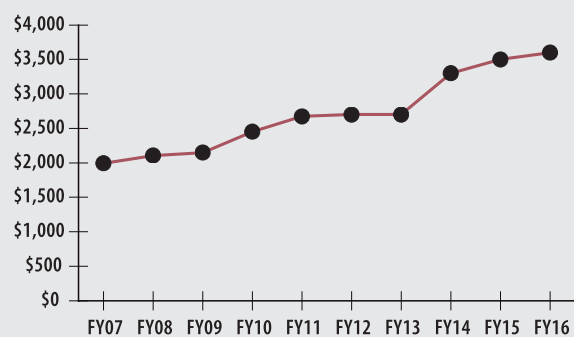
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.60%

30 years 2014

8.81%

29 years 2013

8.84%

10 years 2015

6.37%

10 years 2014

6.59%

10 years 2013

6.90%

5 years 2015

8.74%

5 years 2014

11.15%

5 years 2013

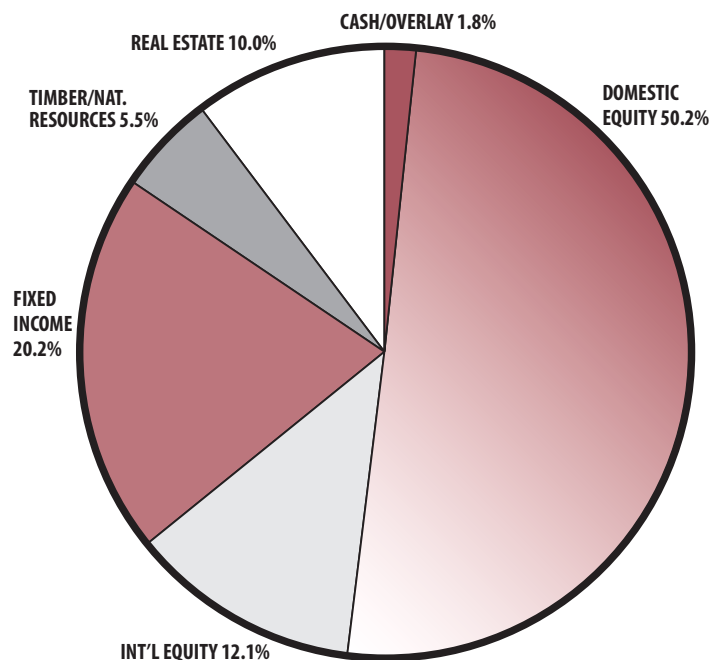
13.36%

ACTUARIAL

▶ Funded Ratio	79.1%
▶ Date of Last Valuation	01/15
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$23.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.6 M

	ACTIVE	RETIRED
▶ Number of Members	479	247
▶ Total Payroll/Benefit	\$22.7 M	\$5.4 M
▶ Average Salary/Benefit	\$47,400	\$21,900
▶ Average Age	NA	70
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	21
▶ Number Who Reported Earnings	9
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$8,352.36

▶ 2015 Return	2.39%
▶ 2015 Market Value	\$96.8 M
▶ 2011-2015 (Annualized)	8.74%
▶ 1985-2015 (Annualized)	8.60%

Northampton

240 Main Street, First Floor
Northampton, MA 01060
Phone 413-587-1211
Fax 413-587-1278

Board Members

Joyce Karpinski (Chairperson),
Shirley A. LaRose, Michael J. Lyons,
Thomas F. Sullivan, Susan L. Wright

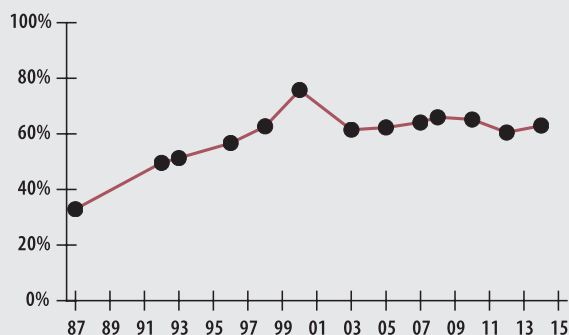
Board Administrator

David Shipka

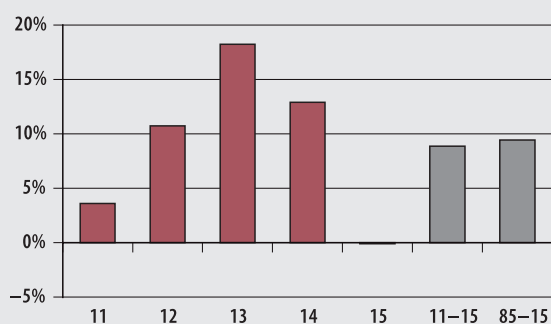
Board Meeting

Last Tuesday or Thursday of each month

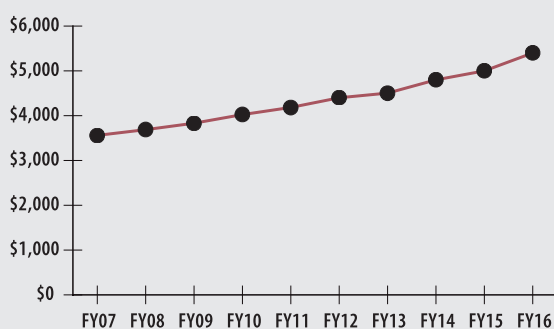
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.44%

30 years 2014

9.77%

29 years 2013

9.66%

10 years 2015

7.48%

10 years 2014

8.58%

10 years 2013

8.16%

5 years 2015

8.88%

5 years 2014

11.57%

5 years 2013

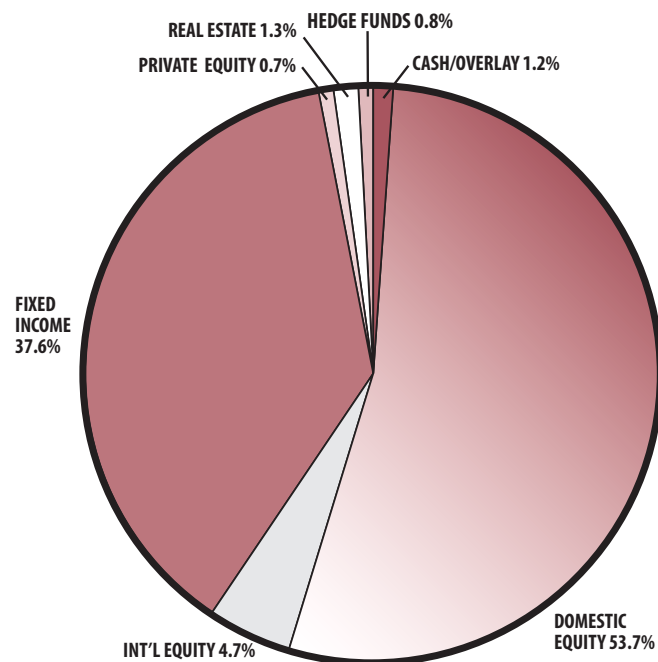
12.34%

ACTUARIAL

▶ Funded Ratio	63.0%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	3.77% Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$55.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.4 M

	ACTIVE	RETIRED
▶ Number of Members	604	392
▶ Total Payroll/Benefit	\$24.1 M	\$8.2 M
▶ Average Salary/Benefit	\$39,800	\$20,900
▶ Average Age	47	71
▶ Average Service	11.5 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	34
▶ Number Who Reported Earnings	15
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-.10%
▶ 2015 Market Value	\$110.2 M
▶ 2011-2015 (Annualized)	8.88%
▶ 1985-2015 (Annualized)	9.44%

Northbridge

Town Hall
7 Main Street
Whitinsville, MA 01588
Phone 508-234-0820
Fax 508-234-5834

Board Members

John Meagher (Chairperson),
Muriel Barry, Thomas S. Frieswyk,
Sharon Susienka, Neil Vaidya

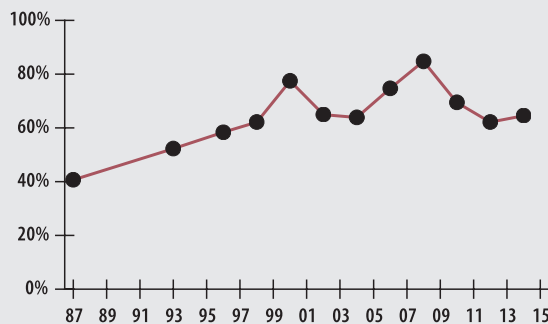
Board Administrator

Scott McGrath

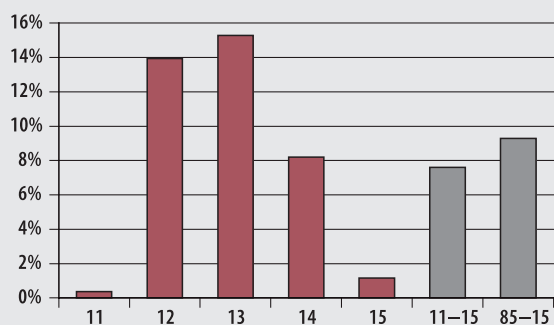
Board Meeting

Third Wednesday of each month

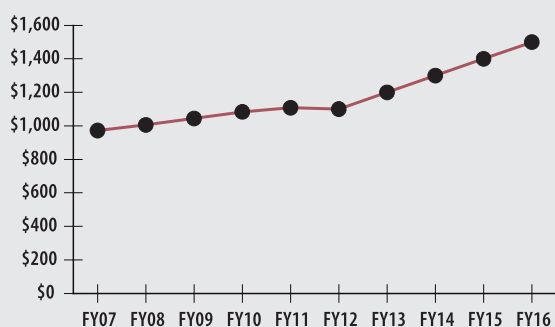
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.29%

30 years 2014

9.58%

29 years 2013

9.62%

10 years 2015

5.95%

10 years 2014

7.10%

10 years 2013

7.71%

5 years 2015

7.61%

5 years 2014

10.17%

5 years 2013

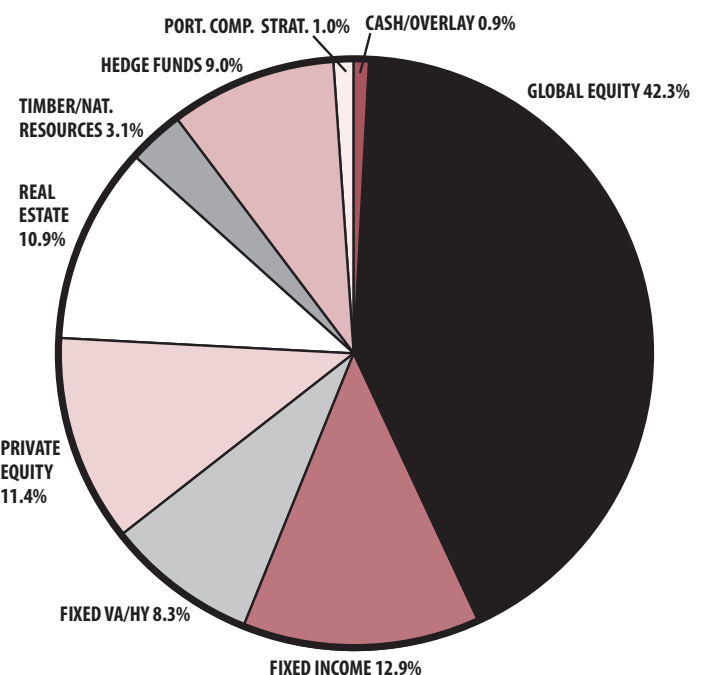
12.03%

ACTUARIAL

▶ Funded Ratio	64.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2038
▶ Unfunded Liability	\$14.2 M
▶ Total Pension Appropriation (Fiscal 2016)	\$1.5 M

	ACTIVE	RETIRED
▶ Number of Members	204	110
▶ Total Payroll/Benefit	\$8.2 M	\$2.0 M
▶ Average Salary/Benefit	\$40,300	\$18,200
▶ Average Age	47	74
▶ Average Service	9.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	9
▶ Number Who Reported Earnings	4
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$29.0 M
▶ 2011-2015 (Annualized)	7.61%
▶ 1985-2015 (Annualized)	9.29%

Norwood

566 Washington Street
Norwood, MA 02062
Phone 781-762-1240, Ext. 157
Fax 781-278-3024

Board Members

Ted Mulvehill, Jr., (Chairperson),
Eileen Hickey, Thomas J. McQuaid,
Thomas O'Toole, Thomas A. Rorrie

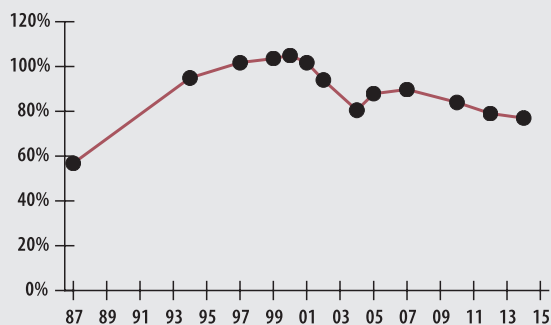
Board Administrator

Debra A. Wilkes

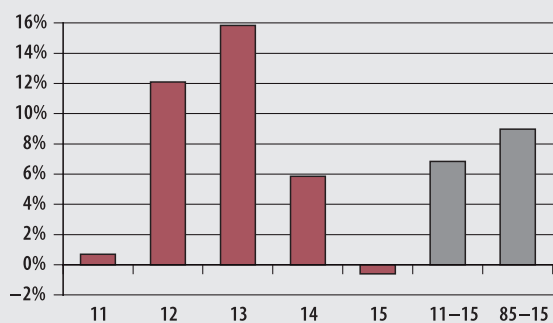
Board Meeting

Third Thursday of each month

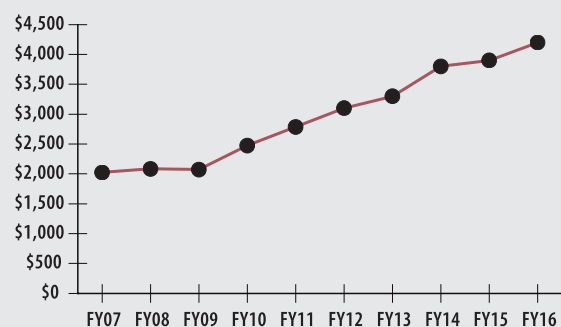
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.99%

30 years 2014

9.28%

29 years 2013

9.40%

10 years 2015

6.28%

10 years 2014

7.08%

10 years 2013

7.51%

5 years 2015

6.85%

5 years 2014

8.97%

5 years 2013

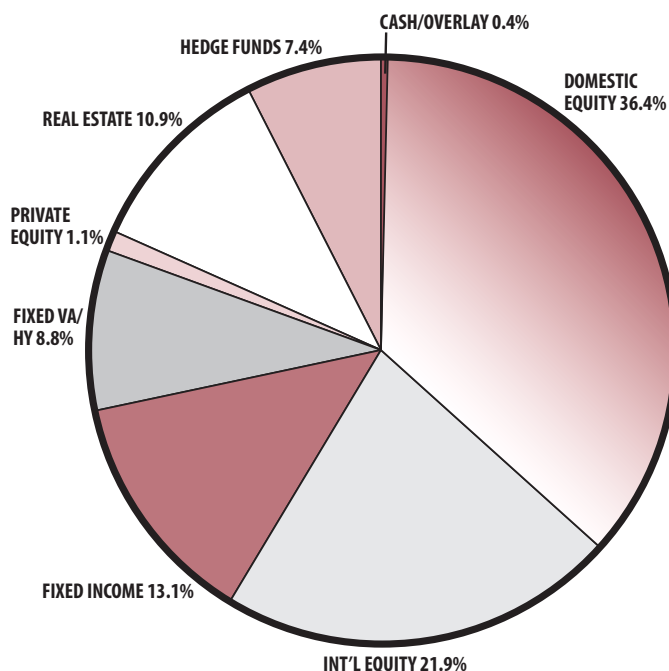
12.40%

ACTUARIAL

▶ Funded Ratio	77.0%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.25%
▶ Funding Schedule	4.5% Increasing Phase-in
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$38.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.2 M

	ACTIVE	RETIRED
▶ Number of Members	569	355
▶ Total Payroll/Benefit	\$29.1 M	\$8.7 M
▶ Average Salary/Benefit	\$51,200	\$24,400
▶ Average Age	NA	74
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	39
▶ Number Who Reported Earnings	14
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$3,648.31

▶ 2015 Return	.60%
▶ 2015 Market Value	\$134.8 M
▶ 2011-2015 (Annualized)	6.85%
▶ 1985-2015 (Annualized)	8.99%

Peabody

City Hall
24 Lowell Street
Peabody, MA 01960
Phone 978-538-5911
Fax 978-538-5989

Board Members

Richard A. Yagjian (Chairperson),
Linda Cavallon, Joseph DiFranco, Sr.,
Michael J. Gingras, Edward J. Lomasney III

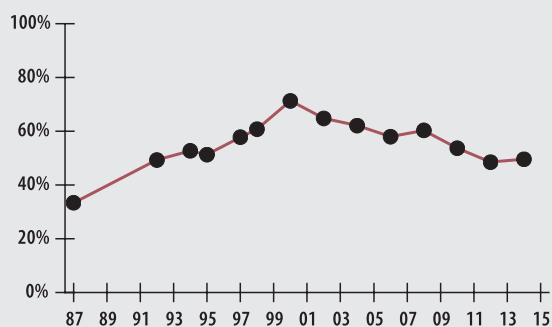
Board Administrator

James Freeman

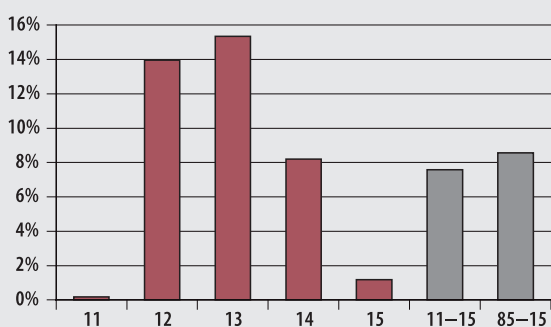
Board Meeting

Varies

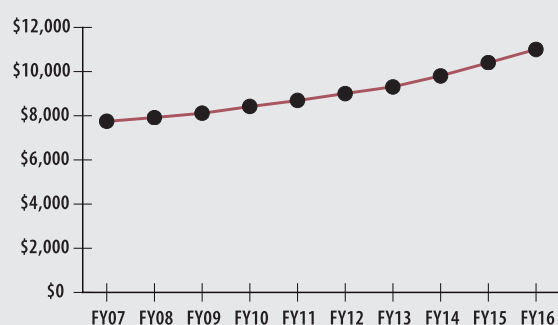
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.56%

30 years 2014

8.81%

29 years 2013

8.83%

10 years 2015

5.31%

10 years 2014

5.79%

10 years 2013

5.94%

5 years 2015

7.59%

5 years 2014

10.13%

5 years 2013

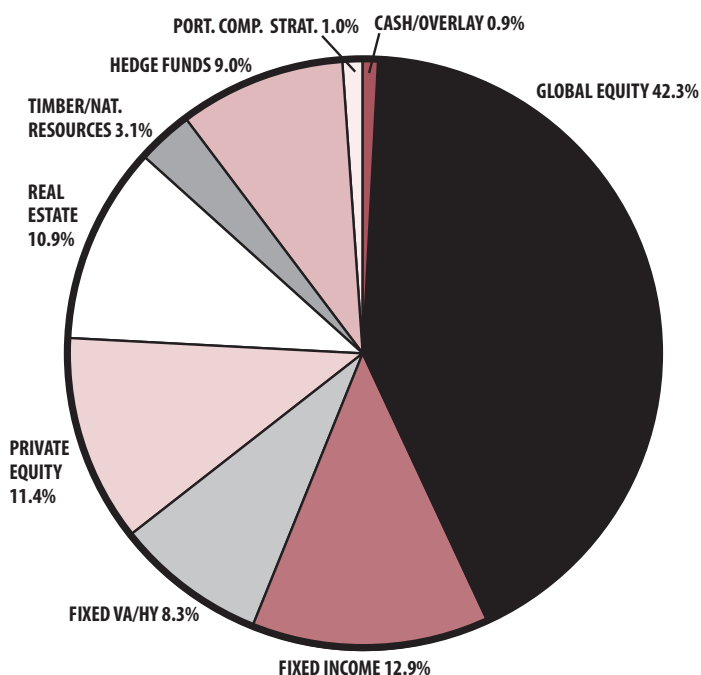
12.01%

ACTUARIAL

▶ Funded Ratio	49.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.25%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$122.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$11.0 M

	ACTIVE	RETIRED
▶ Number of Members	796	785
▶ Total Payroll/Benefit	\$40.1 M	\$16.3 M
▶ Average Salary/Benefit	\$50,400	\$20,700
▶ Average Age	NA	76
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	53
▶ Number Who Reported Earnings	15
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.18%
▶ 2015 Market Value	\$126.8 M
▶ 2011-2015 (Annualized)	7.59%
▶ 1985-2015 (Annualized)	8.56%

Pittsfield

114 Fenn Street
Pittsfield, MA 01201
Phone 413-499-9468
Fax 413-499-9328

Board Members

Edward M. Reilly, Esq. (Chairperson),
Timothy Bartini, William Flynn,
Timothy A. Hannigan, Matthew Kerwood

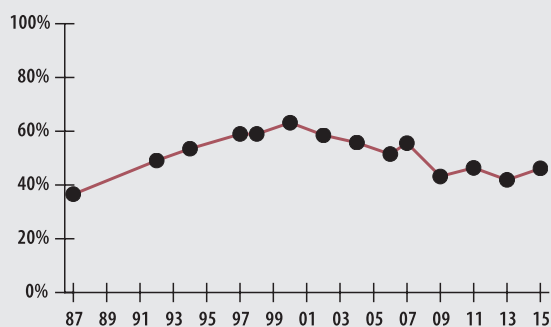
Board Administrator

Karen L. Lancto

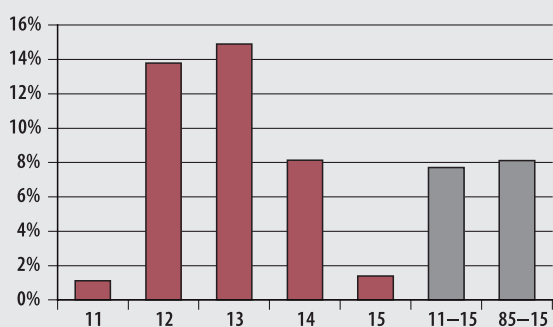
Board Meeting

Varies

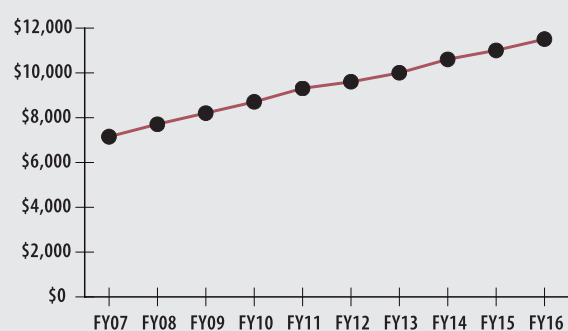
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.12%

30 years 2014

8.35%

29 years 2013

8.36%

10 years 2015

5.12%

10 years 2014

5.68%

10 years 2013

5.76%

5 years 2015

7.71%

5 years 2014

10.17%

5 years 2013

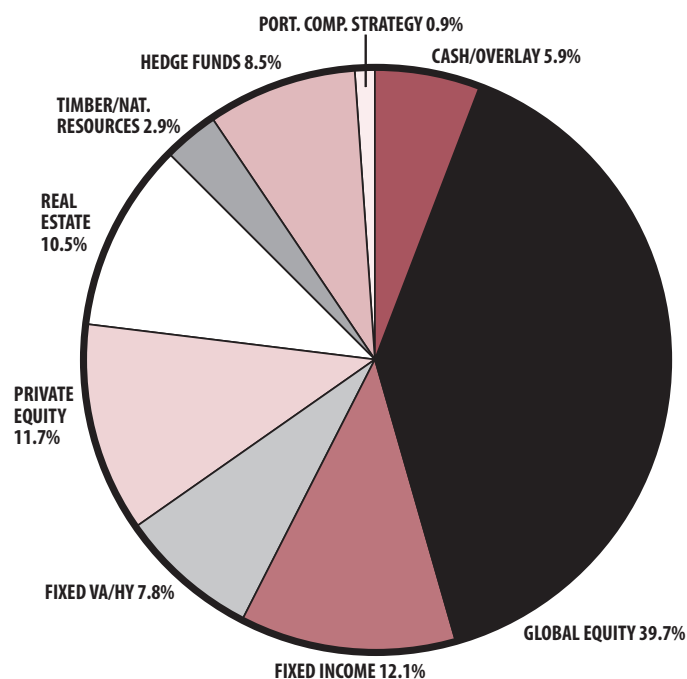
11.36%

ACTUARIAL

▶ Funded Ratio	46.2%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	5.1% Total Increasing
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$129.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$11.5 M

