

In the opinion of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Bond Counsel, under existing law, assuming continued compliance with certain provisions of the Internal Revenue Code of 1986, as amended, interest on the Series 2017-1 Bonds and the Series 2017-3 Bonds (together, the “Tax Exempt Bonds”) will not be included in the gross income of holders of such Tax Exempt Bonds for federal income tax purposes. While interest on the Tax Exempt Bonds will not constitute a preference item for purposes of computation of the alternative minimum tax imposed on certain individuals and corporations, interest on the Tax Exempt Bonds will be included in “adjusted current earnings” of corporate holders of the Tax Exempt Bonds and therefore will be taken into account in computing the alternative minimum tax imposed on certain corporations. Interest on the Series 2017-2 Bonds will be included in the gross income of holders of such Bonds for federal income tax purposes. In the opinion of Bond Counsel, interest on the Bonds and any profit made on the sale thereof are exempt from Massachusetts personal income taxes, and the Bonds are exempt from Massachusetts personal property taxes. See “TAX MATTERS” herein.



UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY



\$165,130,000	\$19,510,000	\$187,680,000
Project Revenue Bonds	Project Revenue Bonds	Refunding Revenue Bonds
Senior Series 2017-1	Senior Series 2017-2 (Federally Taxable)	Senior Series 2017-3

Dated: Date of Initial Delivery

Due: As shown on the inside cover

The Project Revenue Bonds, Senior Series 2017-1 (the “Series 2017-1 Bonds”), the Project Revenue Bonds, Senior Series 2017-2 (Federally Taxable) (the “Series 2017-2 Bonds”) and the Refunding Revenue Bonds, Senior Series 2017-3 (the “Series 2017-3 Bonds” and together with the Series 2017-1 Bonds and the Series 2017-2 Bonds, the “Bonds”) will be issued by the University of Massachusetts Building Authority (the “Authority”) as fully registered bonds and will be registered in the name of Cede & Co., as nominee for The Depository Trust Company (“DTC”), New York, New York. Individual purchases of beneficial ownership of the Bonds will be made in book-entry form, in denominations of \$5,000 or any integral multiple thereof. No physical delivery of the Bonds will be made to purchasers. So long as Cede & Co. is the registered owner of the Bonds, principal and semiannual interest are payable to DTC by U.S. Bank National Association, Boston, Massachusetts, as Trustee. See “BOOK-ENTRY ONLY SYSTEM” herein. Interest on the Bonds will be payable on May 1, 2017 and on each November 1 and May 1 thereafter or, if any such day is not a Business Day, the next Business Day. The Bonds, including the redemption terms of the Series 2017-1 Bonds and the Series 2017-3 Bonds, are more fully described herein under “THE BONDS.”

The Bonds are special obligations of the Authority payable solely from funds provided under the Enabling Act (defined herein), the Project Trust Agreement (defined herein) and the Series Resolutions (defined herein), including payments made by the University of Massachusetts (the “University”), all as more fully described under “SECURITY AND SOURCES OF PAYMENT FOR THE BONDS” herein.

THE BONDS SHALL NOT BE DEEMED TO CONSTITUTE A GENERAL OBLIGATION OF THE AUTHORITY OR A DEBT OR LIABILITY OF THE COMMONWEALTH OR ANY POLITICAL SUBDIVISION THEREOF. NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH OR OF ANY POLITICAL SUBDIVISION THEREOF IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR THE INTEREST ON THE BONDS. THE ENABLING ACT OF THE AUTHORITY DOES NOT IN ANY WAY CREATE A SO-CALLED MORAL OBLIGATION OF THE COMMONWEALTH OR ANY POLITICAL SUBDIVISION THEREOF TO PAY DEBT SERVICE WITH RESPECT TO THE BONDS. THE AUTHORITY DOES NOT HAVE TAXING POWER.

The Bonds are offered when, as and if issued by the Authority and received by the Underwriters, subject to the approval of legality by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, Bond Counsel. Certain legal matters will be passed upon for the Authority and the University by its Disclosure Counsel, Hinckley, Allen & Snyder LLP, Boston, Massachusetts, and for the Underwriters by their counsel, McCarter & English, LLP, Boston, Massachusetts. It is expected that the Bonds in definitive form will be available for delivery through DTC in New York on or about January 31, 2017.

Citigroup

BofA Merrill Lynch

J.P. Morgan

Ramirez & Co., Inc.