	ACTIVE	RETIRED
▶ Number of Members	927	758
▶ Total Payroll/Benefit	\$34.7 M	\$14.6 M
▶ Average Salary/Benefit	\$37,500	\$19,200
▶ Average Age	49	75
▶ Average Service	12.3 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	77
▶ Number Who Reported Earnings	21
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.39%
▶ 2015 Market Value	\$116.3 M
▶ 2011-2015 (Annualized)	7.71%
▶ 1985-2015 (Annualized)	8.12%

Plymouth

10 Cordage Park Circle
Suite 240
Plymouth, MA 02360
Phone 508-830-4170
Fax 508-830-4019

Board Members

Thomas M. Kelley (Chairperson),
Lynne Barrett, Gerald Coughlin,
Shawn H. Duhamel, Dale Webber

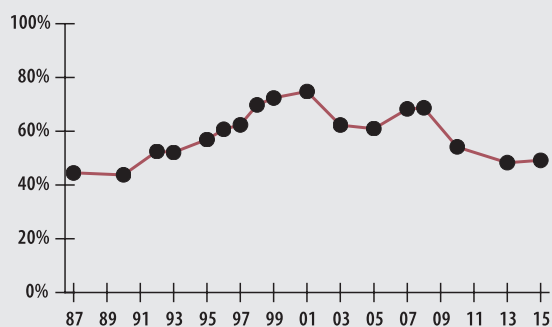
Board Administrator

Wendy Cherry

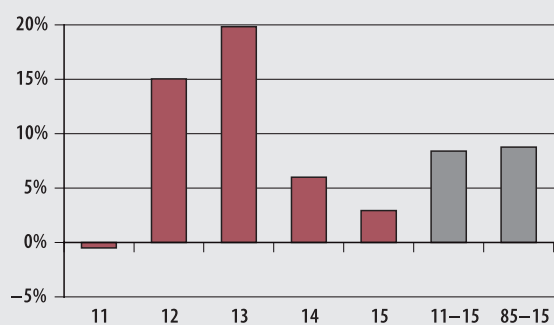
Board Meeting

Varies

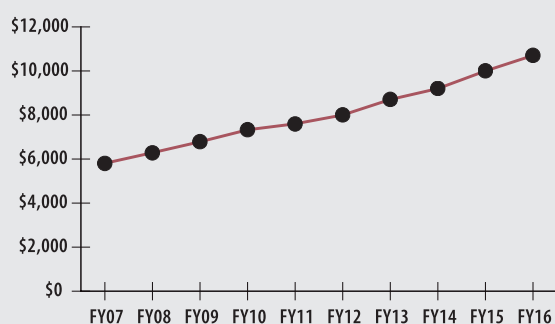
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
8.77%

30 years 2014
8.97%

29 years 2013
9.07%

10 years 2015
6.26%

10 years 2014
6.78%

10 years 2013
7.33%

5 years 2015
8.42%

5 years 2014
10.33%

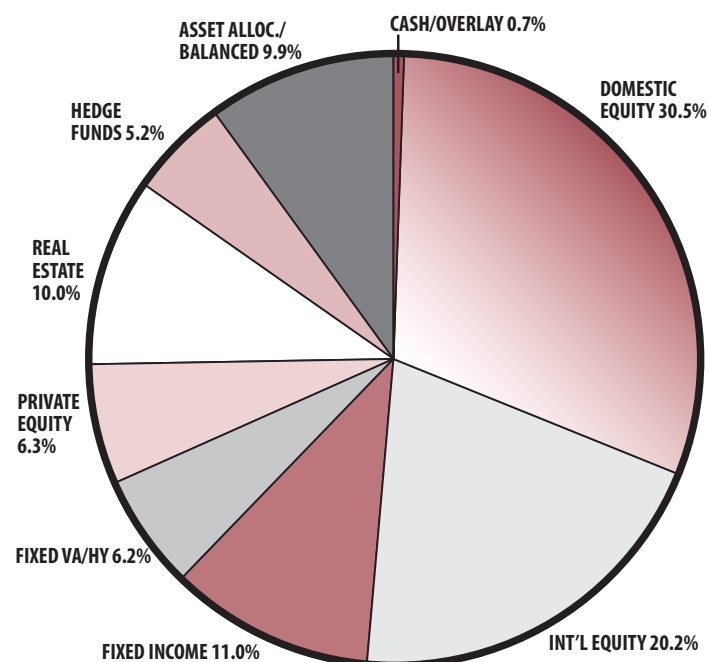
5 years 2013
13.56%

ACTUARIAL

▶ Funded Ratio	49.2%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	8.0% Total Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$142.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$10.7 M

	ACTIVE	RETIRED
▶ Number of Members	875	653
▶ Total Payroll/Benefit	\$39.5 M	\$15.2 M
▶ Average Salary/Benefit	\$45,100	\$23,300
▶ Average Age	49	70
▶ Average Service	12.5 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	69
▶ Number Who Reported Earnings	25
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$390.50

▶ 2015 Return	2.96%
▶ 2015 Market Value	\$145.8 M
▶ 2011-2015 (Annualized)	8.42%
▶ 1985-2015 (Annualized)	8.77%

Board Members

Thomas J. O'Brien (Chairperson),
Mary Beth Carter, James E. Harrington,
Joseph F. McDonough, Esq.,
John F. Sciara

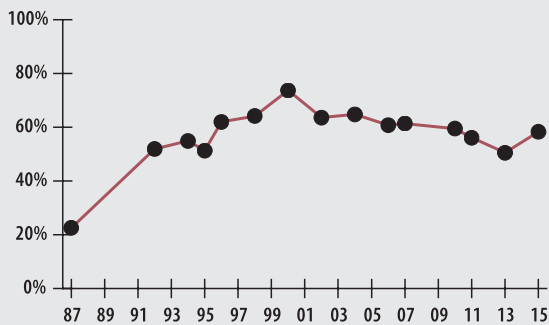
Board Administrator

David J. Sullivan

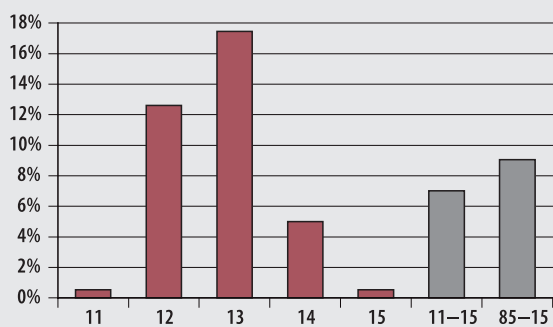
Board Meeting

Usually the last Tuesday of each month

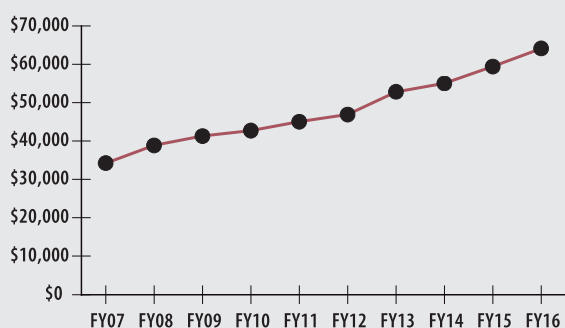
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.05%

30 years 2014

9.35%

29 years 2013

9.50%

10 years 2015

5.58%

10 years 2014

6.40%

10 years 2013

7.14%

5 years 2015

7.02%

5 years 2014

10.03%

5 years 2013

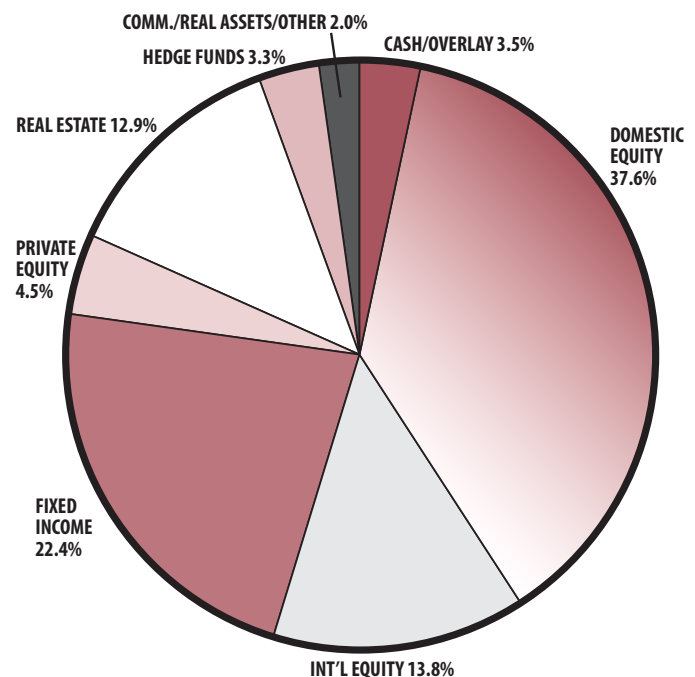
13.09%

ACTUARIAL

▶ Funded Ratio	58.3%
▶ Date of Last Valuation	01/15
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$590.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$64.1 M

	ACTIVE	RETIRED
▶ Number of Members	5,871	3,789
▶ Total Payroll/Benefit	\$246.7 M	\$83.9 M
▶ Average Salary/Benefit	\$42,000	\$22,100
▶ Average Age	NA	71
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	309
▶ Number Who Reported Earnings	95
▶ Number of Excess Earners	4
▶ Total Amount of Refund Due	\$87,767.03

▶ 2015 Return	.54%
▶ 2015 Market Value	\$832.6 M
▶ 2011-2015 (Annualized)	7.02%
▶ 1985-2015 (Annualized)	9.05%

Quincy

1250 Hancock Street
Suite 506S
Quincy, MA 02169
Phone 617-376-1075
Fax 617-376-1149

Board Members

George F. McCray (Chairperson),
Richard P. Crespi, Richard D. Fitzpatrick,
Robert E. Foy III, Susan M. O'Connor

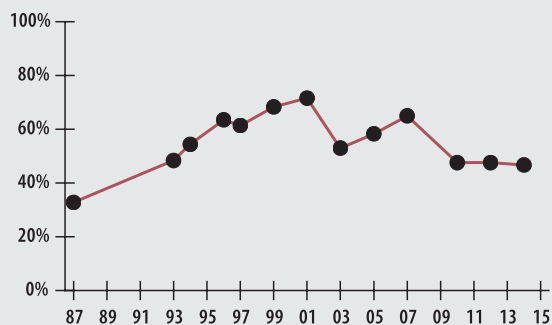
Board Administrator

Edward J. Masterson

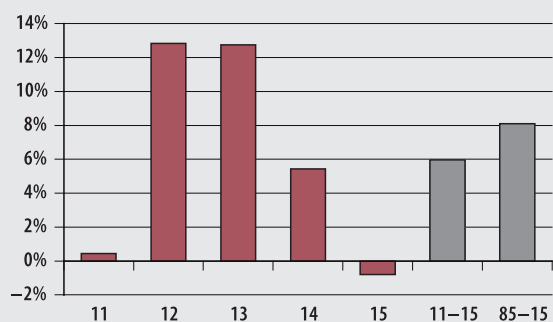
Board Meeting

Varies

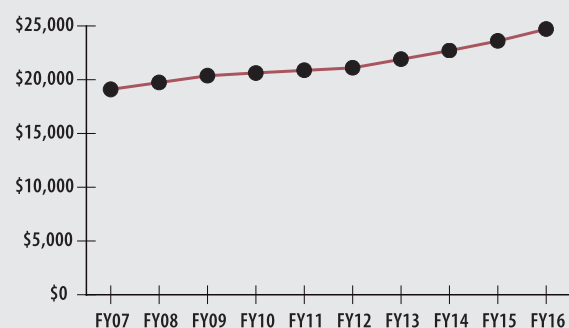
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
8.09%

30 years 2014
8.40%

29 years 2013
8.50%

10 years 2015
4.94%

10 years 2014
5.84%

10 years 2013
6.36%

5 years 2015
5.97%

5 years 2014
8.71%

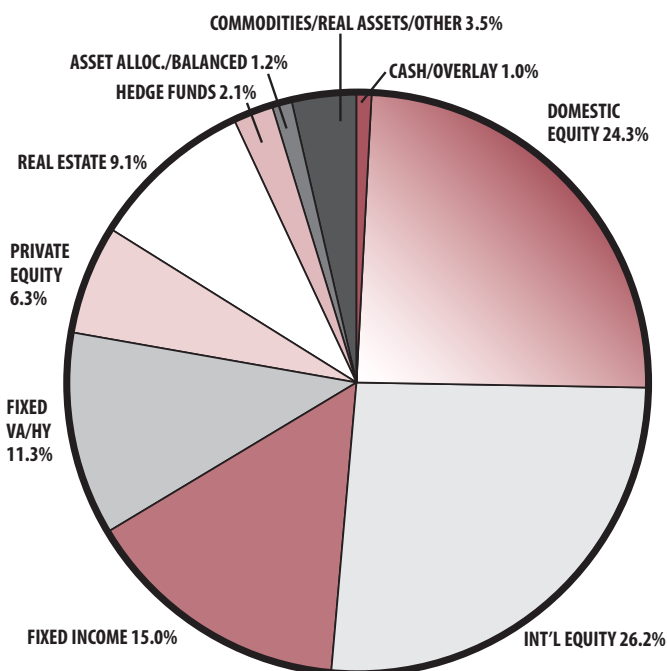
5 years 2013
11.21%

ACTUARIAL

▶ Funded Ratio	46.7%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	5.4% Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$337.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$24.7 M

	ACTIVE	RETIRED
▶ Number of Members	1,356	1,567
▶ Total Payroll/Benefit	\$80.3 M	\$41.9 M
▶ Average Salary/Benefit	\$59,200	\$26,700
▶ Average Age	50	74
▶ Average Service	13.4 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	135
▶ Number Who Reported Earnings	31
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$2,645.67

▶ 2015 Return	-.79%
▶ 2015 Market Value	\$283.5 M
▶ 2011-2015 (Annualized)	5.97%
▶ 1985-2015 (Annualized)	8.09%

Reading

2 Haven Street, Unit 307
Reading, MA 01867
Phone 781-942-9007
Fax 781-623-3053

Board Members

Joseph R. Veno (Chairperson),
Sharon M. Angstrom, Thomas A. Clough,
Louis E. deBrigard, Jr., Nancy Heffernan

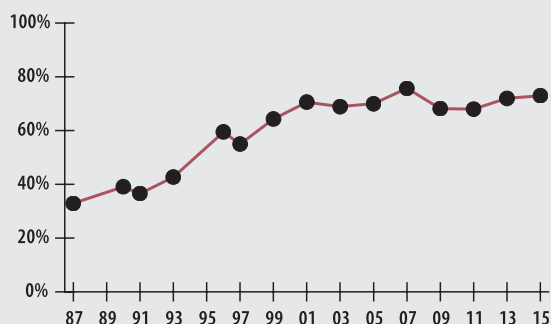
Board Administrator

Colleen Loughlin

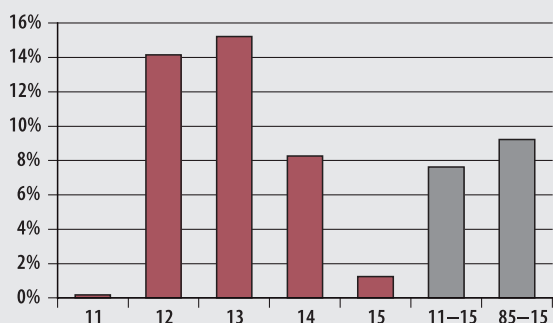
Board Meeting

Fourth Tuesday of each month at 6:00 pm

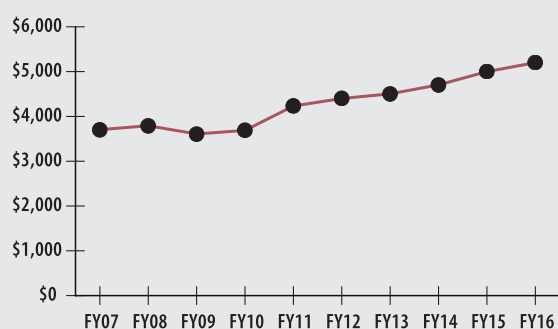
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.22%

30 years 2014

9.50%

29 years 2013

9.54%

10 years 2015

5.99%

10 years 2014

7.14%

10 years 2013

7.73%

5 years 2015

7.63%

5 years 2014

10.14%

5 years 2013

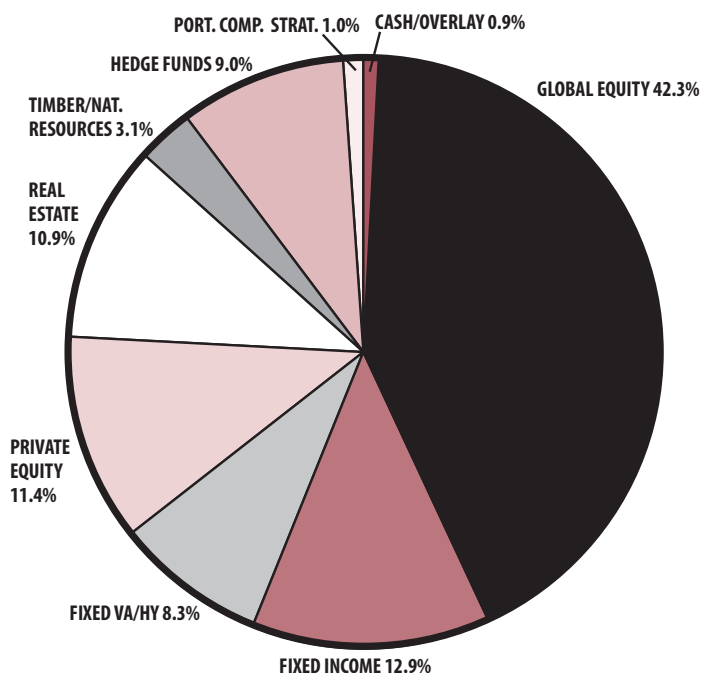
12.02%

ACTUARIAL

▶ Funded Ratio	73.0%
▶ Date of Last Valuation	01/15
▶ Actuary	KMS Actuaries
▶ Assumed Rate of Return	7.65%
▶ Funding Schedule	4.5% Total Increasing
▶ Year Fully Funded	2029
▶ Unfunded Liability	\$43.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.2 M

	ACTIVE	RETIRED
▶ Number of Members	333	333
▶ Total Payroll/Benefit	\$22.8 M	\$9.0 M
▶ Average Salary/Benefit	\$68,500	\$26,900
▶ Average Age	49	74
▶ Average Service	15.0 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	33
▶ Number Who Reported Earnings	9
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$7,462.61

▶ 2015 Return	1.24%
▶ 2015 Market Value	\$118.0 M
▶ 2011-2015 (Annualized)	7.63%
▶ 1985-2015 (Annualized)	9.22%

Revere

City Hall
281 Broadway
Revere, MA 02151
Phone 781-286-8173
Fax 781-286-3316

Board Members

Laurie Giardella (Chairperson),
James Caramello, Gennaro Cataldo,
John Henry, Sean Manion

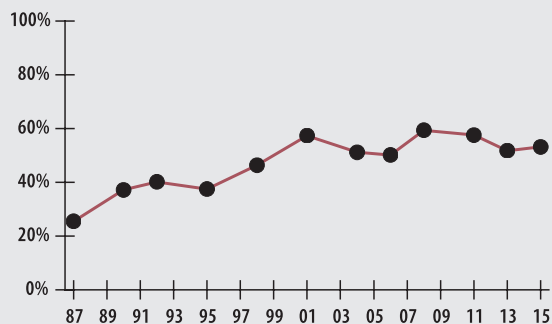
Board Administrator

Sandor Zapolin

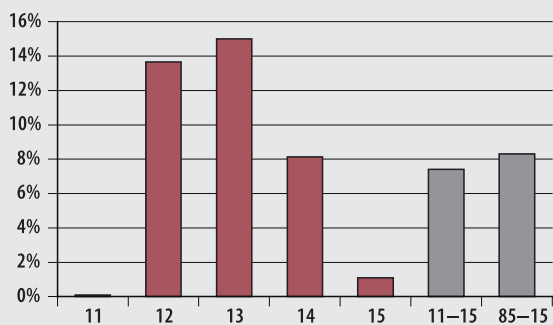
Board Meeting

Varies

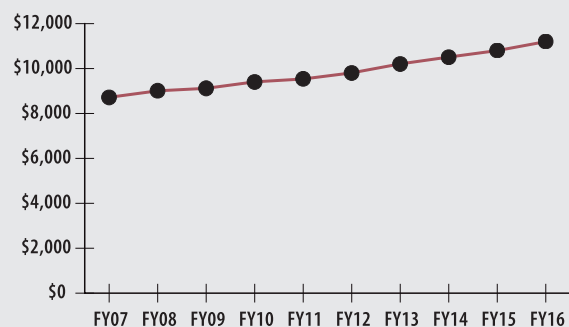
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
8.30%

30 years 2014
8.54%

29 years 2013
8.56%

10 years 2015
5.73%

10 years 2014
6.84%

10 years 2013
7.39%

5 years 2015
7.42%

5 years 2014
9.79%

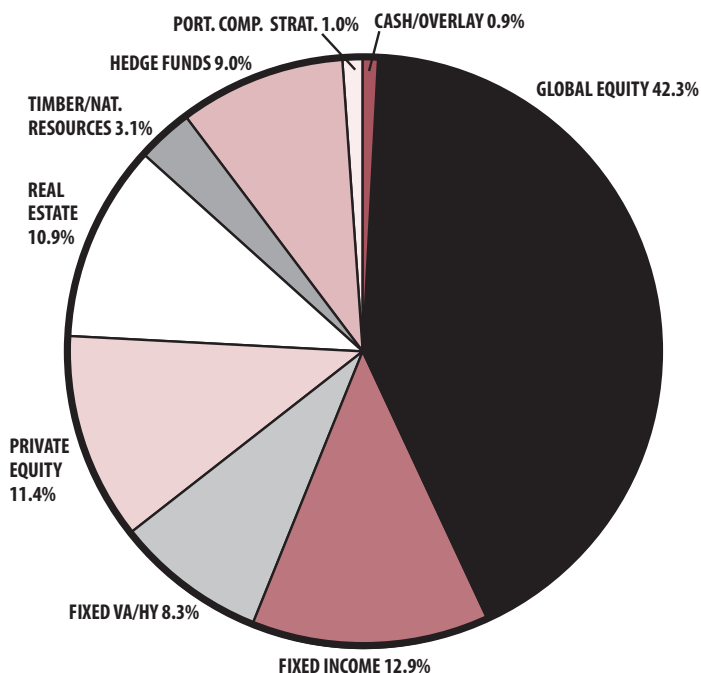
5 years 2013
11.51%

ACTUARIAL

▶ Funded Ratio	53.2%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$106.7 M
▶ Total Pension Appropriation (Fiscal 2016)	\$11.2 M

	ACTIVE	RETIRED
▶ Number of Members	574	527
▶ Total Payroll/Benefit	\$32.7 M	\$14.3 M
▶ Average Salary/Benefit	\$57,100	\$27,100
▶ Average Age	49	76
▶ Average Service	12.7 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	88
▶ Number Who Reported Earnings	33
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$1,871.16

▶ 2015 Return	1.09%
▶ 2015 Market Value	\$126.8 M
▶ 2011-2015 (Annualized)	7.42%
▶ 1985-2015 (Annualized)	8.30%

Salem

20 Central Street
Suite 110
Salem, MA 01970
Phone 978-745-8983
Fax 978-745-4216

Board Members

Sally Hayes (Chairperson),
John H. Burke, Jr., Robert Lutts,
Dominick Pangallo, Sarah A. Stanton

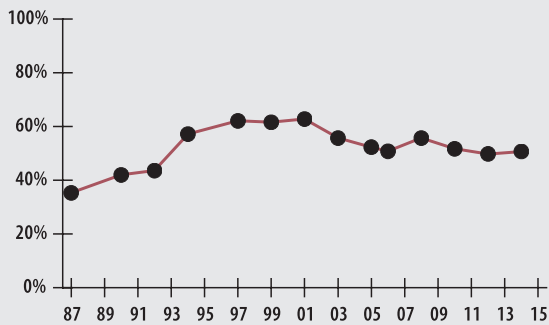
Board Administrator

Paul Findlen

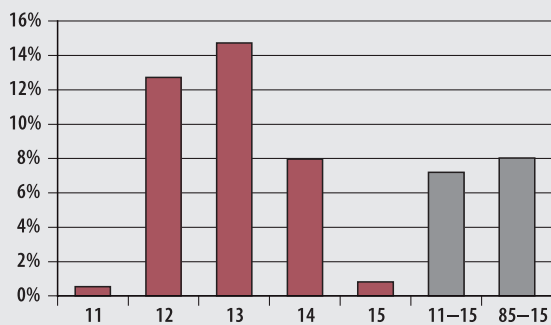
Board Meeting

Last Wednesday of each month

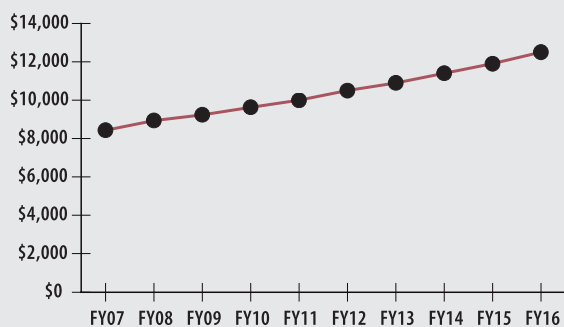
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.03%

30 years 2014

8.28%

29 years 2013

8.29%

10 years 2015

4.94%

10 years 2014

5.47%

10 years 2013

5.66%

5 years 2015

7.19%

5 years 2014

9.57%

5 years 2013

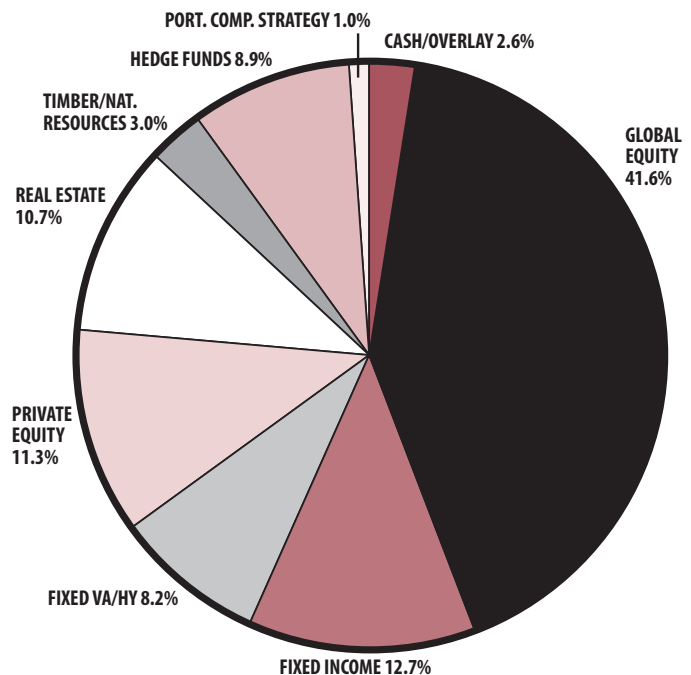
11.04%

ACTUARIAL

▶ Funded Ratio	50.7%
▶ Date of Last Valuation	01/14
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.5% Increasing
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$117.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$12.5 M

	ACTIVE	RETIRED
▶ Number of Members	827	571
▶ Total Payroll/Benefit	\$38.7 M	\$12.9 M
▶ Average Salary/Benefit	\$46,800	\$22,600
▶ Average Age	49	75
▶ Average Service	12.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	52
▶ Number Who Reported Earnings	13
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.82%
▶ 2015 Market Value	\$138.5 M
▶ 2011-2015 (Annualized)	7.19%
▶ 1985-2015 (Annualized)	8.03%

Saugus

Town Hall Annex
25R Main Street
Saugus, MA 01906
Phone 781-231-7656
Fax 781-231-4067

Board Members

William E. Cross, III (Chairperson),
Eugene Decareau, Doreen L. DiBari,
Mark A. Gannon, Donna M. Matarazzo

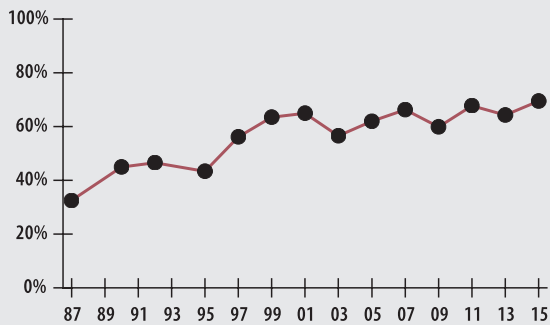
Board Administrator

Ann C. Quinlan

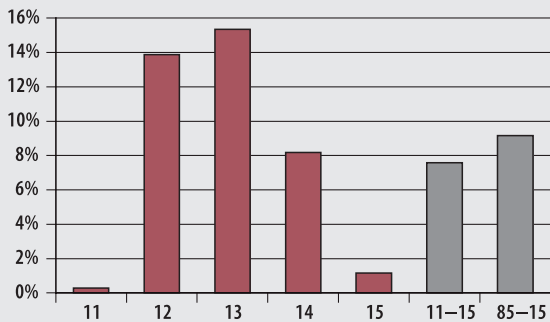
Board Meeting

Last Tuesday of each month

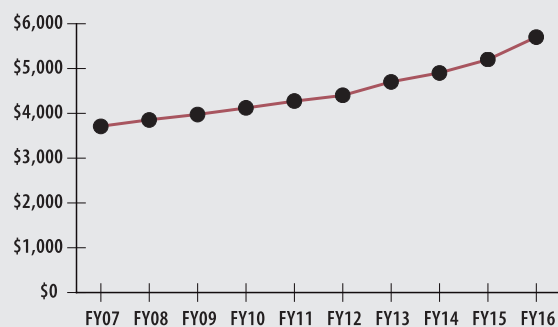
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.16%

30 years 2014

9.44%

29 years 2013

9.48%

10 years 2015

5.95%

10 years 2014

7.10%

10 years 2013

7.68%

5 years 2015

7.59%

5 years 2014

10.11%

5 years 2013

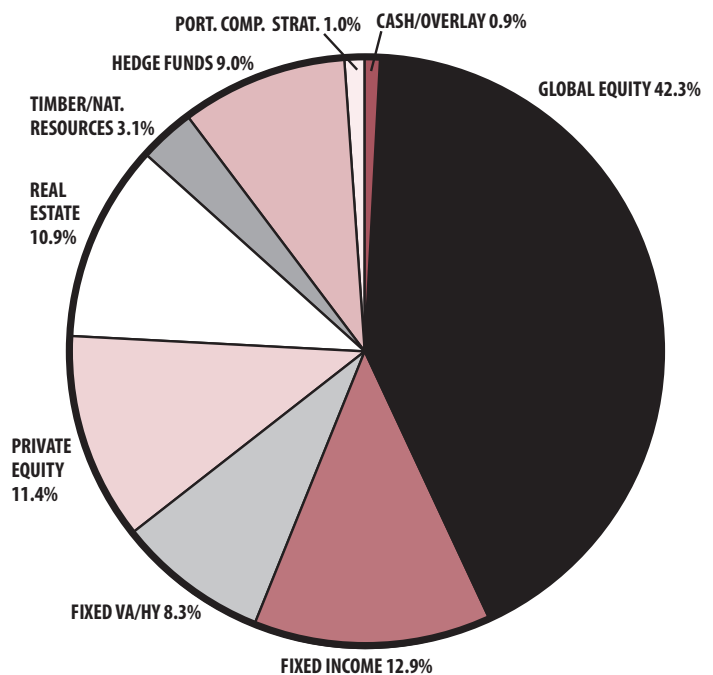
11.99%

ACTUARIAL

▶ Funded Ratio	69.5%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.60%
▶ Funding Schedule	2.0% Increasing Phase-in
▶ Year Fully Funded	2028
▶ Unfunded Liability	\$35.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.7 M

	ACTIVE	RETIRED
▶ Number of Members	372	276
▶ Total Payroll/Benefit	\$17.1 M	\$6.8 M
▶ Average Salary/Benefit	\$45,900	\$24,800
▶ Average Age	47	74
▶ Average Service	11.8 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	24
▶ Number Who Reported Earnings	8
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$81.0 M
▶ 2011-2015 (Annualized)	7.59%
▶ 1985-2015 (Annualized)	9.16%

Shrewsbury

100 Maple Avenue
Shrewsbury, MA 01545
Phone 508-841-8510
Fax 508-842-0587

Board Members

Thomas M. Kennedy (Chairperson),
Alice Ferro, Ralph Iaccarino,
Mary E. Thompson, Robert Tozeski

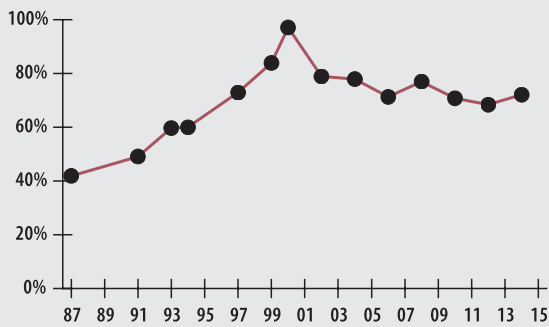
Board Administrator

Gail A. Sokolowski

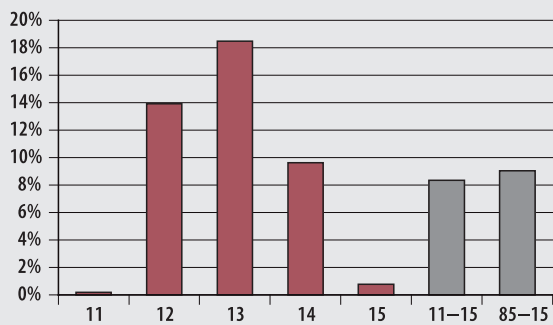
Board Meeting

Varies

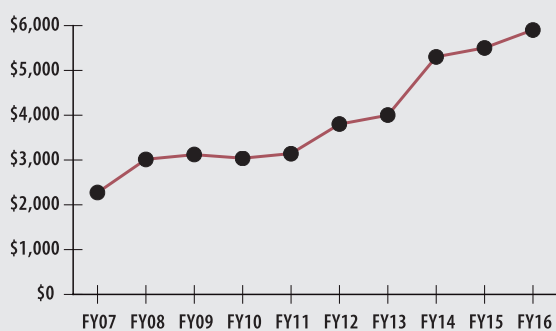
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.06%

30 years 2014

9.35%

29 years 2013

9.34%

10 years 2015

6.27%

10 years 2014

7.09%

10 years 2013

7.21%

5 years 2015

8.37%

5 years 2014

11.09%

5 years 2013

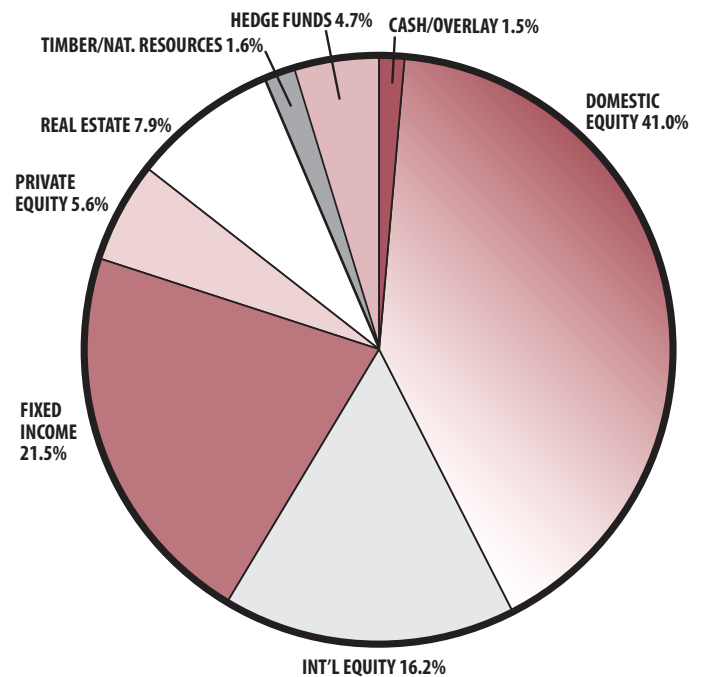
13.12%

ACTUARIAL

▶ Funded Ratio	72.1%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.5% Increasing
▶ Year Fully Funded	2022
▶ Unfunded Liability	\$32.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.9 M

	ACTIVE	RETIRED
▶ Number of Members	572	249
▶ Total Payroll/Benefit	\$23.9 M	\$6.3 M
▶ Average Salary/Benefit	\$41,800	\$25,400
▶ Average Age	NA	73
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	22
▶ Number Who Reported Earnings	9
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$107.16

▶ 2015 Return	.78%
▶ 2015 Market Value	\$98.1 M
▶ 2011-2015 (Annualized)	8.37%
▶ 1985-2015 (Annualized)	9.06%

Somerville

City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145
Phone 617-625-6600
Fax 617-666-4325

Board Members

Edward F. Bean, Jr. (Chairperson),
Robert K. Massie, John M. Memory,
Alex Nosnik, Thomas Ross

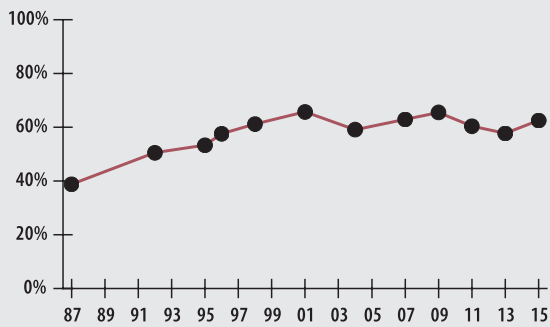
Board Administrator

Michael Pasquariello

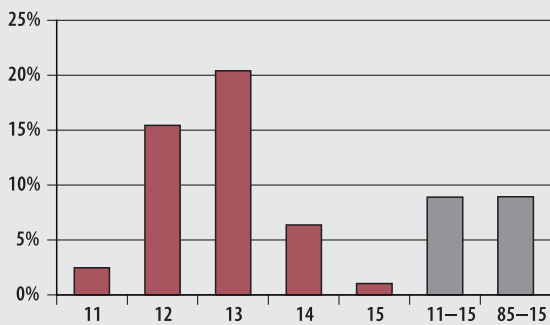
Board Meeting

Varies

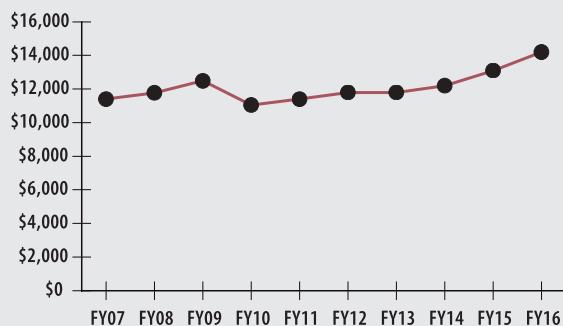
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
8.94%

30 years 2014
9.21%

29 years 2013
9.31%

10 years 2015
7.07%

10 years 2014
7.67%

10 years 2013
8.44%

5 years 2015
8.90%

5 years 2014
11.55%

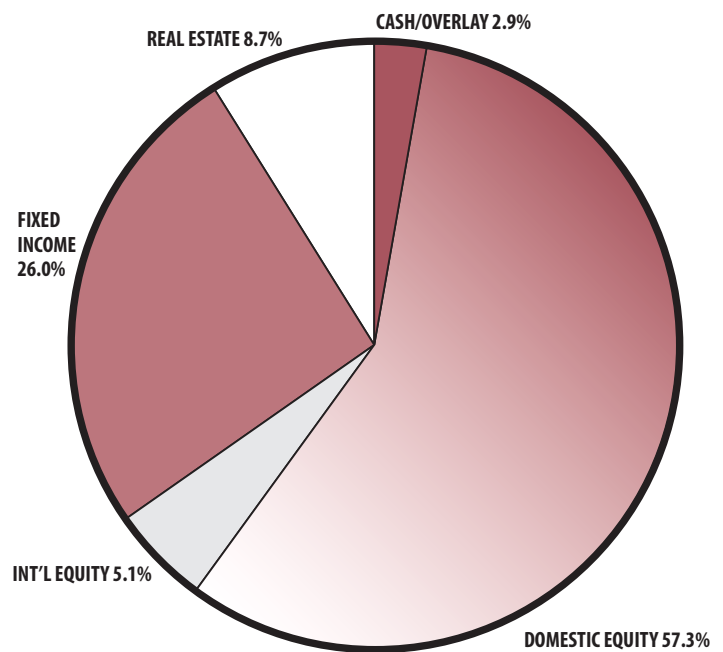
5 years 2013
14.77%

ACTUARIAL

▶ Funded Ratio	62.5%
▶ Date of Last Valuation	01/15
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.25%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$139.1 M
▶ Total Pension Appropriation (Fiscal 2016)	\$14.2 M

	ACTIVE	RETIRED
▶ Number of Members	1,181	911
▶ Total Payroll/Benefit	\$66.5 M	\$24.1 M
▶ Average Salary/Benefit	\$56,300	\$26,500
▶ Average Age	NA	74
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	104
▶ Number Who Reported Earnings	26
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$1,266.12

▶ 2015 Return	1.04%
▶ 2015 Market Value	\$239.6 M
▶ 2011-2015 (Annualized)	8.90%
▶ 1985-2015 (Annualized)	8.94%

Southbridge

Town Hall
41 Elm Street
Southbridge, MA 01550
Phone 508-765-4903
Fax 508-765-0902

Board Members

Melinda Ernst-Fournier (Chairperson),
Karen Harnois, Bonnie B. Losavio,
Julie Pena, James Philbrook

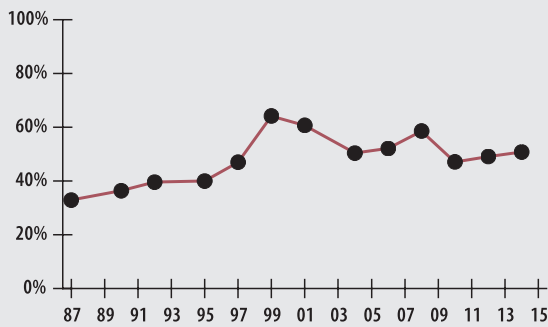
Board Administrator

Kristin LaPlante

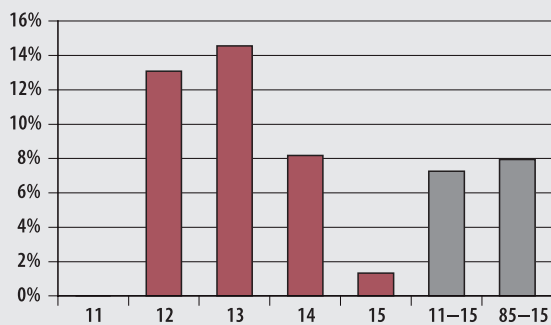
Board Meeting

Varies

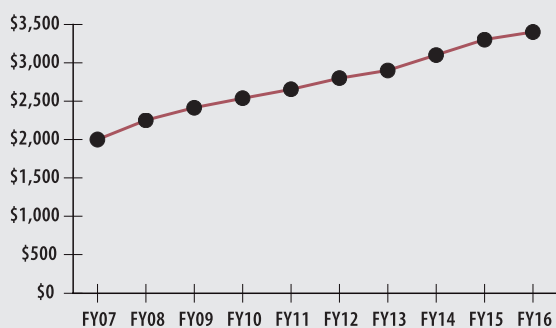
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

7.95%

30 years 2014

8.17%

29 years 2013

8.17%

10 years 2015

4.25%

10 years 2014

4.68%

10 years 2013

4.90%

5 years 2015

7.27%

5 years 2014

9.35%

5 years 2013

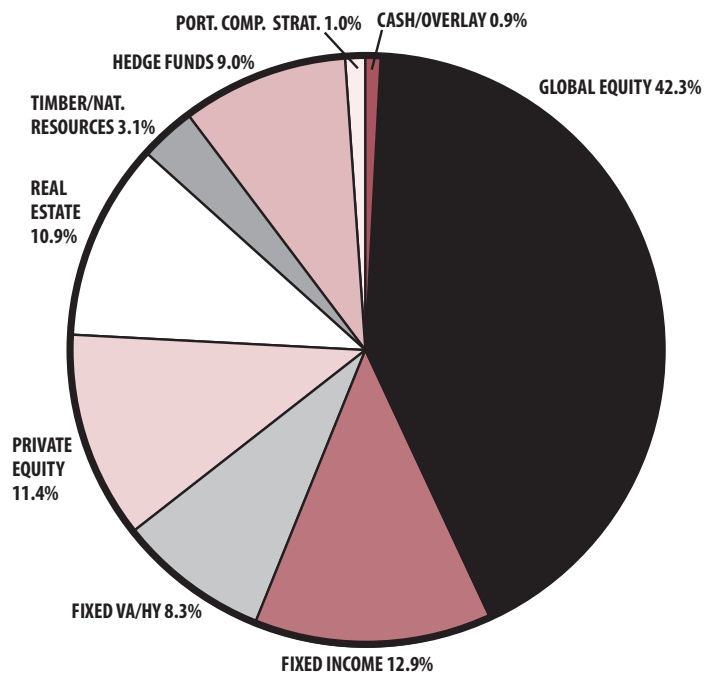
10.47%

ACTUARIAL

▶ Funded Ratio	50.8%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$33.2 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.4 M

	ACTIVE	RETIRED
▶ Number of Members	368	176
▶ Total Payroll/Benefit	\$15.0 M	\$3.4 M
▶ Average Salary/Benefit	\$40,600	\$19,400
▶ Average Age	47	73
▶ Average Service	9.9 years	NA

ASSET ALLOCATION (12/31/15)

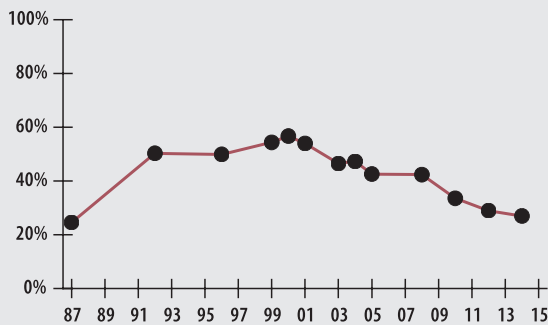


EARNED INCOME OF DISABILITY RETIREES (2014)

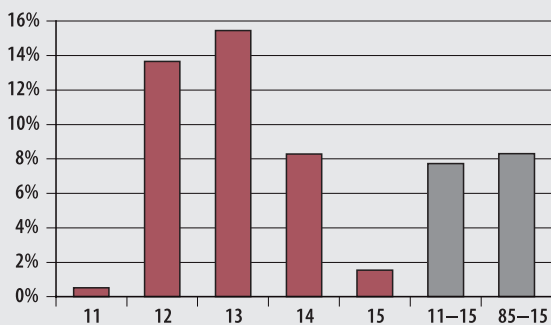
▶ Number of Disability Retirees	14
▶ Number Who Reported Earnings	4
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.34%
▶ 2015 Market Value	\$41.6 M
▶ 2011-2015 (Annualized)	7.27%
▶ 1985-2015 (Annualized)	7.95%