AMOUNTS, MATURITIES, INTEREST RATES AND PRICES OR YIELDS

\$165,130,000

University of Massachusetts Building Authority
Project Revenue Bonds, Senior Series 2017-1

\$72,620,000 5.25% Term Bonds due November 1, 2042 to yield 3.25%* CUSIP†: 914440QV7

\$34,385,000 4.00% Term Bonds due November 1, 2044 to yield 3.77%* CUSIP†: 914440QX3

\$58,125,000 5.25% Term Bonds due November 1, 2047 to yield 3.30%* CUSIP†: 914440QW5

\$19,510,000

University of Massachusetts Building Authority
Project Revenue Bonds, Senior Series 2017-2 (Federally Taxable)

<u>Due</u> <u>November 1</u>	<u>Amount</u>	<u>Interest</u> <u>Rate</u>	<u>Price</u>	<u>CUSIP</u> †
2018	\$1,445,000	1.58%	100%	914440QY1
2019	1,470,000	1.68	100	914440QZ8
2020	1,495,000	2.03	100	914440RA2
2021	1,530,000	2.37	100	914440RB0
2022	1,570,000	2.57	100	914440RC8
2023	2,255,000	2.84	100	914440RD6
2024	2,320,000	3.04	100	914440RE4
2025	2,390,000	3.17	100	914440RF1
2026	2,475,000	3.27	100	914440RG9
2027	2,560,000	3.37	100	914440RH7

\$187,680,000

University of Massachusetts Building Authority
Refunding Revenue Bonds, Senior Series 2017-3

<u>Due</u> <u>November 1</u>	<u>Amount</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u>	<u>CUSIP</u> †
2017	\$ 2,920,000	3.00%	0.90%	914437SL3
2018	5,815,000	4.00	1.11	914437SM1
2019	18,930,000	5.00	1.33	914437SN9
2020	4,385,000	5.00	1.52	914437SP4
2021	3,480,000	5.00	1.69	914437SQ2
2022	3,650,000	5.00	1.89	914437SR0
2023	3,840,000	5.00	2.05	914437SS8
2024	5,335,000	5.00	2.20	914437ST6
2025	8,010,000	5.00	2.36	914437SU3
2026	8,410,000	5.00	2.48	914437SV1
2027	8,830,000	5.00	2.56	914437SW9
2028	14,075,000	5.00	2.68*	914437SX7
2029	11,850,000	5.00	2.80*	914437SY5
2030	15,540,000	5.00	2.88*	914437SZ2
2031	16,325,000	5.00	2.96*	914437TA6
2032	9,285,000	5.00	3.02*	914437TB4
2033	7,650,000	5.00	3.08*	914437TC2
2034	8,050,000	5.00	3.14*	914437TD0
2035	8,450,000	5.00	3.19*	914437TE8
2036	8,895,000	5.00	3.23*	914437TF5
2037	9,340,000	5.00	3.26*	914437TG3
2038	4,615,000	5.00	3.28*	914437TH1

* Priced to the first optional redemption date, November 1, 2027.

† The CUSIP (Committee on Uniform Securities Identification Procedures) numbers on the inside cover of this Official Statement have been assigned by an organization not affiliated with the Authority or the Trustee, and such parties are not responsible for the selection or use of the CUSIP numbers. The CUSIP numbers are included solely for the convenience of Bondholders and no representation is made as to the correctness of the CUSIP numbers printed on the inside cover hereof. CUSIP numbers assigned to securities may be changed during the term of such securities based on a number of factors including but not limited to the refunding or defeasance of such issue or the use of secondary market financial products. Neither the Authority nor the Trustee has agreed to, nor is there any duty or obligation to, update this Official Statement to reflect any change or correction in the CUSIP numbers printed on the inside cover hereof.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY

**One Beacon Street, 31st Floor
Boston, Massachusetts 02108
Telephone: (617) 287-3200**

Authority Members

Victor Woolridge, *Chairman*
Philip W. Johnston, *Vice Chair*
Henry M. Thomas, III, *Vice Chair*
Paul J. Carney, *Secretary-Treasurer*
Edward W. Collins, Jr.
Karen G. Courtney
Gerry-Lynn Darcy
Paul Lonergan
Michael J. O'Brien
Christopher Philbin
John T. Smolak

Executive/Senior Staff

Patricia Filippone, *Executive Director*
David Mullen, *Deputy Director and General Counsel*
Robert Dolan, *Chief Financial Officer*
Michael Wilson, *Treasurer and Budget Director*
Joseph Naughton, *Director of Capital Projects*

Trustee

U.S. Bank National Association
Boston, Massachusetts

Bond Counsel

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
Boston, Massachusetts

Financial Advisor

FirstSouthwest, a Division of Hilltop Securities Inc.
Boston, Massachusetts

**Independent Accountants
for the Authority and the University**

Grant Thornton LLP
Boston, Massachusetts

Disclosure Counsel

Hinckley, Allen & Snyder LLP
Boston, Massachusetts

No dealer, broker, salesman or other person has been authorized by the University of Massachusetts Building Authority (the "Authority"), The Commonwealth of Massachusetts (the "Commonwealth"), the University of Massachusetts (the "University") or the Underwriters to give any information or to make any representation with respect to the Bonds other than as contained in this Official Statement and, if given or made, such other information or representation must not be relied upon as having been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale.

Certain information contained herein has been obtained from the Authority, the University, The Depository Trust Company and other sources which are believed to be reliable, but is not guaranteed as to accuracy or completeness, and is not to be construed as a representation of the Authority, the Commonwealth, the University or the Underwriters. The information and expressions of opinion herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the parties referred to above since the date hereof.