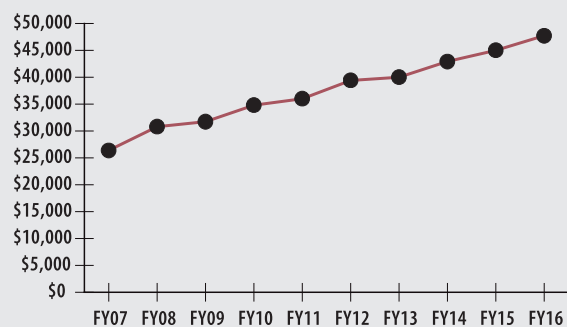
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

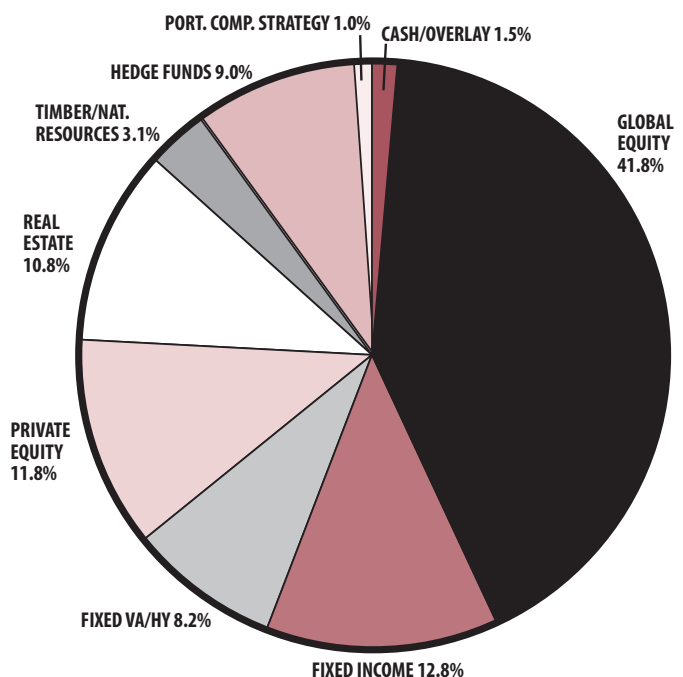
31 years 2015 8.30%	30 years 2014 8.53%	29 years 2013 8.54%
10 years 2015 5.74%	10 years 2014 6.29%	10 years 2013 6.56%
5 years 2015 7.73%	5 years 2014 10.07%	5 years 2013 11.29%

ACTUARIAL

▶ Funded Ratio	27.0%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$731.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$47.7 M

	ACTIVE	RETIRED
▶ Number of Members	3,208	2,791
▶ Total Payroll/Benefit	\$139.7 M	\$63.2 M
▶ Average Salary/Benefit	\$43,500	\$22,600
▶ Average Age	47	73
▶ Average Service	13.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	440
▶ Number Who Reported Earnings	127
▶ Number of Excess Earners	10
▶ Total Amount of Refund Due	\$114,049.04

▶ 2015 Return	1.54%
▶ 2015 Market Value	\$287.4 M
▶ 2011-2015 (Annualized)	7.73%
▶ 1985-2015 (Annualized)	8.30%

State

Boston Office
One Winter Street, 8th floor
Boston, MA 02108
Phone 617-367-7770
Fax 617-723-1438

Board Members

Treasurer Deborah B. Goldberg (Chairperson),
Christopher S. Condon, Patricia Deal,
Theresa McGoldrick, Esq., Ralph White

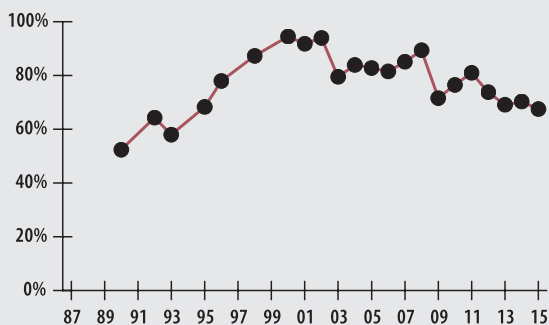
Board Administrator

Nicola Favorito, Esq.

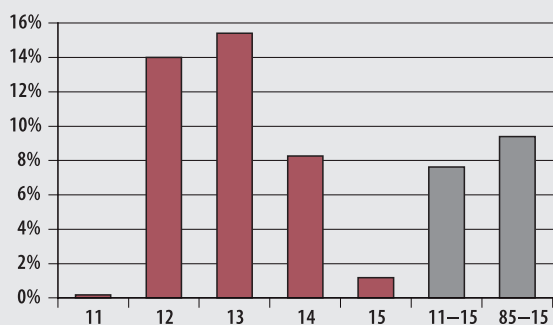
Board Meeting

Last Thursday of each month

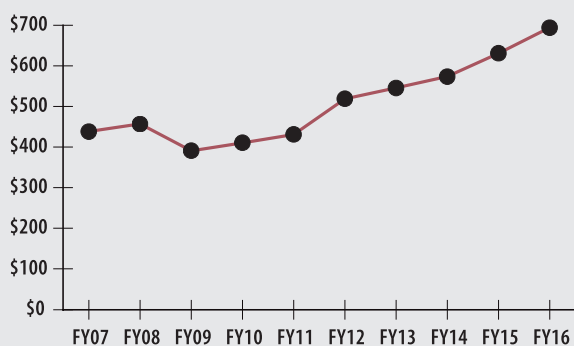
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN MILLIONS)



INVESTMENT RETURN HISTORY

31 years 2015

9.40%

30 years 2014

9.69%

29 years 2013

9.74%

10 years 2015

5.97%

10 years 2014

7.12%

10 years 2013

7.72%

5 years 2015

7.62%

5 years 2014

10.16%

5 years 2013

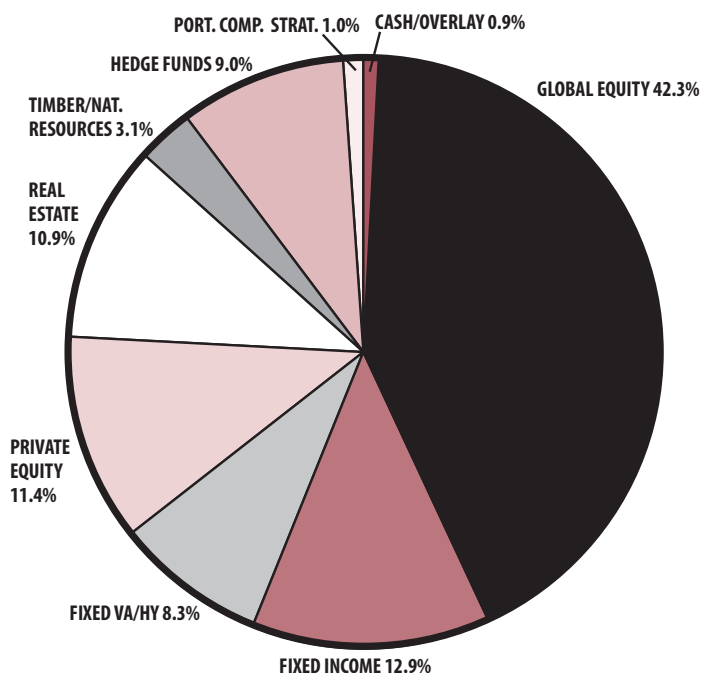
12.05%

ACTUARIAL

▶ Funded Ratio	67.5%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$11.0 B
▶ Total Pension Appropriation (Fiscal 2016)	\$693.8 M

	ACTIVE	RETIRED
▶ Number of Members	88,508	57,774
▶ Total Payroll/Benefit	\$5.6 B	\$1.8 B
▶ Average Salary/Benefit	\$63,200	\$30,800
▶ Average Age	47	72
▶ Average Service	13.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	3306
▶ Number Who Reported Earnings	890
▶ Number of Excess Earners	30
▶ Total Amount of Refund Due	\$301,462.12

▶ 2015 Return	1.18%
▶ 2015 Market Value	\$23.0 B
▶ 2011-2015 (Annualized)	7.62%
▶ 1985-2015 (Annualized)	9.40%

Stoneham

Town Hall
35 Central Street
Stoneham, MA 02180-2087
Phone 781-279-2635
Fax 781-438-6906

Board Members

Janice T. Houghton (Chairperson),
James J. McDermott, Jr., Donald Piatt,
John Scullin, Kathleen Sullivan

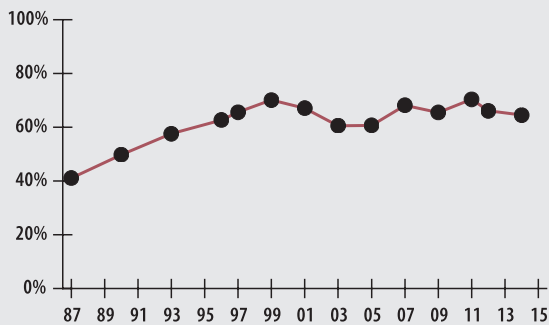
Board Administrator

Karen DeAngelis

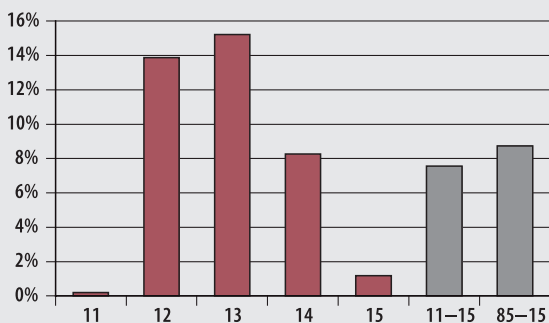
Board Meeting

Last Tuesday of each month at 2:00 pm

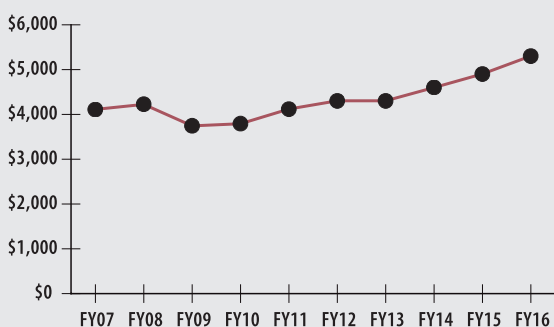
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.74%

30 years 2014

9.00%

29 years 2013

9.03%

10 years 2015

5.95%

10 years 2014

7.10%

10 years 2013

7.69%

5 years 2015

7.57%

5 years 2014

10.11%

5 years 2013

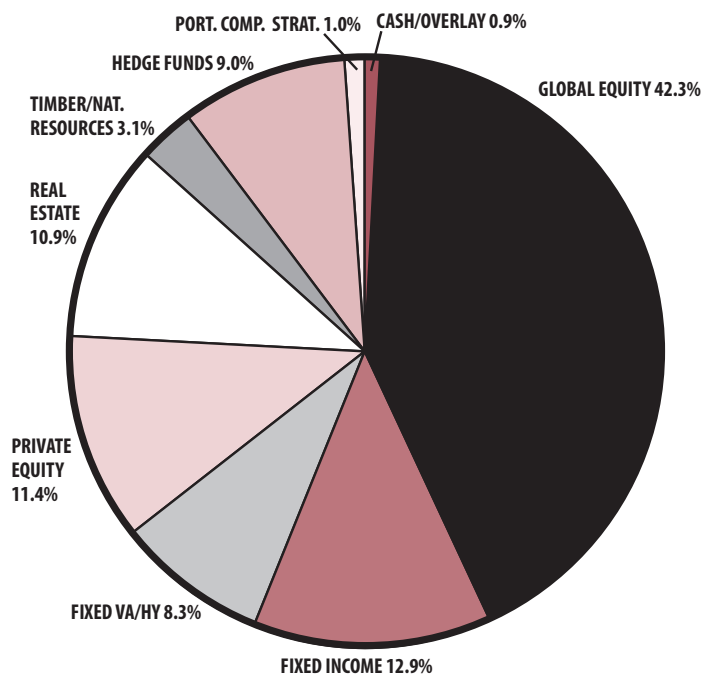
11.96%

ACTUARIAL

▶ Funded Ratio	64.5%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	7.85% Total Increasing
▶ Year Fully Funded	2023
▶ Unfunded Liability	\$36.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$5.3 M

	ACTIVE	RETIRED
▶ Number of Members	273	285
▶ Total Payroll/Benefit	\$12.8 M	\$6.8 M
▶ Average Salary/Benefit	\$47,000	\$23,800
▶ Average Age	50	75
▶ Average Service	12.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	20
▶ Number Who Reported Earnings	6
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.18%
▶ 2015 Market Value	\$73.7 M
▶ 2011-2015 (Annualized)	7.57%
▶ 1985-2015 (Annualized)	8.74%

Swampscott

Town Hall
22 Monument Avenue
Swampscott, MA 01907
Phone 781-596-8827
Fax 781-596-8899

Board Members

Francis E. Delano, Jr., (Chairperson),
John F. Behen, Jr., David Castellarin,
Thomas H. Driscoll, Jr., Esq., John T. Kiely, Jr.

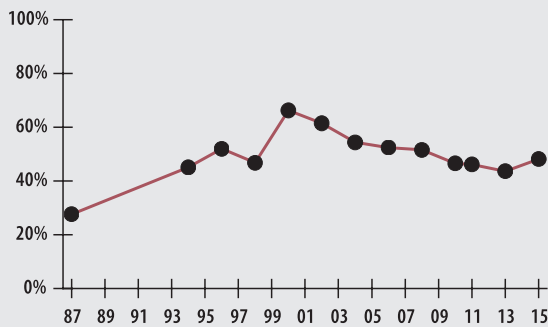
Board Administrator

Jeanne Darcy

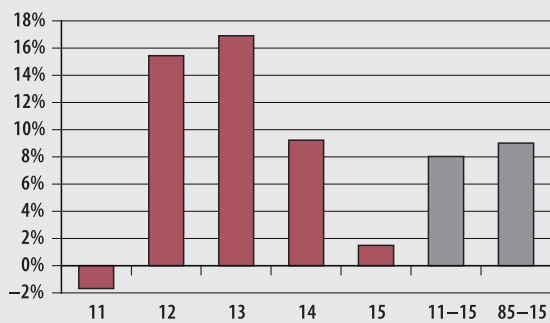
Board Meeting

Last Tuesday of the month

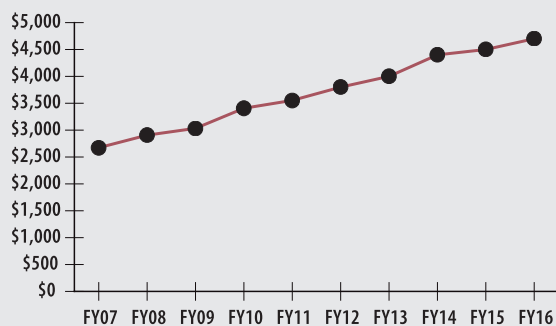
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.03%

30 years 2014

9.29%

29 years 2013

9.29%

10 years 2015

5.81%

10 years 2014

6.54%

10 years 2013

6.79%

5 years 2015

8.03%

5 years 2014

9.85%

5 years 2013

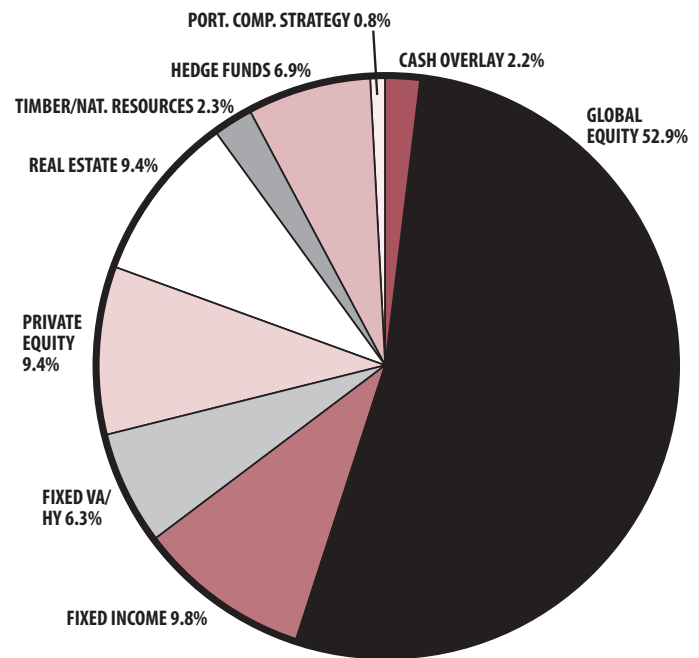
10.68%

ACTUARIAL

▶ Funded Ratio	48.2%
▶ Date of Last Valuation	01/15
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing
▶ Year Fully Funded	2031
▶ Unfunded Liability	\$45.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.7 M

	ACTIVE	RETIRED
▶ Number of Members	250	202
▶ Total Payroll/Benefit	\$12.3 M	\$5.3 M
▶ Average Salary/Benefit	\$49,100	\$26,000
▶ Average Age	49	74
▶ Average Service	12.9 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	18
▶ Number Who Reported Earnings	4
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.50%
▶ 2015 Market Value	\$45.6 M
▶ 2011-2015 (Annualized)	8.03%
▶ 1985-2015 (Annualized)	9.03%

Board Members

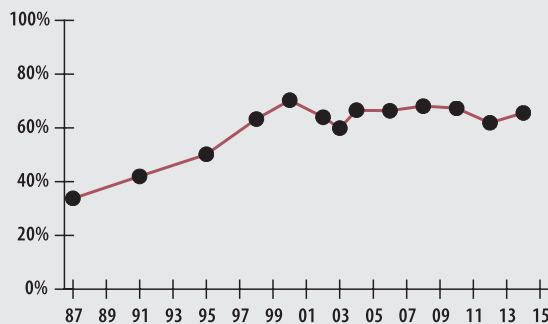
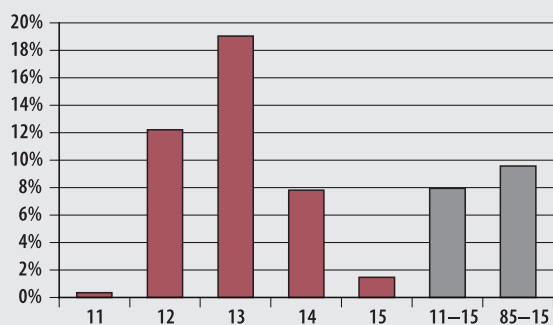
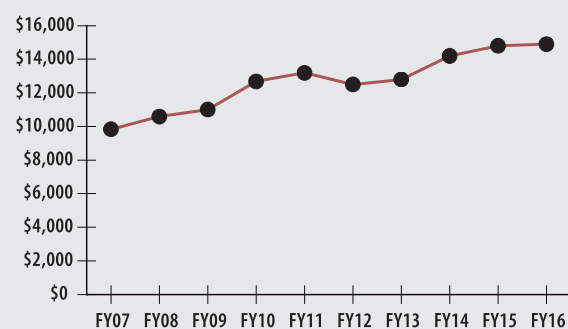
Ann Marie Hebert (Chairperson),
Barry Amaral, Peter H. Corr, Gill E. Enos,
Dennis M. Smith

Board Administrator

Paul J. Slivinski

Board Meeting

Varies

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

9.59%

30 years 2014

9.87%

29 years 2013

9.95%

10 years 2015

6.55%

10 years 2014

6.98%

10 years 2013

7.40%

5 years 2015

7.97%

5 years 2014

10.80%

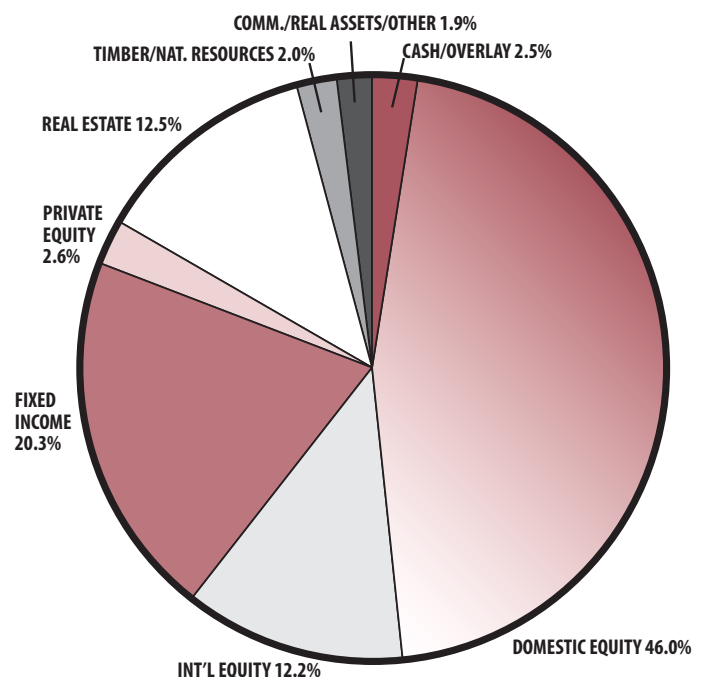
5 years 2013

13.22%

ACTUARIAL

▶ Funded Ratio	65.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.5% Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$125.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$14.9 M

	ACTIVE	RETIRED
▶ Number of Members	1,069	806
▶ Total Payroll/Benefit	\$55.5 M	\$20.7 M
▶ Average Salary/Benefit	\$51,900	\$25,700
▶ Average Age	NA	73
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	79
▶ Number Who Reported Earnings	16
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.49%
▶ 2015 Market Value	\$262.5 M
▶ 2011-2015 (Annualized)	7.97%
▶ 1985-2015 (Annualized)	9.59%

Wakefield

1 Lafayette Street
Wakefield, MA 01880
Phone 781-246-6396
Fax 781-246-2400

Board Members

Kevin Gill (Chairperson),
Daniel C. Calore, Richard J. DeFelice,
Philip Rogers, Sr., Daniel Sherman

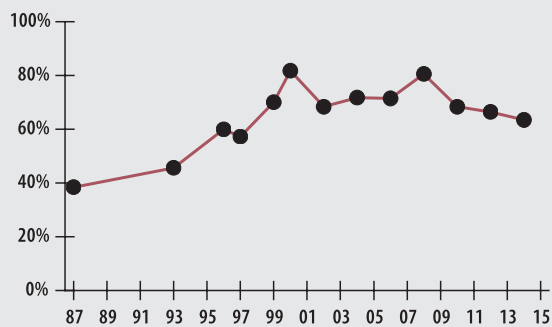
Board Administrator

Cathy Cheek

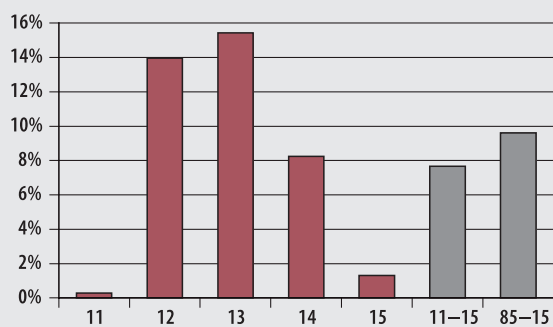
Board Meeting

Third Thursday of each month

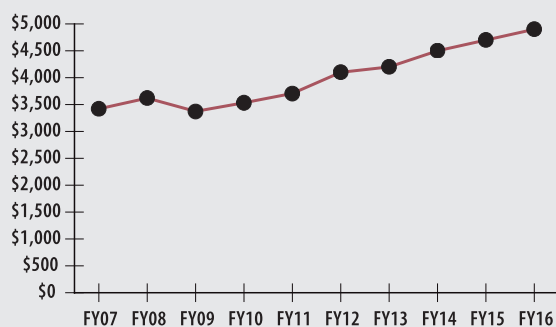
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.61%

30 years 2014

9.90%

29 years 2013

9.96%

10 years 2015

5.98%

10 years 2014

7.12%

10 years 2013

7.71%

5 years 2015

7.67%

5 years 2014

10.18%

5 years 2013

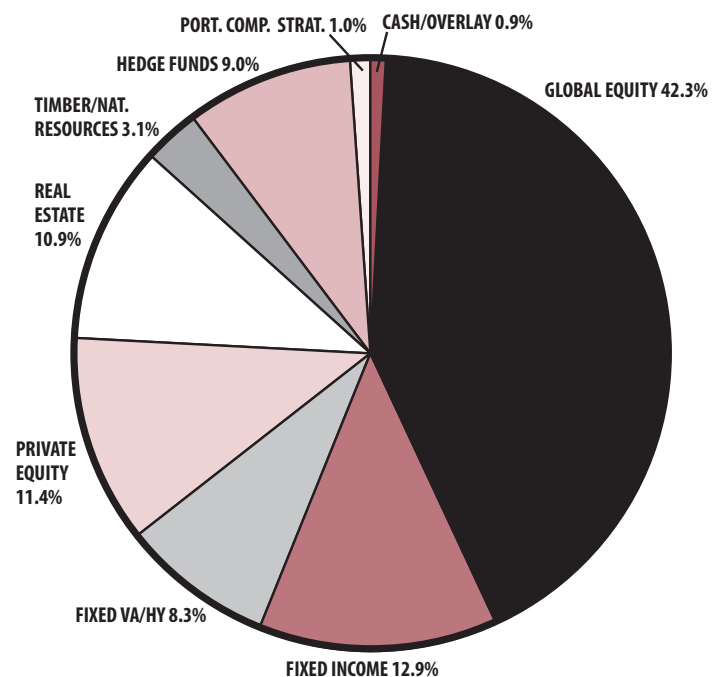
12.06%

ACTUARIAL

▶ Funded Ratio	63.5%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$53.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.9 M

	ACTIVE	RETIRED
▶ Number of Members	429	367
▶ Total Payroll/Benefit	\$21.3 M	\$9.2 M
▶ Average Salary/Benefit	\$49,600	\$25,100
▶ Average Age	48	74
▶ Average Service	12.4 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	33
▶ Number Who Reported Earnings	7
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.31%
▶ 2015 Market Value	\$102.8 M
▶ 2011-2015 (Annualized)	7.67%
▶ 1985-2015 (Annualized)	9.61%

Waltham

610 Main Street
Waltham, MA 02452
Phone 781-314-3230
Fax 781-314-3236

Board Members

William R. MacDonald (Chairperson),
Paul G. Centofanti, Scott Hovsepian,
Thomas J. Magno, William F. Wiggin

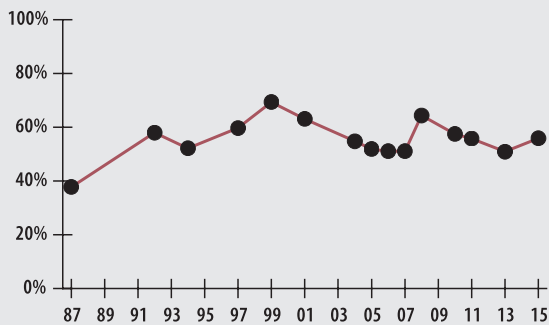
Board Administrator

Joseph F. Juppé

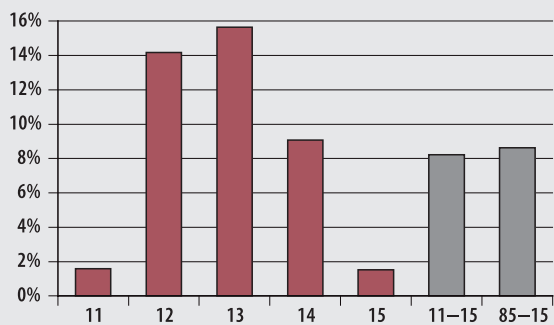
Board Meeting

Varies

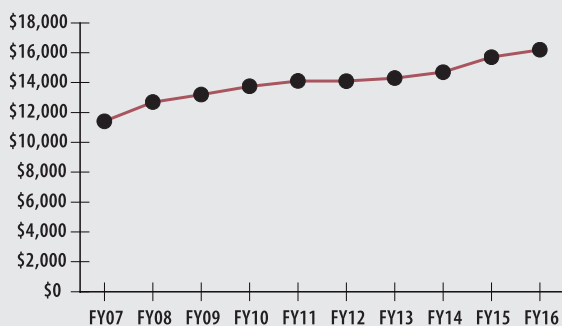
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.62%

30 years 2014

8.86%

29 years 2013

8.86%

10 years 2015

5.59%

10 years 2014

6.14%

10 years 2013

6.37%

5 years 2015

8.23%

5 years 2014

10.76%

5 years 2013

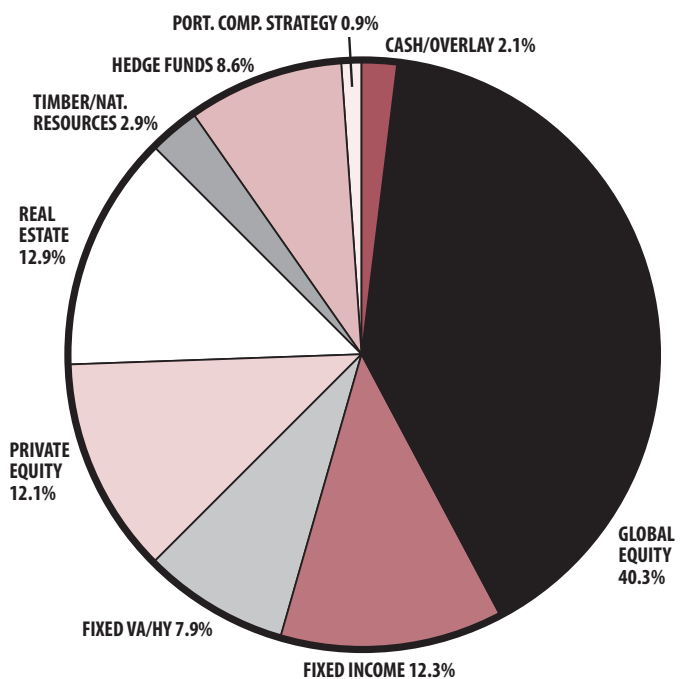
10.66%

ACTUARIAL

▶ Funded Ratio	55.9%
▶ Date of Last Valuation	01/15
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.25%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2033
▶ Unfunded Liability	\$153.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$16.2 M

	ACTIVE	RETIRED
▶ Number of Members	898	771
▶ Total Payroll/Benefit	\$55.6 M	\$22.7 M
▶ Average Salary/Benefit	\$61,900	\$29,400
▶ Average Age	NA	73
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	79
▶ Number Who Reported Earnings	19
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.53%
▶ 2015 Market Value	\$202.5 M
▶ 2011-2015 (Annualized)	8.23%
▶ 1985-2015 (Annualized)	8.62%

Watertown

P. O. Box 199, 149 Main Street
Watertown, MA 02471-0199
Phone 617-972-6456,
888-972-6456 (toll free)
Fax 617-923-3531

Board Members

Thomas V. Thibaut, Jr. (Chairperson),
Domenic D. Arone, Kathleen Kiely-Becchetti,
John T. Loughran, Thomas J. Tracy

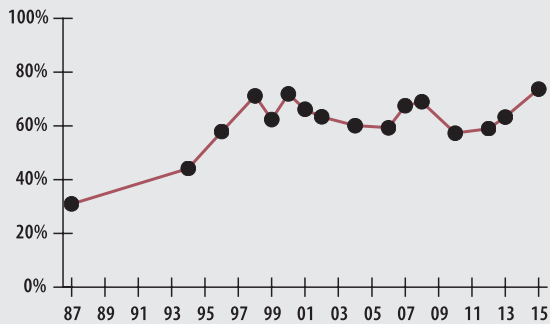
Board Administrator

Barbara A. Sheehan

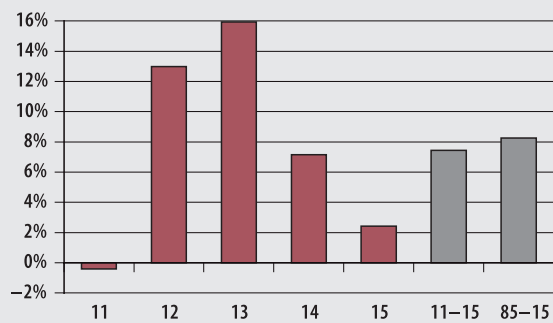
Board Meeting

Varies

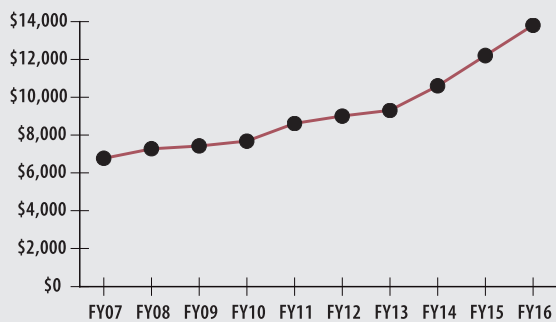
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.26%

30 years 2014

8.46%

29 years 2013

8.51%

10 years 2015

5.77%

10 years 2014

6.11%

10 years 2013

6.62%

5 years 2015

7.45%

5 years 2014

9.72%

5 years 2013

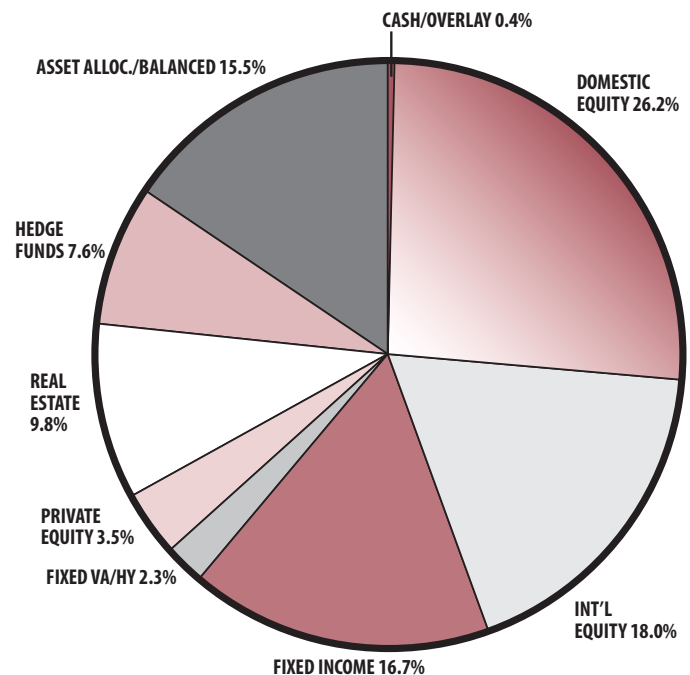
11.67%

ACTUARIAL

▶ Funded Ratio	73.7%
▶ Date of Last Valuation	01/15
▶ Actuary	Sherman Actuarial Services, LLC
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	Varies Total Increasing
▶ Year Fully Funded	2019
▶ Unfunded Liability	\$47.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$13.8 M

	ACTIVE	RETIRED
▶ Number of Members	533	413
▶ Total Payroll/Benefit	\$30.3 M	\$11.5 M
▶ Average Salary/Benefit	\$56,900	\$27,800
▶ Average Age	NA	76
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	38
▶ Number Who Reported Earnings	11
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	2.42%
▶ 2015 Market Value	\$140.3 M
▶ 2011-2015 (Annualized)	7.45%
▶ 1985-2015 (Annualized)	8.26%

Board Members

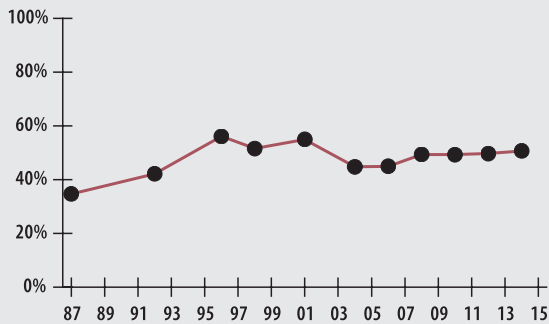
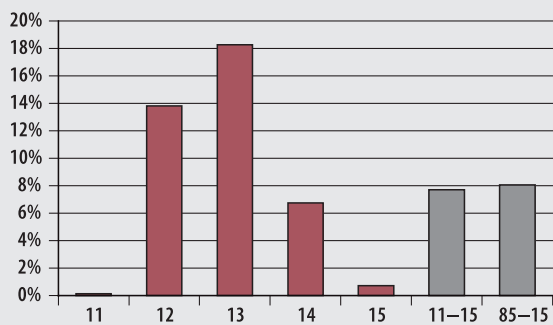
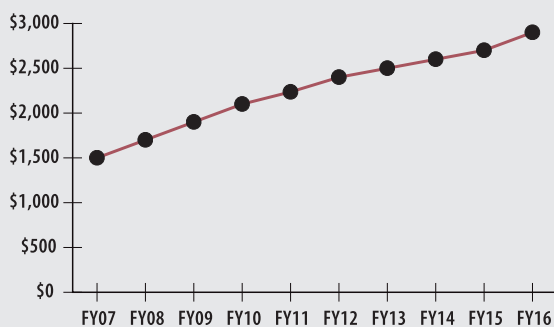
Paul J. Minarik (Chairperson),
Daniel Bonnette, Eleanor P. Doros,
Louis T. Polletta, Pamela A. Regis

Board Administrator

Gerry Wentworth

Board Meeting

Third Wednesday of each month

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

8.07%

30 years 2014

8.32%

29 years 2013

8.38%

10 years 2015

6.12%

10 years 2014

6.84%

10 years 2013

7.62%

5 years 2015

7.72%

5 years 2014

10.57%

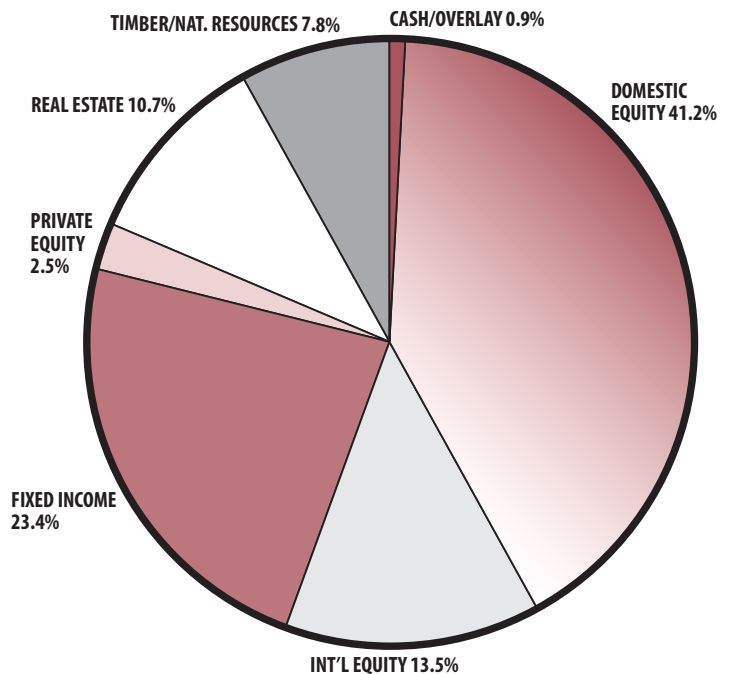
5 years 2013

13.67%

ACTUARIAL

▶ Funded Ratio	50.7%
▶ Date of Last Valuation	01/14
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	6.0% Total Increasing
▶ Year Fully Funded	2029
▶ Unfunded Liability	\$25.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$2.9 M

	ACTIVE	RETIRED
▶ Number of Members	264	134
▶ Total Payroll/Benefit	\$10.1 M	\$2.7 M
▶ Average Salary/Benefit	\$38,200	\$20,300
▶ Average Age	46	73
▶ Average Service	10.8 years	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	9
▶ Number Who Reported Earnings	2
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	.74%
▶ 2015 Market Value	\$29.9 M
▶ 2011-2015 (Annualized)	7.72%
▶ 1985-2015 (Annualized)	8.07%

Board Members

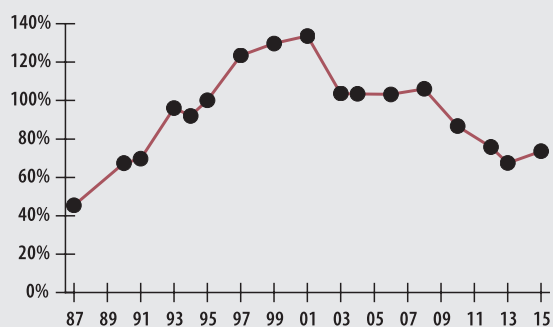
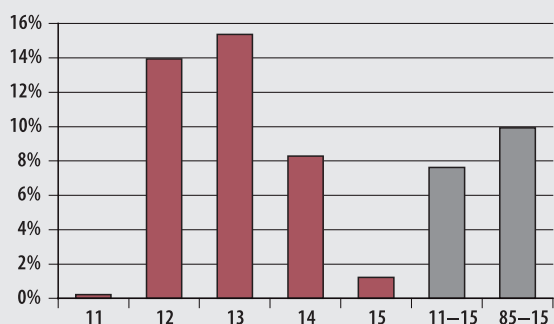
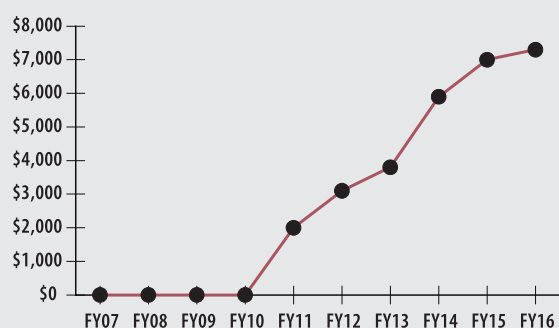
David N. Kornwicz (Chairperson),
Timothy Barros, Charles D. Cahill,
Michael Leach, Sheryl Strother

Board Administrator

Lynn Whynot

Board Meeting

Fourth Tuesday of the month at 7:30 am

FUNDED RATIO (1987-2015)

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)

INVESTMENT RETURN HISTORY
31 years 2015

9.92%

30 years 2014

10.22%

29 years 2013

10.29%

10 years 2015

5.58%

10 years 2014

6.46%

10 years 2013

6.88%

5 years 2015

7.63%

5 years 2014

10.15%

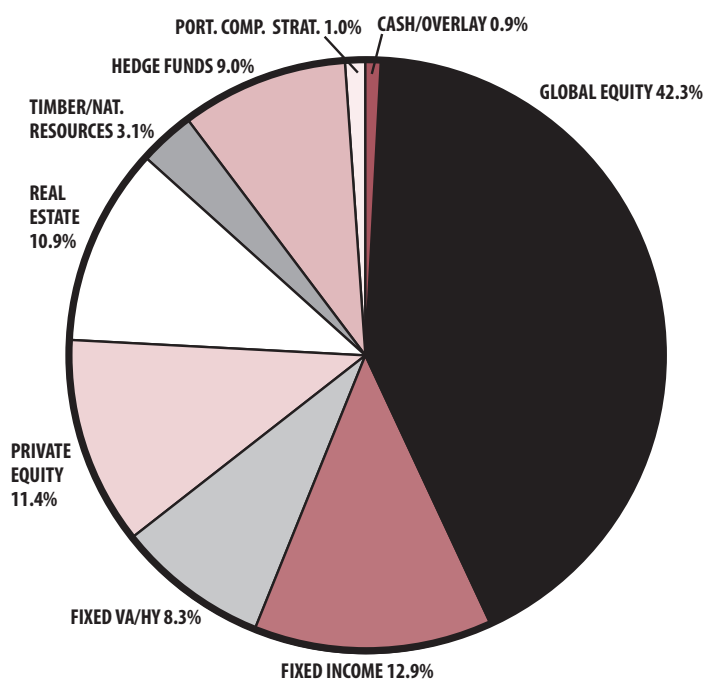
5 years 2013

12.02%

ACTUARIAL

▶ Funded Ratio	73.6%
▶ Date of Last Valuation	01/15
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	6.75%
▶ Funding Schedule	3.5% Increasing
▶ Year Fully Funded	2030
▶ Unfunded Liability	\$55.0 M
▶ Total Pension Appropriation (Fiscal 2016)	\$7.3 M

	ACTIVE	RETIRED
▶ Number of Members	685	407
▶ Total Payroll/Benefit	\$36.0 M	\$10.4 M
▶ Average Salary/Benefit	\$52,500	\$25,400
▶ Average Age	46	NA
▶ Average Service	10.7 years	NA

ASSET ALLOCATION (12/31/15)

EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	33
▶ Number Who Reported Earnings	9
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.22%
▶ 2015 Market Value	\$153.3 M
▶ 2011-2015 (Annualized)	7.63%
▶ 1985-2015 (Annualized)	9.92%

West Springfield

26 Central Street
Suite 26
West Springfield, MA 01089-2766
Phone 413-495-1891 x.1019
Fax 413-263-3198

Board Members

Richard S. Sullivan (Chairperson),
Gerard P. Connor, Jr., Thomas J. Cummings,
Gwen E. Keough, Sharon Wilcox

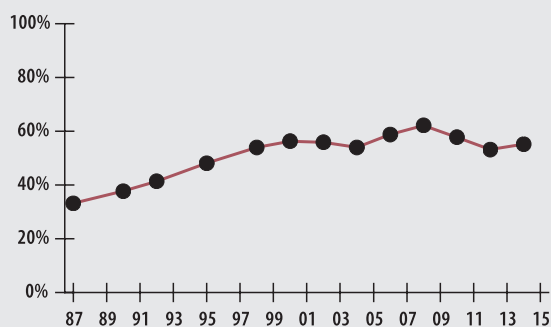
Board Administrator

James Lovotti

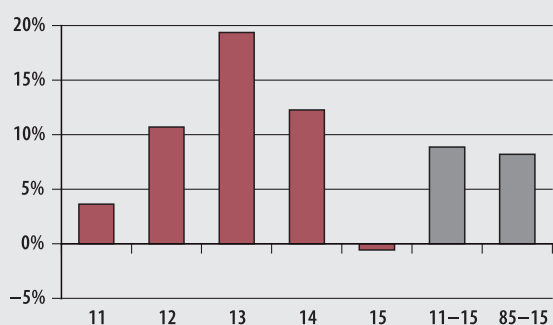
Board Meeting

Varies

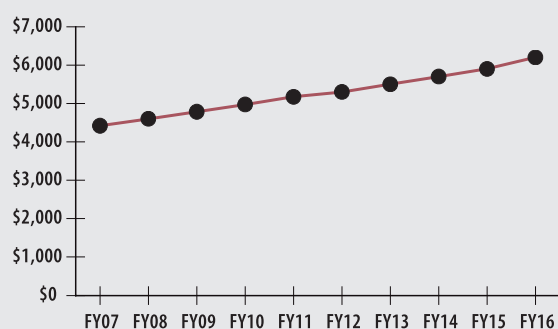
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.21%

30 years 2014

8.52%

29 years 2013

8.39%

10 years 2015

6.11%

10 years 2014

6.89%

10 years 2013

6.79%

5 years 2015

8.88%

5 years 2014

11.59%

5 years 2013

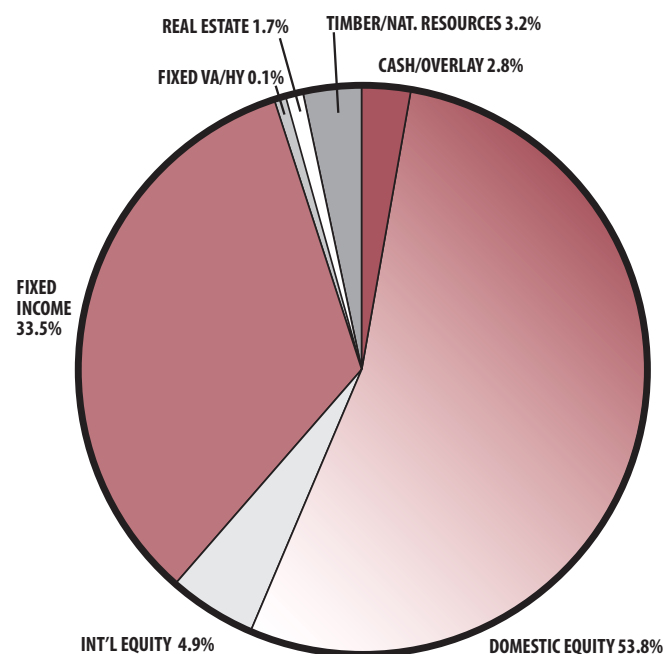
11.88%

ACTUARIAL

▶ Funded Ratio	55.2%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	4.0% Total Increasing
▶ Year Fully Funded	2036
▶ Unfunded Liability	\$69.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$6.2 M

▶ Number of Members	569	390
▶ Total Payroll/Benefit	\$23.8 M	\$8.2 M
▶ Average Salary/Benefit	\$41,800	\$21,100
▶ Average Age	48	73
▶ Average Service	12.4 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	34
▶ Number Who Reported Earnings	11
▶ Number of Excess Earners	2
▶ Total Amount of Refund Due	\$58,746.13

▶ 2015 Return	-.54%
▶ 2015 Market Value	\$99.4 M
▶ 2011-2015 (Annualized)	8.88%
▶ 1985-2015 (Annualized)	8.21%

Westfield

59 Court Street
P. O. Box 106
Westfield, MA 01086-0106
Phone 413-572-6239
Fax 413-642-9410

Board Members

Mark Devine (Chairperson),
Brian Fanion, Christopher Kane,
Michael J. Powers, Deborah A. Strycharz

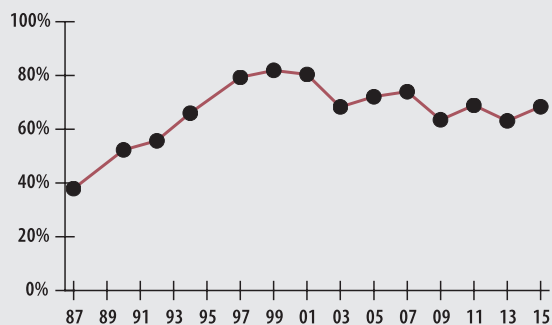
Board Administrator

Lynn E. Rea

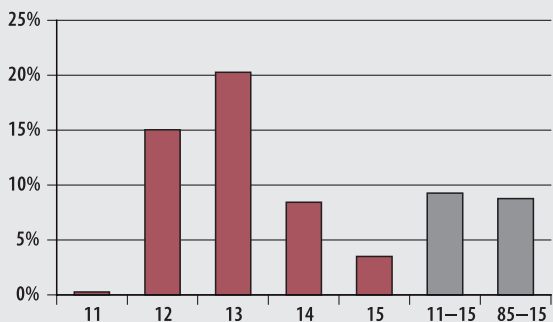
Board Meeting

Third Thursday of each month at 3:00 pm

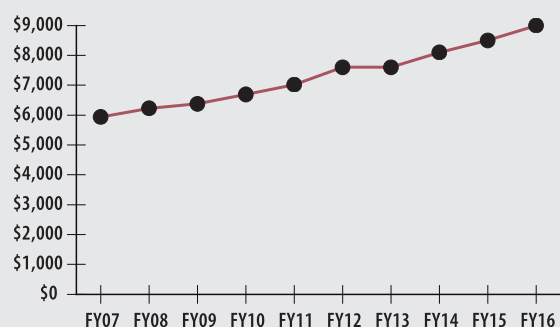
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.77%

30 years 2014

8.95%

29 years 2013

8.97%

10 years 2015

6.67%

10 years 2014

6.96%

10 years 2013

7.27%

5 years 2015

9.27%

5 years 2014

11.08%

5 years 2013

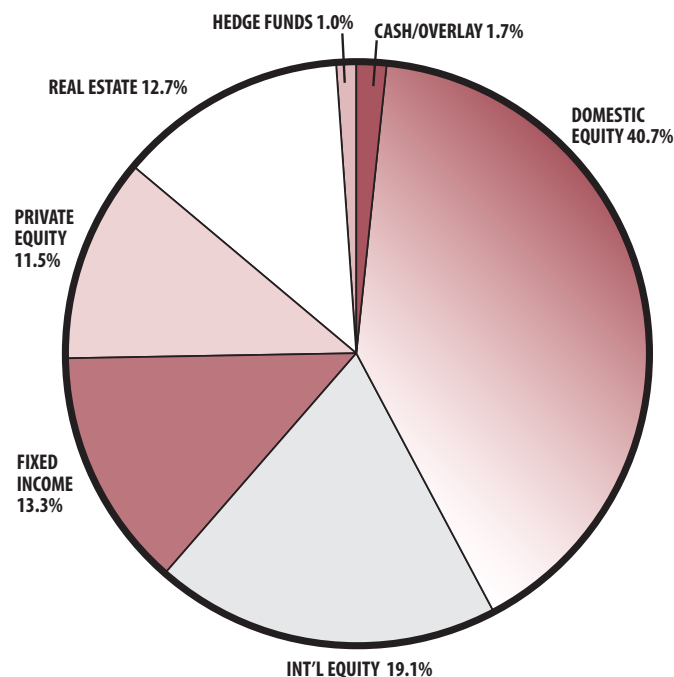
13.64%

ACTUARIAL

▶ Funded Ratio	68.4%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.75%
▶ Funding Schedule	5.0% Total Increasing
▶ Year Fully Funded	2034
▶ Unfunded Liability	\$84.3 M
▶ Total Pension Appropriation (Fiscal 2016)	\$9.0 M

	ACTIVE	RETIRED
▶ Number of Members	897	626
▶ Total Payroll/Benefit	\$37.9 M	\$15.1 M
▶ Average Salary/Benefit	\$42,200	\$24,100
▶ Average Age	48	72
▶ Average Service	12.0 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	52
▶ Number Who Reported Earnings	11
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$15,878.30

▶ 2015 Return	3.52%
▶ 2015 Market Value	\$197.7 M
▶ 2011-2015 (Annualized)	9.27%
▶ 1985-2015 (Annualized)	8.77%

Weymouth

807 Broad Street
Weymouth, MA 02189
Phone 781-331-8721
Fax 781-331-3005

Board Members

Greg Hargadon (Chairperson),
Patrice A. Cook, Joseph L. Davis,
Richard Hayes, Edward J. Masterson

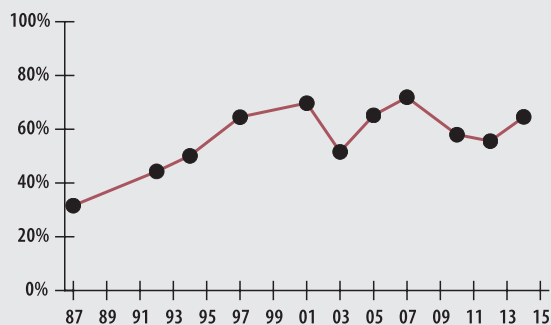
Board Administrator

Jo-Ann Anti

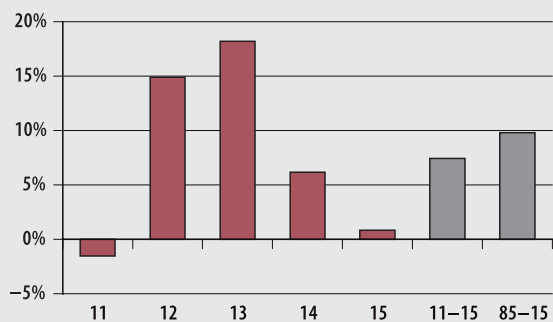
Board Meeting

Third Monday of each month,
unless otherwise posted

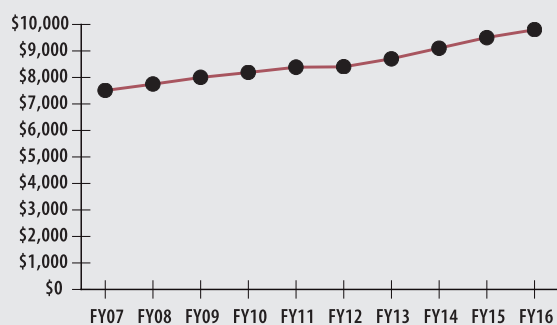
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

9.81%

30 years 2014

10.12%

29 years 2013

10.26%

10 years 2015

6.01%

10 years 2014

6.81%

10 years 2013

7.62%

5 years 2015

7.45%

5 years 2014

10.22%

5 years 2013

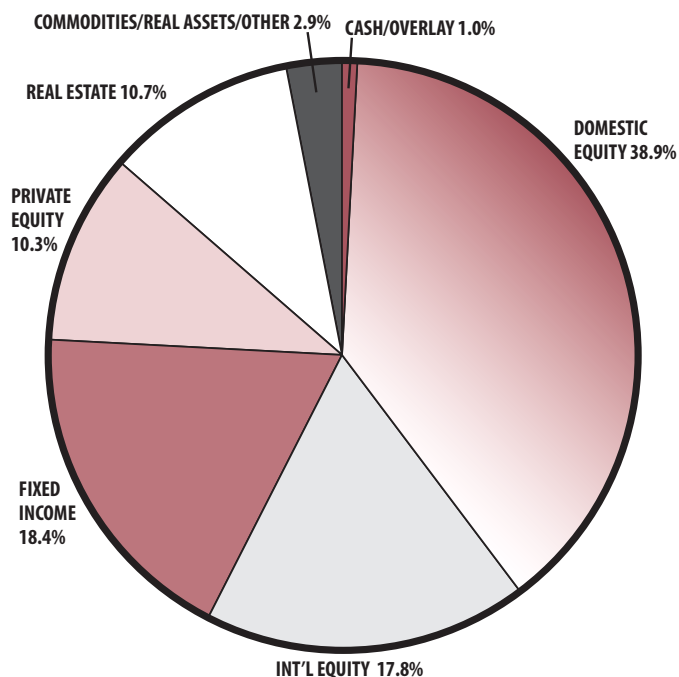
13.29%

ACTUARIAL

▶ Funded Ratio	64.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Stone Consulting
▶ Assumed Rate of Return	7.88%
▶ Funding Schedule	3.1% Increasing
▶ Year Fully Funded	2032
▶ Unfunded Liability	\$90.5 M
▶ Total Pension Appropriation (Fiscal 2016)	\$9.8 M

	ACTIVE	RETIRED
▶ Number of Members	823	624
▶ Total Payroll/Benefit	\$35.8 M	\$16.0 M
▶ Average Salary/Benefit	\$43,500	\$25,700
▶ Average Age	49	73
▶ Average Service	11.6 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	80
▶ Number Who Reported Earnings	20
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$1,159.44

▶ 2015 Return	.84%
▶ 2015 Market Value	\$171.3 M
▶ 2011-2015 (Annualized)	7.45%
▶ 1985-2015 (Annualized)	9.81%

Winchester

71 Mount Vernon Street
Winchester, MA 01890
Phone 781-721-7127
Fax 781-721-7156

Board Members

George F. Morrissey, Esq., (Chairperson),
Paul J. DeLuca, James B. Gray, Stacie Ward,
William Zink

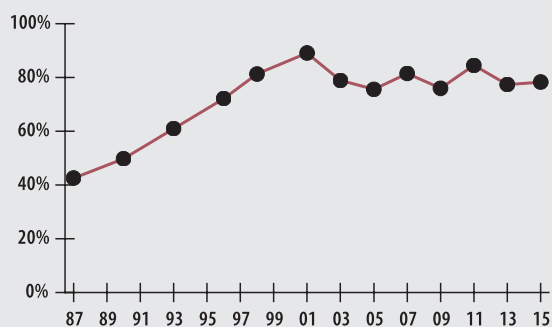
Board Administrator

Karen Manchuso

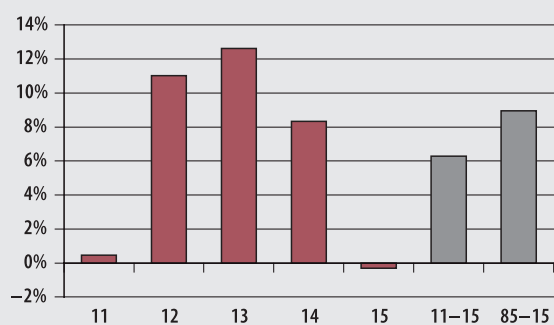
Board Meeting

Varies

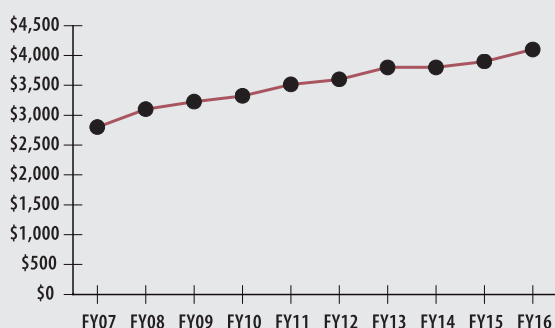
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.95%

30 years 2014

9.28%

29 years 2013

9.31%

10 years 2015

5.18%

10 years 2014

6.34%

10 years 2013

6.75%

5 years 2015

6.29%

5 years 2014

8.24%

5 years 2013

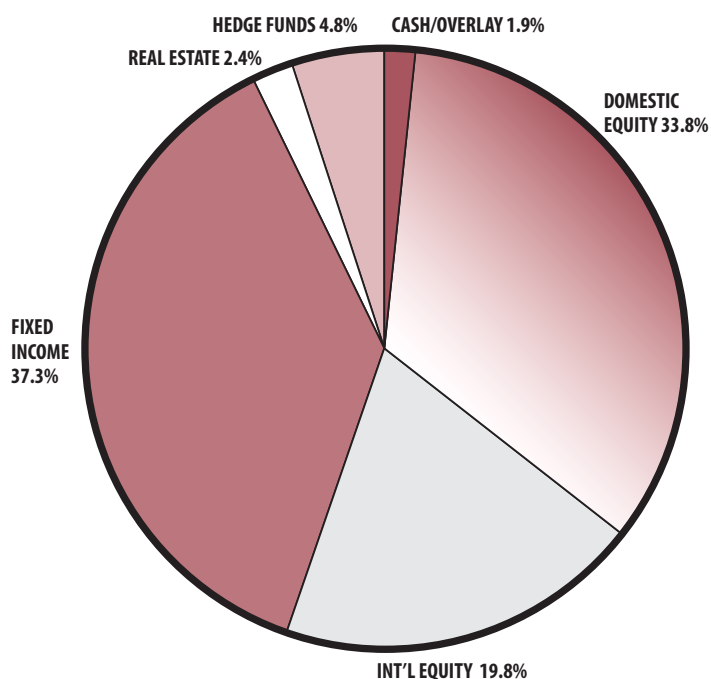
10.07%

ACTUARIAL

▶ Funded Ratio	78.3%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.25%
▶ Funding Schedule	5.5% Total Increasing
▶ Year Fully Funded	2029
▶ Unfunded Liability	\$27.9 M
▶ Total Pension Appropriation (Fiscal 2016)	\$4.1 M

	ACTIVE	RETIRED
▶ Number of Members	365	267
▶ Total Payroll/Benefit	\$18.5 M	\$6.6 M
▶ Average Salary/Benefit	\$50,800	\$24,700
▶ Average Age	49	75
▶ Average Service	13.4 years	NA

ASSET ALLOCATION (12/31/15)

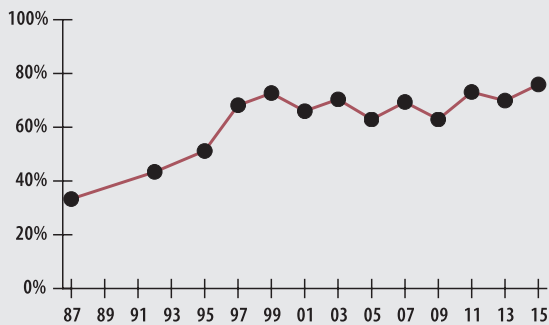


EARNED INCOME OF DISABILITY RETIREES (2014)

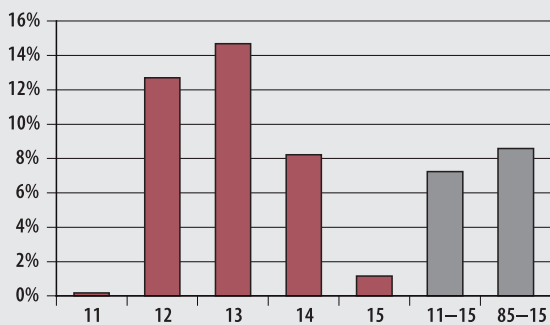
▶ Number of Disability Retirees	22
▶ Number Who Reported Earnings	4
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	-.31%
▶ 2015 Market Value	\$102.1 M
▶ 2011-2015 (Annualized)	6.29%
▶ 1985-2015 (Annualized)	8.95%

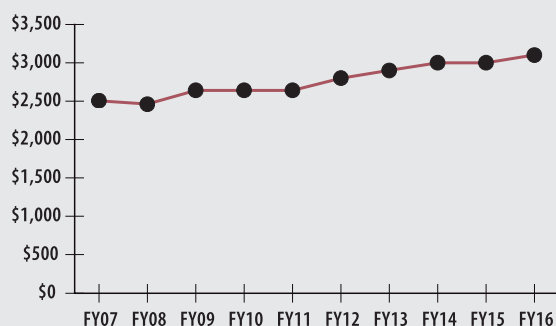
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

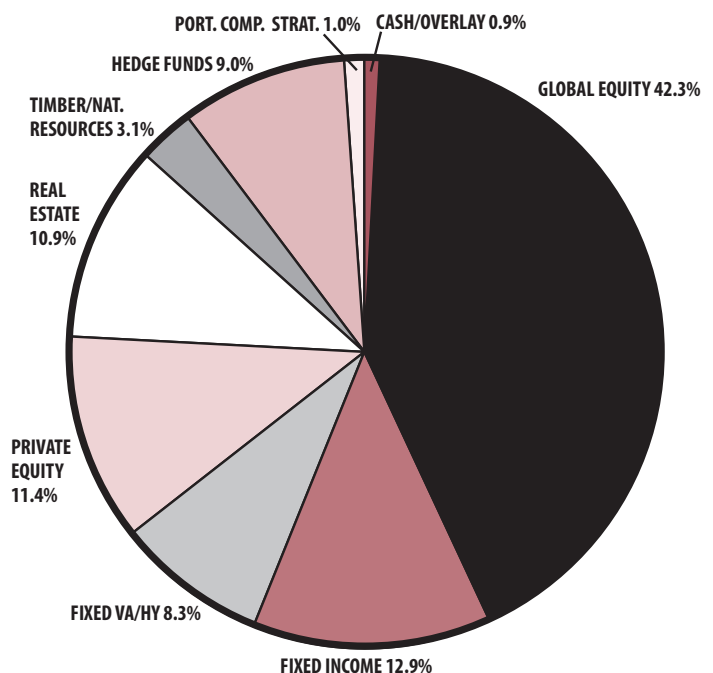
31 years 2015 8.58%	30 years 2014 8.83%	29 years 2013 8.85%
10 years 2015 5.71%	10 years 2014 6.80%	10 years 2013 7.19%
5 years 2015 7.24%	5 years 2014 9.60%	5 years 2013 11.30%

ACTUARIAL

▶ Funded Ratio	75.9%
▶ Date of Last Valuation	01/15
▶ Actuary	PERAC
▶ Assumed Rate of Return	7.50%
▶ Funding Schedule	4.0% Total Increasing
▶ Year Fully Funded	2028
▶ Unfunded Liability	\$16.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$3.1 M

	ACTIVE	RETIRED
▶ Number of Members	257	186
▶ Total Payroll/Benefit	\$11.7 M	\$3.6 M
▶ Average Salary/Benefit	\$45,500	\$19,100
▶ Average Age	49	75
▶ Average Service	12.2 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	14
▶ Number Who Reported Earnings	2
▶ Number of Excess Earners	0
▶ Total Amount of Refund Due	\$0

▶ 2015 Return	1.17%
▶ 2015 Market Value	\$55.4 M
▶ 2011-2015 (Annualized)	7.24%
▶ 1985-2015 (Annualized)	8.58%

Woburn

City Hall, Second Floor
10 Common Street
Woburn, MA 01801-4139
Phone 781-897-5820
Fax 781-897-5824

Board Members

Denis P. Devine (Chairperson),
Charles E. Doherty, Michael J. Gorman,
Marilou E. Lundin, Gerald W. Surette

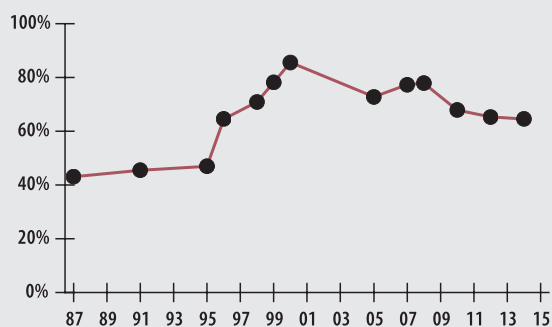
Board Administrator

Maureen T. Marcucci

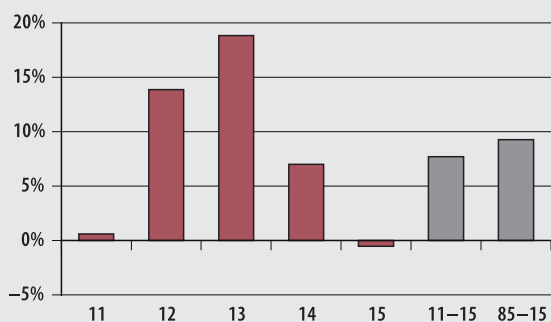
Board Meeting

Varies

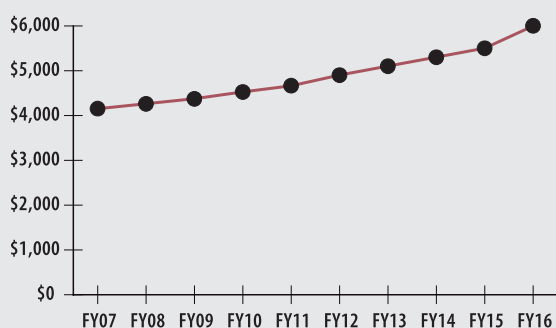
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015
9.29%

30 years 2014
9.63%

29 years 2013
9.72%

10 years 2015
6.43%

10 years 2014
7.24%

10 years 2013
7.71%

5 years 2015
7.71%

5 years 2014
10.67%

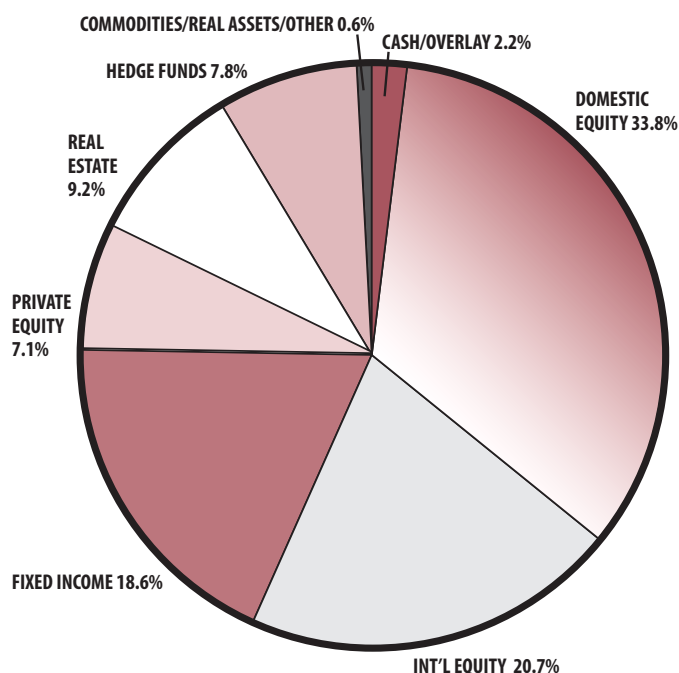
5 years 2013
13.69%

ACTUARIAL

▶ Funded Ratio	64.6%
▶ Date of Last Valuation	01/14
▶ Actuary	Buck Consultants
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$63.6 M
▶ Total Pension Appropriation (Fiscal 2016)	\$6.0 M

	ACTIVE	RETIRED
▶ Number of Members	578	400
▶ Total Payroll/Benefit	\$28.9 M	\$9.3 M
▶ Average Salary/Benefit	\$50,100	\$23,300
▶ Average Age	NA	74
▶ Average Service	NA	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	26
▶ Number Who Reported Earnings	9
▶ Number of Excess Earners	1
▶ Total Amount of Refund Due	\$467.95

▶ 2015 Return	-.52%
▶ 2015 Market Value	\$124.1 M
▶ 2011-2015 (Annualized)	7.71%
▶ 1985-2015 (Annualized)	9.29%

Worcester

City Hall, Room 103
455 Main Street
Worcester, MA 01608
Phone 508-799-1062
Fax 508-799-1047

Board Members

Stephen F. Wentzell (Chairperson),
Elizabeth A. Early, John F. Mahan,
Robert V. Stearns, Thomas M. Wade

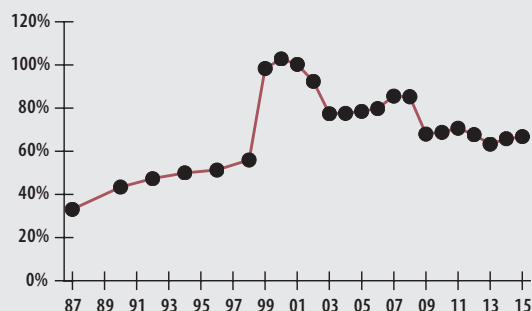
Board Administrator

Elizabeth A. Early

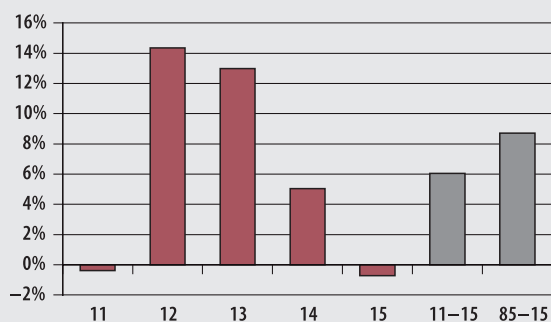
Board Meeting

Second and Third Thursday of each month

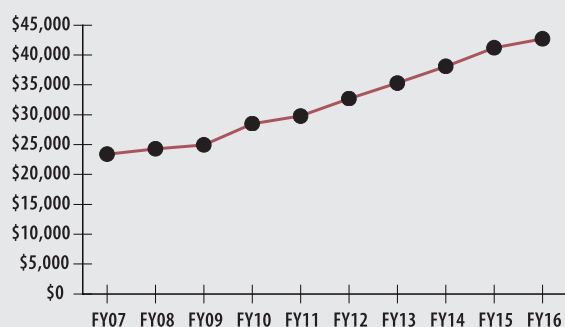
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

31 years 2015

8.71%

30 years 2014

9.03%

29 years 2013

9.18%

10 years 2015

5.30%

10 years 2014

6.38%

10 years 2013

7.14%

5 years 2015

6.06%

5 years 2014

8.99%

5 years 2013

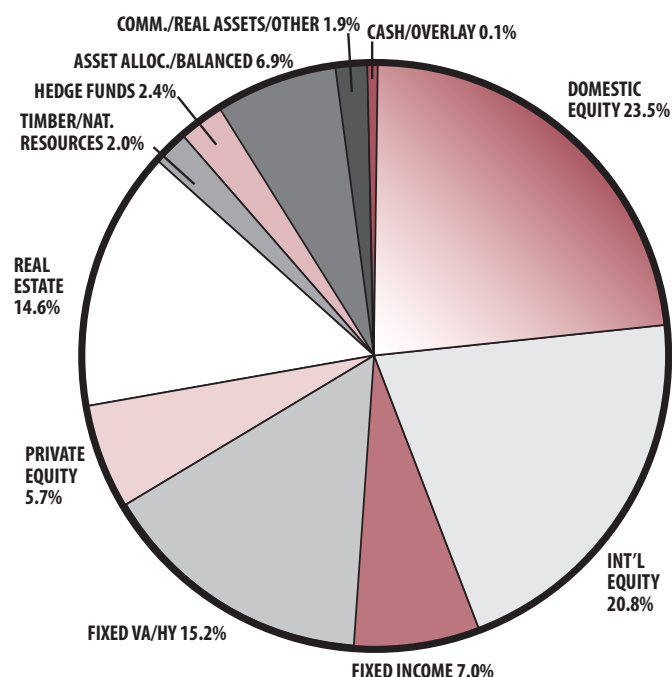
11.97%

ACTUARIAL

▶ Funded Ratio	66.8%
▶ Date of Last Valuation	01/15
▶ Actuary	The Segal Company
▶ Assumed Rate of Return	7.63%
▶ Funding Schedule	4.0% Total Increasing
▶ Year Fully Funded	2033
▶ Unfunded Liability	\$407.8 M
▶ Total Pension Appropriation (Fiscal 2016)	\$42.7 M

	ACTIVE	RETIRED
▶ Number of Members	3,262	2,717
▶ Total Payroll/Benefit	\$173.8 M	\$71.1 M
▶ Average Salary/Benefit	\$53,300	\$26,200
▶ Average Age	47	NA
▶ Average Service	13.8 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	334
▶ Number Who Reported Earnings	69
▶ Number of Excess Earners	3
▶ Total Amount of Refund Due	\$13,644.67

▶ 2015 Return	-.71%
▶ 2015 Market Value	\$798.8 M
▶ 2011-2015 (Annualized)	6.06%
▶ 1985-2015 (Annualized)	8.71%

Worcester Regional

Midstate Office Park
23 Midstate Drive, Suite 106
Auburn, MA 01501
Phone 508-832-6314
Fax 508-832-6318

Board Members

Kevin P. Blanchette (Chairperson),
Michael J. Donoghue, Eugene Durgin,
June Hubbard-Ward, Pauline Lajoie

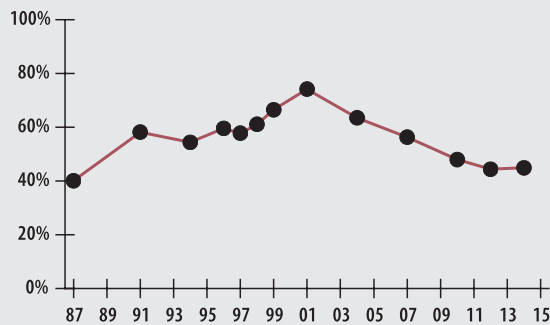
Board Administrator

Colleen M. Canty

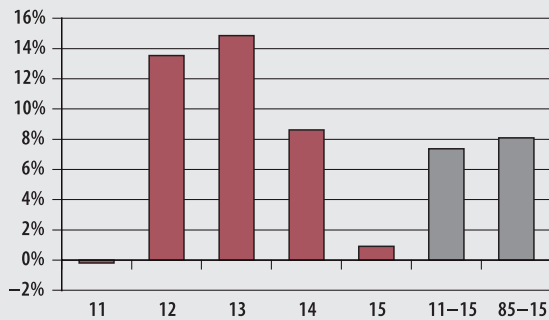
Board Meeting

Usually last Tuesday of each month

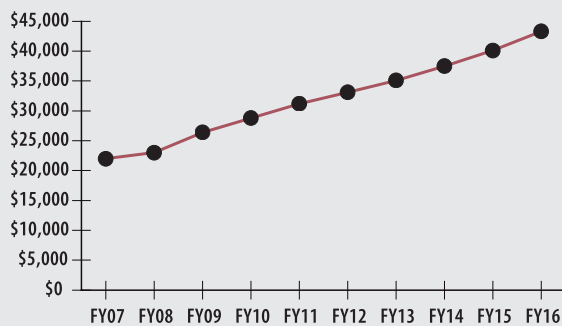
FUNDED RATIO (1987-2015)



INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)



10-YEAR HISTORY OF APPROPRIATIONS (IN THOUSANDS)



INVESTMENT RETURN HISTORY

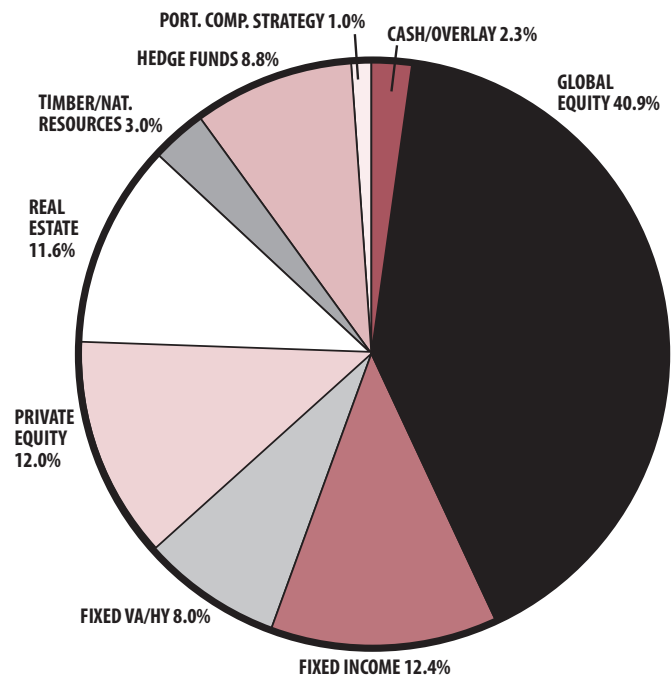
31 years 2015 8.09%	30 years 2014 8.34%	29 years 2013 8.33%
10 years 2015 5.03%	10 years 2014 5.49%	10 years 2013 5.59%
5 years 2015 7.37%	5 years 2014 9.67%	5 years 2013 10.57%

ACTUARIAL

▶ Funded Ratio	44.9%
▶ Date of Last Valuation	01/14
▶ Actuary	KMS Actuaries
▶ Assumed Rate of Return	8.00%
▶ Funding Schedule	4.0% Increasing Phase-in
▶ Year Fully Funded	2035
▶ Unfunded Liability	\$599.4 M
▶ Total Pension Appropriation (Fiscal 2016)	\$43.3 M

	ACTIVE	RETIRED
▶ Number of Members	6,411	3,087
▶ Total Payroll/Benefit	\$252.8 M	\$55.7 M
▶ Average Salary/Benefit	\$39,400	\$18,000
▶ Average Age	48	74
▶ Average Service	10.5 years	NA

ASSET ALLOCATION (12/31/15)



EARNED INCOME OF DISABILITY RETIREES (2014)

▶ Number of Disability Retirees	232
▶ Number Who Reported Earnings	77
▶ Number of Excess Earners	3
▶ Total Amount of Refund Due	\$20,762.27

▶ 2015 Return	.92%
▶ 2015 Market Value	\$574.1 M
▶ 2011-2015 (Annualized)	7.37%
▶ 1985-2015 (Annualized)	8.09%

Board Members

Treasurer Deborah B. Goldberg (Chairperson),
Robert Brousseau, Ruth Ellen Fitch,
Michael J. Heffernan, Anthony E. Hubbard,
Theresa McGoldrick, Esq., Dennis Naughton,

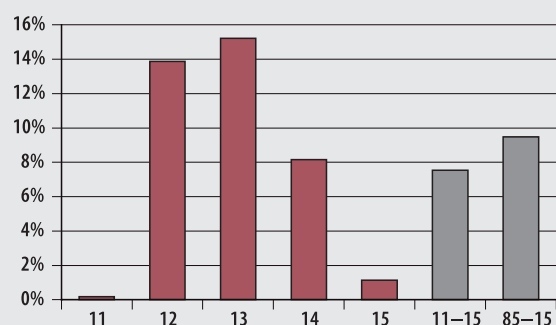
Dana Pullman, Paul E. Shanley, Esq.

Board Administrator

Michael G. Trotsky, CFA

Board Meeting

Every other month, day and date varies

INVESTMENT RETURN (2011-2015, 5 YEAR AND 31 YEAR AVERAGES)

INVESTMENT RETURN HISTORY
31 years 2015

9.49%

30 years 2014

9.78%

29 years 2013

9.84%

10 years 2015

5.86%

10 years 2014

7.01%

10 years 2013

7.62%

5 years 2015

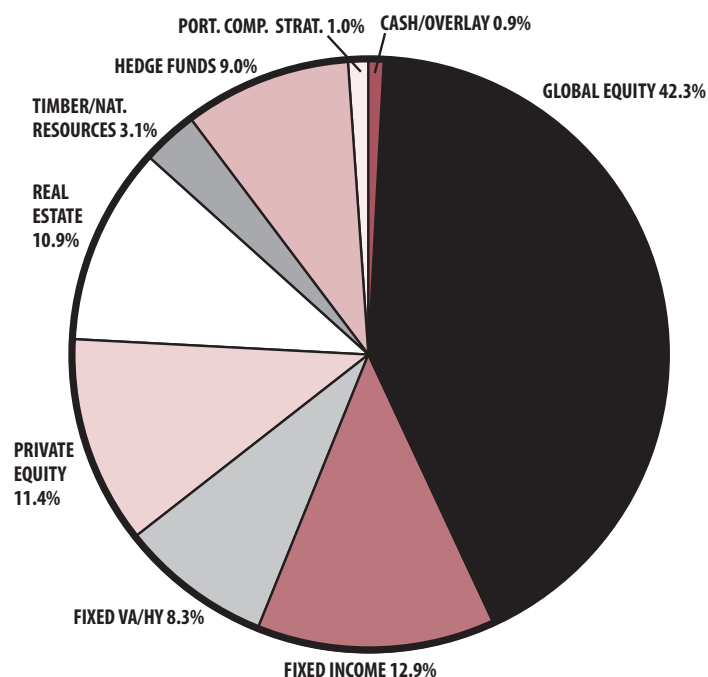
7.53%

5 years 2014

10.05%

5 years 2013

11.90%

ASSET ALLOCATION (12/31/14)


▶ 2015 Return	1.14%
▶ 2015 Market Value	\$59.6 B
▶ 2011-2015 (Annualized)	7.53%
▶ 1985-2015 (Annualized)	9.49%

DISABILITY

RETIREMENT STATISTICS

(as of 12/31/15)

	DISABILITY PANEL REQUESTS	DISABILITY RETIREMENT APPROVALS	ACCIDENTAL DEATH APPROVALS	DISABILITY NURSE CME REVIEWS	PHYSICIAN CME/RTS REVIEWS
RETIREMENT BOARDS WITH 40–399 ACTIVE MEMBERS					
Adams Retirement Board	0	0	0	0	0
Amesbury Retirement Board	0	0	0	2	0
Blue Hills Regional School Retirement Board	0	0	0	0	0
Clinton Retirement Board	0	1	0	0	0
Easthampton Retirement Board	1	3	0	3	0
Fairhaven Retirement Board	0	0	0	3	0
Gardner Retirement Board	0	1	0	2	0
Gr. Lawrence Sanitary District Retirement Board	0	0	0	1	0
Greenfield Retirement Board	2	2	0	5	0
Hull Retirement Board	1	1	1	0	0
Marblehead Retirement Board	0	0	0	3	0
Mass Housing Finance Agency Retirement Board	0	0	0	0	0
Maynard Retirement Board	0	0	0	0	0
Milton Retirement Board	1	0	0	0	0
Minuteman Regional School District Ret. Board	0	0	0	1	0
Montague Retirement Board	0	0	0	2	0
Newburyport Retirement Board	1	1	0	3	0
North Adams Retirement Board	2	2	0	5	0
Northbridge Retirement Board	0	0	0	2	0
Reading Retirement Board	3	2	0	3	0
Saugus Retirement Board	1	1	0	5	0
Southbridge Retirement Board	1	0	0	1	0
Stoneham Retirement Board	0	0	0	1	0
Swampscott Retirement Board	0	0	0	5	0
Webster Retirement Board	0	0	0	2	0
Winchester Retirement Board	1	1	1	2	0
Winthrop Retirement Board	0	0	0	0	0
RETIREMENT BOARDS WITH 400–599 ACTIVE MEMBERS					
Belmont Retirement Board	3	0	0	0	0
Beverly Retirement Board	3	2	0	8	0
Concord Retirement Board	1	0	0	1	0
Danvers Retirement Board	0	0	0	7	0
Dedham Retirement Board	2	2	0	7	0
Fitchburg Retirement Board	3	1	0	4	0
Gloucester Retirement Board	4	3	0	2	0
Hingham Retirement Board	0	0	0	3	0
Leominster Retirement Board	1	2	0	3	0
Lexington Retirement Board	1	1	0	1	0
Melrose Retirement Board	1	2	1	1	0
Milford Retirement Board	2	3	0	6	0

DISABILITY

RETIREMENT STATISTICS

(as of 12/31/15)

DISABILITY RETIREMENT REQUESTS
DISABILITY RETIREMENT APPROVALS
ACCIDENTAL DEATH APPROVALS
DISABILITY NURSE CME REVIEWS
PHYSICIAN CME/RTS REVIEWS

RETIREMENT BOARDS WITH 400–599 ACTIVE MEMBERS (CONT'D)					
Natick Retirement Board	0	0	0	2	0
North Attleboro Retirement Board	3	0	0	1	0
Norwood Retirement Board	1	0	0	2	0
Revere Retirement Board	5	4	1	8	0
Wakefield Retirement Board	3	3	0	2	0
Watertown Retirement Board	3	5	0	3	0
West Springfield Retirement Board	4	3	0	4	0
Woburn Retirement Board	3	3	0	4	0
RETIREMENT BOARDS WITH 600-899 ACTIVE MEMBERS					
Andover Retirement Board	0	1	0	5	0
Arlington Retirement Board	1	4	0	8	0
Attleboro Retirement Board	1	1	0	8	0
Braintree Retirement Board	3	2	1	2	0
Chelsea Retirement Board	6	3	2	5	0
Dukes County Contributory Retirement System	3	1	0	4	0
Everett Retirement Board	1	1	1	6	0
Falmouth Retirement Board	1	0	0	3	0
Malden Retirement Board	5	5	0	13	0
Marlborough Retirement Board	3	2	0	10	0
Medford Retirement Board	4	2	2	5	1
Methuen Retirement Board	3	2	0	5	0
Needham Retirement Board	1	3	0	3	0
Northampton Retirement Board	1	2	0	3	0
Peabody Retirement Board	2	2	0	4	0
Salem Retirement Board	4	1	0	4	0
Shrewsbury Retirement Board	0	1	0	4	0
Waltham Retirement Board	3	4	2	7	0
Wellesley Retirement Board	2	1	0	3	0
Westfield Retirement Board	4	2	0	7	1
Weymouth Retirement Board	4	3	0	3	0
RETIREMENT BOARDS WITH 900-2,399 ACTIVE MEMBERS					
Berkshire County Retirement Board	0	0	0	0	
Brockton Retirement Board	6	8	1	10	
Brookline Retirement Board	3	2	2	14	
Chicopee Retirement Board	13	11	0	10	
Fall River Retirement Board	12	8	2	22	
Framingham Retirement Board	1	2	1	7	
Franklin County Retirement Board	1	0	0	4	
Haverhill Retirement Board	4	2	0	8	

DISABILITY

RETIREMENT STATISTICS

(as of 12/31/15)

	DISABILITY PANEL REQUESTS	DISABILITY RETIREMENT APPROVALS	ACCIDENTAL DEATH APPROVALS	DISABILITY NURSE CME REVIEWS	PHYSICIAN CME/RTS REVIEWS
RETIREMENT BOARDS WITH 900-2,399 ACTIVE MEMBERS (CONT'D)					
Holyoke Retirement Board	3	6	1	11	0
Lawrence Retirement Board	5	4	0	7	2
Lowell Retirement Board	10	6	1	15	1
Lynn Retirement Board	12	12	0	22	2
Mass Port Authority Retirement Board	2	2	0	7	0
Mass Water Resource Authority Retirement Board	3	4	0	14	0
New Bedford Retirement Board	8	5	2	25	0
Newton Retirement Board	4	7	0	11	0
Pittsfield Retirement Board	2	3	0	5	1
Plymouth Retirement Board	8	5	2	3	0
Quincy Retirement Board	8	6	0	8	1
Somerville Retirement Board	7	4	1	6	0
Taunton Retirement Board	3	0	0	4	0
RETIREMENT BOARDS WITH 2,400-10,000 ACTIVE MEMBERS					
Barnstable County Board of Retirement	23	12	2	57	0
Bristol County Board of Retirement	8	3	3	35	0
Cambridge Retirement Board	13	10	4	21	1
Essex Regional Retirement Board	4	4	0	10	0
Hampden County Regional Retirement Board	9	4	1	9	0
Hampshire County Regional Retirement Board	3	3	0	12	0
Middlesex County Retirement Board	16	10	2	41	0
Norfolk County Retirement Board	16	18	1	44	2
Plymouth County Retirement Board	17	22	0	30	0
Springfield Retirement Board	18	15	5	51	0
Worcester Regional Retirement Board	17	14	0	37	1
Worcester Retirement Board	11	13	3	30	0
RETIREMENT BOARDS WITH 20,500-90,000 ACTIVE MEMBERS					
Boston Retirement Board	72	64	12	83	1
State Retirement Board	173	143	8	448	7
Teachers Retirement Board	24	19	0	45	3
TOTAL ALL RETIREMENT BOARDS:					
	648	543	66	1398	28

RESTORATION TO SERVICE STATISTICS *(Provided for those boards where a disability retiree has returned to work.)*

Lynn Retirement Board 1	Pittsfield 1	
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INVESTMENT VENDORS

- The following is a listing of the investment managers, custodians, and consultants that serve the Massachusetts public pension systems. The listing is based on information supplied by the retirement boards.

RETIREMENT BOARD	INVESTMENT VENDORS		
ADAMS ► Custodian: State Street Bank & Trust	Capital Research and Management	Granite Investment Advisors	
AMESBURY	PRIT		
ANDOVER	PRIT		
ARLINGTON ► Custodian: State Street Bank & Trust	PRIT	Wilshire Associates Inc.	
ATTLEBORO ► Custodian: People's United Bank ► Consultant: Dahab Associates Inc.	- Boston Advisors, LLC - Daruma Capital Management, LLC - Fidelity Institutional Asset Management - Frontier Capital Management Co., LLC - Hancock Natural Resource Group, Inc.	- Herndon Capital Management, LLC - Invesco Core Real Estate USA, LP - Invesco National Trust Company - Orleans Capital Management Corp.	- PRIT - Regions Timberland - State Street Global Advisors - Wells Capital Management Inc.
BARNSTABLE COUNTY	Intercontinental Capital Management, LLC	PRIT	UBS Realty Investors, LLC
BELMONT ► Custodian: State Street Bank & Trust ► Consultant: New England Pension Consultants	- AEW Capital Management, LP - Atlanta Capital - Harbourvest Partners, LLC	- Loomis Sayles & Company - Pacific Investment Management Company, LLC - PRIT	- RhumbLine Advisers - Rothschild Asset Management Inc. - Scout Capital Management, LLC
BERKSHIRE COUNTY	PRIT		
BEVERLY	PRIT		
BLUE HILLS REGIONAL	PRIT		
BOSTON (CITY) ► Custodian: State Street Bank & Trust ► Consultant: New England Pension Consultants	57 Stars, LLC - AEW Capital Management, LP - Alcentra NY, LLC - Alladin Credit Partners, LLC - Angelo, Gordon & Co., LP - Arlight Capital Partners, LLC - Aristotle Capital Management, LLC - Arsenal Real Estate Funds, LLC - Ascent Venture Partners - Audax Group - Bernzott Capital Advisors - BlackRock Advisors, LLC - Blue Point Capital Partners, LLC - Boston Company Asset Management, LLC - Boston Millennia Partners - Brookfield Asset Management - CCMP Capital Advisors, LLC - Centersquare Investment Management Holdings, Inc. - Columbia Management Investment Advisors, LLC - Commonwealth Capital Ventures - Crescent Capital Group, LP - DDJ Capital Management - D.E. Shaw Investment Management, LLC - DRC Capital, LLP - Dune Capital Management, LP - Energy Spectrum Partners	- EnTrust Partners, LLC - Evercore Advisors, LLC - Federal Street Partners, LLCFisher Investments - Fisher Investments - GAM USA, Inc. - Goldentree Asset Management, LP - Grosvenor Capital Management, LP - Hearthstone Inc. - Income Research + Management - Intech - Invesco Core Real Estate USA, LP - J.F. Lehman & Company, Inc. - J.P. Morgan Investment Management, Inc. - J.W. Childs Associates, LP - LaSalle Investment Management, Inc. - Lazard Asset Management, LLC - Lexington Partners, LP - Loomis Sayles & Company - Mesirow Advanced Strategies, Inc. - Mesirow Financial Investment Management, Inc. - MPM Capital, LP - NGP Energy Capital Management, LLC - Oaktree Capital Management, LP - PanAgora Asset Management, Inc. - Pearlmark Investment Advisors, LLC - Perella Weinberg Partners Capital Management, LP	- Permal Asset Management, Inc. - Polunin Capital Partners - Prudential Capital Partners - RhumbLine Advisers - Richmond Capital Management, Inc. - Sanderling Ventures - SCP Private Equity Partners - Siguler Guff Advisers, LLC - SL Capital Partners - State Street Global Advisors - Sterling Venture Partners, LLC - TA Realty - TH Lee Putnam Ventures - Thomas H. Lee Partners, LP - Thomas Weisel Global Growth Partners, LLC - Tristan Capital Partners - Vanguard Venture Partners, LLC - Vontobel Asset Management, Inc. - W Capital Partners - Wells Capital Management, Inc. - Western Technology - Westfield Capital Management Company, LP - Westport Capital Partners, LLC - Z Capital Partners, LLC - Zevenbergen Capital Investments, LLC

RETIREMENT BOARD		INVESTMENT VENDORS	
BOSTON TEACHERS	• PRIT		
BRAINTREE ▶ Custodian: State Street Bank & Trust ▶ Consultant: New England Pension Consultants	• Acadian Asset Management, LLC • Lexington Partners, LP • Loomis Sayles & Company	• Massachusetts Financial Services Company • Pictet Asset Management	• PRIT • RhumbLine Advisers
BRISTOL COUNTY ▶ Custodian: State Street Bank & Trust ▶ Consultant: Segal Rogerscasey	• Arrowstreet Capital, LP • BlackRock Investment Management, LLC • Brookfield Timberlands Management, LP • CB Richard Ellis Group, Inc. • Colchester Global Investors • Columbia Management Investment Advisers, LLC • DN Partners • Dupont Capital Management • Earnest Partners, LLC • Hancock Timber Resource Group, Inc. • Hunt Investment Management, LLC	• Income Research & Management • Intech • Lazard Asset Management, LLC • LSV Asset Management • Lyrical Asset Management, LP • Massachusetts Financial Services Company • Mesirow Financial Private Equity Advisors, Inc. • New Boston Fund, Inc. • Pacific Investment Management Company, LLC • Polaris Capital Management, LLC	• PRIT • RBC Global Asset Management (U.S.), Inc. • Rice Hall James & Associates, LLC • RREEF Management, LLC • SEI Trust Company • State Street Global Advisors • TA Realty • Timberland Investment Resources, LLC • Trust and Fiduciary Management Services, Inc. • WL Ross & Co., LLC
BROCKTON ▶ Custodian: SEI Private Trust Company	• Arsenal Real Estate Partners • Ascent Venture Partners • Boston Capital Ventures • Charlesbank Capital Partners, LLC • Flag Capital Management, LLC • HealthPoint, LLC	• Intercontinental Capital Management, LLC • Invesco Private Capital, Inc. • Landmark Partners, LLC • Levine Leichtman Capital Partners, Inc. • Mesirow Financial Investment Management, Inc. • New Boston Fund, Inc.	• New England Capital Partners • Oppenheimer Alternative Investment Management • SEI Investments Management Corp. • Siguler Guff Advisers, LLC • TA Realty
BROOKLINE ▶ Custodian: State Street Bank & Trust	• AEW Capital Management, LP • Hancock Timber Resource Group, Inc. • HarbourVest Partners, LLC	• Invesco Private Capital, Inc. • Lexington Partners, LP • PRIT	• Russell Investment Group • Sustainable Woodlands Partners, LLC
CAMBRIDGE ▶ Custodian: State Street Bank & Trust ▶ Consultant: Segal Rogerscasey	• AEW Capital Management, LP • Ascent Venture Partners • BlackRock Investment Management, LLC • Brandywine Global Investment Management, LLC • Columbia Management Investment Advisers, LLC • Fidelity Institutional Asset Management • Fred Alger Management, Inc. • Hamilton Lane • Hancock Timber Resource Group, Inc.	• Income Research & Management • Invesco Core Real Estate USA, LP • Landmark Partners, LLC • Lazard Asset Management, LLC • Lexington Partners, LP • MacKay Shields, LLC • MFS Institutional Advisors, Inc. • Penn Square Global Real Estate Group, LLC	• Polaris Capital Management, LLC • PRIT • RBC Global Asset Management (U.S.), Inc. • RhumbLine Advisers • Rockwood Capital, LLC • State Street Global Advisors • UBS Realty Advisors, LLC • WEDGE Capital Management, LLP
CHELSEA	• PRIT		
CHICOPEE ▶ Custodian: SEI Private Trust Company	• PRIT	• SEI Investments Management Corp.	
CLINTON ▶ Consultant: Trust Advisory Group, Ltd.	• PRIT		
CONCORD ▶ Custodian: Comerica Securities	• Columbia Threadneedle Investments	• PRIT	• Russell Investment Group
DANVERS ▶ Custodian: State Street Bank & Trust ▶ Consultant: Graystone Consulting	• Dalton, Greiner, Hartman, Maher & Co., LLC • Equus Capital Partners, Ltd. • Fidelity Investments Money Management, Inc. • Gerber-Taylor Management Company	• Longfellow Investment Management Co., LLC • Mount Lucas Management, LP • PRIT • RhumbLine Advisers	• Shafer Cullen • Shenkman Capital Management, Inc. • TA Realty

RETIREMENT BOARD	INVESTMENT VENDORS		
DEDHAM	• PRIT		
DUKES COUNTY ▶ Custodian: State Street Bank & Trust ▶ Consultant: Dahab Associates, Inc.	• Atlanta Capital • Garcia Hamilton & Associates LP	• Polen Capital Management, LLC • PRIT	• Vanguard
EASTHAMPTON	• PRIT		
ESSEX COUNTY ▶ Custodian: State Street Bank & Trust ▶ Consultant: Dahab Associates, Inc.	• Ascent Venture Partners • BlackRock Investment Management, LLC • Boston Millennia Partners • Intercontinental Real Estate Corp.	• Levine Leichtman Capital Partners, Inc.. • MassVentures • PRIT	• Principal Real Estate Investors, LLC • Sentinel Real Estate Corporation • TA Realty
EVERETT	• PRIT		
FAIRHAVEN	• PRIT		
FALL RIVER	• PRIT	• SL Capital Partners, LLP	
FALMOUTH ▶ Custodian: State Street Bank & Trust ▶ Consultant: Wainwright Investment Counsel, LLC	• Baring Asset Management (Asia) Limited • Denver Investments • Dimensional Fund Advisors, LP • Earnest Partners, LLC • HGK Asset Management, Inc. • Intercontinental Real Estate Corp.	• Invesco Private Capital, Inc. • Lexington Partners, LP • LMCG Investments, LLC • Mesirow Financial Private Equity Advisors, Inc. • Metropolitan Real Estate Equity Management, LLC • PRIT	• Principal Real Estate Investors, LLC • RhumbLine Advisers • SEI Trust Company • Seizert Capital Partners, LLC • Siguler Guff Advisers, LLC • State Street Global Advisors
FITCHBURG	• PRIT	• TA Realty	
FRAMINGHAM	• PRIT		
FRANKLIN COUNTY ▶ Custodian: Comerica Bank ▶ Consultant: Dahab Associates, Inc.	• Daruma Capital Management, LLC • Income Research & Management • O'Shaughnessy Asset Management, LLC	• Polen Capital Management, LLC • PRIT	• Seizert Capital Partners, LLC • Systematic Financial Management, LP
GARDNER	• PRIT		
GLOUCESTER	• PRIT		
GREATER LAWRENCE ▶ Custodian: BNY Mellon Asset Servicing	• Seaward Management		
GREENFIELD	• PRIT		
HAMPDEN COUNTY REGIONAL ▶ Consultant: Segal Rogerscasey	• GCM Customized Fund Investment Group • Long Wharf Real Estate Partners, LLC	• New Boston Fund, Inc.	• PRIT
HAMPSHIRE COUNTY ▶ Consultant: New England Pension Consultants	• Ascent Venture Partners • Babson Capital Management, LLC • Colchester Global Investors • Grantham, Mayo, Van Otterloo & Company, Inc. • Intercontinental Real Estate Corporation • Lexington Partners, LP	• Massachusetts Financial Services Company • Mellon Capital Management Corporation • Pacific Investment Management Company, LLC • Perella Weinberg Partners Capital Management, LP • Permal Capital Management, LLC • Polaris Capital Management, LLC	• Portfolio Advisors, LLC • PRIT • RBC Global Asset Management (U.S.) Inc. • RhumbLine Advisers • Shenkman Capital Management, Inc.

RETIREMENT BOARD	INVESTMENT VENDORS		
HAVERHILL ▶ Custodian: State Street Bank & Trust ▶ Consultant: Wainwright Investment Counsel, LLC	• DDJ Capital Management, LLC • Fisher Investments • Global Forest Partners, LP • Globespan Capital Management, Inc. • GrandBanks Capital • Income Research + Management • Intercontinental Real Estate Corporation	• Massachusetts Financial Services Company • Mesriow Financial Institutional Real Estate • Molpus Woodlands Group, LLC • Northwinds Marketing • PRIT • Putnam Investment Management, LLC	• RhumbLine Advisers • Stafford Private Equity, Inc. • Systematic Financial Management, LP • TerraCap Management • TH Lee Partners • Victory Capital Management
HINGHAM ▶ Consultant: Meketa Investment Group	• PRIT		
HOLYOKE ▶ Consultant: Segal Rogerscasey	• American Realty Advisors • Boston Company Asset Management, LLC • Brandywine Global Investment Management, LLC • Charles Schwab & Co., Inc. • Constitution Capital Partners, LLC • Denver Investments • Fidelity Institutional Asset Management • Flynn Financial Partners • Industry Capital Advisors, LLC	• Intercontinental Real Estate Corporation • Invesco Core Real Estate USA, LP • Invesco Trust Company • Lazard Asset Management, LLC • Long Wharf Real Estate Partners, LLC • Mesriow Financial Private Equity Advisors, Inc. • Oberweis Asset Management, Inc. • OFI Global Institutional, Inc. • Polaris Capital Management, LLC	• PRIT • Putnam Investment Management, LLC • RBC Global Asset Management (U.S.) Inc. • Seizert Capital Partners, LLC • State Street Global Advisors • TA Realty • TerraCap Management • Wasatch Advisors, Inc.
HULL	• PRIT		
LAWRENCE	• PRIT		
LEOMINSTER ▶ Custodian: State Street Bank & Trust	• Massachusetts Financial Services Company • PRIT	• Templeton Investment Counsel	• Union Labor Life Insurance Company
LEXINGTON ▶ Custodian: State Street Bank & Trust ▶ Consultant: Meketa Investment Group, Inc.	• Acadian Asset Management, LLC • Beacon Capital Partners, LLC • Fidelity Investments • Fiduciary Management, Inc. • Golub Capital Partners	• Hartford Investment Management Company • Loomis Sayles & Company • Matthews International Capital Management, LLC • Monroe Capital • PRIT	• RhumbLine Advisers • Wellington Management Company, LLP • White Oak Global Advisors, LLC • William Blair & Company, LLC
LOWELL ▶ Custodian: State Street Bank & Trust	• Ascent Venture Partners • Boston Millennia Partners • Charles River Ventures	• Intercontinental Real Estate Corporation • PRIT	• QCI Asset Management • Sentinel Real Estate Corporation
LYNN	• Ascent Venture Partners • BlackRock Investment Management, LLC • BlackRock Realty Advisors, Inc.	• Fidelity Investments Money Management, Inc. • Hunt Investment Management, LLC	• Long Wharf Real Estate Partners, LLC • PRIT
MHFA ▶ Custodian: State Street Bank & Trust ▶ Consultant: Meketa Investment Group, Inc.	• AEW Capital Management, LP • Ascent Venture Partners • Columbia Management Investment Advisers, LLC • Constitution Capital Partners, LLC • Dimensional Fund Advisors, LP	• Goldman Sachs Asset Management, LP • HarbourVest Partners, LLC • Intercontinental Real Estate Corporation • Kleinwort Benson Investors International Ltd. • LMCG Investments, LLC	• McDonnell Investment Management, LLC • RS Investment Management Company, LLC • State Street Global Advisors • Stone Harbor Investment Partners, LP • TA Realty
MWRA ▶ Custodian: State Street Bank & Trust ▶ Consultant: New England Pension Consultants	• Alcentra NY, LLC • Ascent Venture Partners • Boston Company Asset Management, LLC • Castile Ventures • Cerberus Capital Management, LP • Courtland Partners • Entrust Partners, LLC • Foundry Group, LLP • Intech • Intercontinental Real Estate Corporation • Invesco Trust Company	• Invesco Private Capital, Inc. • Kayne Anderson Capital Advisors, LP • Landmark Partners, LLC • Lee Munder Capital Group, LLC • Loomis Sayles & Company • Mesriow Financial Institutional Real Estate • MFS Institutional Advisors, Inc. • Morgan Stanley • Pacific Investment Management Company, LLC • Permal Asset Management, Inc. • Pinebridge Investments, LLC	• PRIT • RhumbLine Advisers • Robeco Institutional Asset Management U.S., Inc. • Schroder Investment Management North America, Inc. • SEI Trust Corporation • TA Realty • TerraCap Management • Wellington Management Company, LLP • William Blair & Company, LLC • WL Ross & Co., LLC

RETIREMENT BOARD	INVESTMENT VENDORS		
MALDEN ► Custodian: State Street Bank & Trust	De Burlo Group, Inc.		
MARBLEHEAD	PRIT		
MARLBOROUGH ► Custodian: Comerica Bank ► Consultant: Meketa Investment Group, Inc.	- Clarion Partners - Colony Realty Partners - Dimensional Fund Advisors LP - Driehaus Capital Management, LLC	- Fiduciary Management, Inc. - Frontier Capital Management Co., LLC - Payden & Rygel - RhumbLine Advisers	- Shenkman Capital Management, Inc. - SL Capital Partners, LLP - State Street Global Advisors
MASSPORT ► Custodian: State Street Bank & Trust ► Consultant: Wilshire Associates	- Aberdeen Asset Management, Inc. - PRIT	- Pzena Investment Management, LLC - State Street Global Advisors	Wellington Management Company, LLP
MAYNARD ► Custodian: State Street Bank & Trust	Boston Advisors, LLC	PRIT	Sequin Partners, LLC
MEDFORD ► Custodian: State Street Bank & Trust ► Consultant: New England Pension Consultants	- Columbia Management Investment Advisors, LLC - Lazard Asset Management, LLC - Loomis Sayles & Company - Mellon Capital Management Corporation	- Pacific Investment Management Company, LLC - PRIT - RhumbLine Advisers - Standard Life Investment	- Wellington Management Company, LLP - Western Asset Management Company - William Blair & Company, LLC
MELROSE	- Ascent Venture Partners - Hunt Investment Management, LLC	- Intercontinental Real Estate Corporation - Invesco Private Capital, Inc.	- PRIT - TA Realty
METHUEN	BlackRock Investment Management, LLC	PRIT	Sentinel Real Estate Corporation
MIDDLESEX COUNTY ► Custodian: State Street Bank & Trust	- Ares Management, LLC - Ascent Venture Partners - Auda Private Equity, LLC - Boston Millennia Partners	- Duke Street Capital - Global Forest Partners, LP - Globespan Capital Management, Inc. - Hunt Investment Management, LLC	- Intercontinental Real Estate Corporation - Invesco Private Capital, Inc. - PRIT - TH Lee Partners
MILFORD	PRIT		
MILTON	PRIT		
MINUTEMAN REGIONAL	PRIT		
MONTAGUE	PRIT		
NATICK ► Custodian: State Street Bank & Trust ► Consultant: Fiduciary Investment Advisors, LLC	- Intercontinental Real Estate Corporation - PRIT	- SEI Investments Management Corp. - SEI Private Trust Company	- Sentinel Real Estate Corporation - SL Capital Partners, LLP
NEEDHAM	PRIT		
NEW BEDFORD ► Custodian: State Street Bank & Trust ► Consultant: Segal Rogerscasey	- Aberdeen Asset Management, Inc. - Acadian Asset Management, LLC - Blackrock Realty Advisors, Inc. - Boston Company Asset Management, LLC - Hunt Investment Management, LLC - Invesco Private Capital, Inc.	- Lexington Advisors, Inc. - Loomis Sayles & Company - Mesirow Private Equity Advisors, Inc. - Pacific Investment Management Company, LLC - SEI Trust Company - State Street Global Advisors Limited	- TA Realty - UBS Realty Investors, LLC - Wellington Management Company, LLP - Westfield Capital Management Company, LP - Wilton Asset Management, LLC

RETIREMENT BOARD	INVESTMENT VENDORS		
NEWBURYPORT	• PRIT		
NEWTON	• PRIT		
NORFOLK COUNTY ▶ Custodian: State Street Bank & Trust ▶ Consultant: Wainwright Investment Counsel, LLP	• AGF Investments America • Allianz Global Investors Fund Management, LLC • ArcLight Capital Partners, LLC • Ariel Investments • Ascend Ventures Group, LLC • Boston Millennia Partners • Centersquare Investment Management Holdings, Inc. • Centre Lane Partners, LLC • CHL Medical Partners • Clarion Partners • Collier Investment Management, Ltd. • Constitution Capital Partners, LLC • Corsair Capital LLC • D.E. Shaw Investment Management, LLC • Denver Investments • DSF Group • EnTrust Partners, LLC • Fisher Investments	• Gamco Asset Management, Inc. • Gerding Edlen Investment Management, LLC • Globespan Capital Management, Inc. • Halpern, Denny & Company • Hamilton Lane • HarbourVest Partners, LLC • Hunt Investment Management, LLC • Income Research & Management • Intercontinental Real Estate Corporation • Invesco Private Capital, Inc. • Kleinwort Benson Investors International, Ltd. • Lazard Asset Management, LLC • Lee Munder Capital Group, LLC • Levine Leichtman Capital Partners, Inc. • LLM Capital Partners • Loomis, Sayles & Company • Mesirow Capital Partners X, LP • Mesirow Financial Institutional Real Estate	• MFS International Advisors, Inc. • Monitor Venture Management • Northern Trust • Preferred Investors • PRIT • PRISM Venture Partners • Putnam Investment Management, LLC • RhumbLine Advisers • Seizert Capital Partners, LLC • Sentinel Real Estate Corporation • Siguler Guff Advisors, LLC • SL Capital Partners, LLP • State Street Global Advisors • TA Realty • TerraCap Management • Victory Capital Management • Wellesley Advisors Corporation • Wells Capital Management, Inc. • Wilshire Associates, Inc.
NORTH ADAMS ▶ Custodian: State Street Bank & Trust	• De Burlo Group, Inc.	• PRIT	
NORTH ATTLEBORO ▶ Custodian: State Street Bank & Trust ▶ Consultant: Dahab Associates, Inc.	• AmSouth Bank • Atlanta Capital • Axiom International Investors, LLC • Blackrock Realty Advisors, Inc. • Brandes Investment Partners, LP	• Herndon Capital Management, LLC • Intercontinental Real Estate Corporation • Lazard Asset Management, LLC • Loomis Sayles & Company	• Navellier & Associates, Inc. • RhumbLine Advisers • Stewart Capital Advisors, LLC • Vontobel Asset Management, Inc.
NORTHAMPTON ▶ Custodian: State Street Bank & Trust	• De Burlo Group, Inc.	• PRIT	
NORTHBRIDGE	• PRIT		
NORWOOD ▶ Custodian: State Street Bank & Trust ▶ Consultant: Meketa Investment Group, Inc.	• Aberdeen Asset Management, Inc. • American Funds • Atlanta Capital • Boston Company Asset Management, LLC	• Dimensional Fund Advisors, LP • Landmark Partners, LLC • Oaktree Capital Management, LP • PRIT	• RhumbLine Advisers • Vontobel Asset Management, Inc. • Winslow Capital Management, LLC
PEABODY	• PRIT		
PITTSFIELD ▶ Consultant: Fiduciary Investment Advisors, LLC	• Hunt Investment Management, LLC • PRIT	• Sentinel Real Estate Corporation	• SL Capital Partners, LLP
PLYMOUTH ▶ Custodian: State Street Bank & Trust ▶ Consultant: Fiduciary Investment Advisors, LLC	• Acadian Asset Management • Babson Capital Management • Blackrock Kelso Capital Advisors, LLC • Boston Advisors, LLC • Boston Trust Investment Management, Inc.	• Intercontinental Real Estate Corporation • Invesco Advisors, Inc. • Invesco Trust Company • PRIT • Rhumbline Advisers	• Robeco Institutional Asset Management U.S., Inc. • State Street Global Advisors • Templeton Investment Counsel • Wellington Management Company, LLP • Westfield Capital Management Company, LP

RETIREMENT BOARD

PRIM

- **Custodian:** BNY Mellon
- **Consultants:** Arden Asset Management LLC, Callan Associates, Hamilton Lane, NEPC, Townsend

- 1818 Fund
- 400 Capital Management
- Acadian Asset Management, LLC
- Access Capital
- Acon Investments
- Advent International
- AEW Capital Management
- AFL-CIO Housing Investment Trust
- Alchemy Partners
- Alta Communications
- American Securities Capital Partners
- Anchorage Capital, LLC
- Angelo Gordon
- APAX Partners & Co.
- Apollo Management Co.
- AQR Capital
- Arden Asset Management
- Arrowgrass G.P. Limited
- Ascent Venture Partners
- Ashmore Investment Management, Ltd.
- Asia Pacific Trust
- Austin Ventures
- Avenue Capital Group
- Baillie Gifford
- Bain Capital
- Battery Ventures
- Belmont Capital Partners
- Berkshire Partners
- Blackrock Financial Management, Inc.
- Blackstone Capital Partners
- Blackstone Group
- Boston Ventures
- Brevan Howard G.P. Limited
- Bridgepoint Capital Limited
- Brigade Capital G.P., LLC
- Campbell Group, LLC
- Candover
- Cantab Capital Partners, LP
- Canyon Johnson II
- Capital Resource Lenders
- Capula Management Limited
- Carlyle Group
- Carlyle Partners
- Castille
- Catalyst Investors
- Centerbridge
- Centerbridge Special Credit Partners
- CenterSquare Investment Management
- Charlesbank Capital Partners
- Charles River Ventures
- Charterhouse Group
- Chequers
- City of London Investment Management Co.
- Claren Road Capital, LLC
- Clifton Group
- Code, Hennessey & Simmons
- Commonwealth Capital Ventures
- Community Capital Management
- Crescent Capital Group
- Crossroads Group
- CSFB Private Equity (DLJ Merchant Banking Partners)
- CVC Capital
- Cypress Merchant Banking Partners
- Davidson Kempner Advisors, Inc.
- Denham Capital Management

INVESTMENT VENDORS

- DivcoWest
- Driehaus Capital Management, LLC
- Eaton Vance Institutional Funds
- El Dorado Ventures
- Elliot Capital Advisors, LP
- Equitable Capital Management Corporation
- Essex Woodlands Health Ventures
- Ethos Private Equity
- Exponent Private Equity Partners
- Fidelity Management Trust Company
- FIS Group, Inc.
- First Reserve Corporation
- Flagship Ventures
- Forest Investment Associates
- Frontier Capital Management
- Freeman Spogli Equity Partners
- GENSTAR Capital
- Gilde Buy Out Partners AG
- Glenview Capital G.P., LLC
- Goldman Sachs Investment Management
- Gores Capital
- GSO Capital Partners
- GTCR Golder Rauner
- Harbourvest Partners
- Harding Loevner
- Hellman & Friedman Capital Partners
- H.I.G. Capital Partners
- Highfields Associates, LLC
- Highland Capital Partners
- Hony Capital
- Huber Capital
- Index Ventures
- Insight Venture Partners
- Intech
- Intercontinental IV
- InterWest Partners
- Invesco Realty Advisors
- Investec Asset Management
- Jennison Associates
- Joseph Littlejohn & Levy Fund
- J.P. Morgan Investment Management
- Kelso & Company
- Kepha Partners
- Keytone Ventures
- King Street Capital Management
- Kohlberg Kravis Roberts and Co.
- KPS Capital Partners
- Landmark Equity Partners
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- Mondrian Investment Partners Ltd.
- Montagu
- Montreux Equity Partners
- Mudrick Capital Management, LP
- Nash & Sells
- Nautic Partners
- New Boston Urban Fund I
- New Enterprise Associates
- Nordic Capital

- Oaktree Capital Management
- Odyssey Investment Partners
- Olympus Partners
- Onex Capital Partners
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- Pacific Investment Management Co. (PIMCO)
- PAI Europe
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- Permira Ventures
- Pershing Square G.P., LLC
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- Providence Equity Partners
- Pzena Investment Management
- Quad-C Management
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