U.S. Bank National Association by acceptance of its duties as Trustee under the Project Trust Agreement described herein has not reviewed this Official Statement and makes no representations as to the information contained herein, including but not limited to any representations as to the use of the proceeds of the Bonds or related activities.

All quotations from and summaries and explanations of provisions of laws, the Project Trust Agreement, the Contract, the Bonds, the Series Resolutions and other documents herein do not purport to be complete; reference is made to said laws, the Project Trust Agreement, the Bonds and other documents for full and complete statements of their provisions. Copies of the above are available for inspection at the principal office of the Trustee.

Information included in this Official Statement includes forward-looking statements about the future that are necessarily subject to various risks and uncertainties ("Forward-Looking Statements"). These Forward-Looking Statements are (i) based on the beliefs and assumptions of management of the Authority and the University and on information currently available to such management and (ii) generally identifiable by words such as "estimates," "expects," "anticipates," "plans," "believes" and other similar expressions. Events that could cause future results to differ materially from those expressed in or implied by Forward-Looking Statements or historical experience include the impact or outcome of many factors that are described throughout this Official Statement. Although the ultimate impact of such factors is uncertain, they may cause future performance to differ materially from results or outcomes that are currently sought or expected by the Authority and the University.

References to web site addresses presented herein are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such web sites and the information or links contained therein are not incorporated into, and are not part of, this final official statement for purposes of, and as that term is defined in, SEC rule 15c2-12.

The financial advisor to the Authority has provided the following sentence for inclusion in this Official Statement. The financial advisor has reviewed the information in this Official Statement in accordance with, and as part of, its responsibilities to the Authority and, as applicable, to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the financial advisor does not guarantee the accuracy or completeness of such information.

THE UNDERWRITERS HAVE PROVIDED THE FOLLOWING SENTENCE FOR INCLUSION IN THIS OFFICIAL STATEMENT: THE UNDERWRITERS HAVE REVIEWED THE INFORMATION IN THIS OFFICIAL STATEMENT IN ACCORDANCE WITH, AND AS PART OF, THEIR RESPECTIVE RESPONSIBILITIES TO INVESTORS UNDER THE FEDERAL SECURITIES LAWS AS APPLIED TO THE FACTS AND CIRCUMSTANCES OF THIS TRANSACTION, BUT THE UNDERWRITERS DO NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICES OF THE SECURITIES OFFERED HEREBY AT A LEVEL ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

TABLE OF CONTENTS

INTRODUCTORY STATEMENT	1
General.....	1
Purpose and Content of Official Statement	2
THE AUTHORITY	3
General.....	3
Members, Officers and Staff	4
THE BONDS	5
General.....	5
Redemption Provisions	6
SECURITY AND SOURCES OF PAYMENT FOR THE BONDS	7
General.....	7
Contract	7
Pledge of Revenues Under the Project Trust Agreement	8
Rate Covenant	9
Additional Indebtedness	9
Annual Debt Service Requirements.....	10
THE PROJECTS	11
PLAN OF REFUNDING.....	11
APPLICATION OF PROCEEDS OF THE BONDS.....	12
LITIGATION.....	12
LEGALITY FOR INVESTMENT	12
TAX MATTERS	12
RATINGS	17
LEGAL MATTERS.....	17
DISCLOSURE CERTIFICATES.....	17
UNDERWRITING.....	18
VERIFICATION OF MATHEMATICAL COMPUTATIONS.....	18
CONTINUING DISCLOSURE	19
FINANCIAL ADVISOR	19
FINANCIAL STATEMENTS OF THE AUTHORITY	19
FINANCIAL STATEMENTS OF THE UNIVERSITY.....	19
MISCELLANEOUS	20
Appendix A Letter from the University	A-1
Appendix B Financial Statements of the Authority	B-1
Appendix C Financial Report of the University, including Financial Statements	C-1
Appendix D Summary of Legal Documents.....	D-1
Appendix D-1 Summary of Certain Provisions of the Project Trust Agreement	D-1-1
Appendix D-2 Summary of Certain Provisions of the Contract.....	D-2-1
Appendix E Proposed Form of Opinions of Bond Counsel.....	E-1
Appendix F Summary of Continuing Disclosure Undertakings.....	F-1
Appendix G Book-Entry Only System	G-1
Appendix H Refunded Bonds	H-1

[Intentionally Left Blank]

OFFICIAL STATEMENT

University of Massachusetts Building Authority

\$165,130,000
Project Revenue Bonds
Senior Series 2017-1

\$19,510,000
Project Revenue Bonds
Senior Series 2017-2 (Federally Taxable)

\$187,680,000
Refunding Revenue Bonds
Senior Series 2017-3

INTRODUCTORY STATEMENT

General

The purpose of this Official Statement, which includes the cover page and the appendices hereto, is to furnish information in connection with the offering by the University of Massachusetts Building Authority (the "Authority") of its Project Revenue Bonds, Senior Series 2017-1 (the "Series 2017-1 Bonds"), Project Revenue Bonds, Senior Series 2017-2 (Federally Taxable) (the "Series 2017-2 Bonds") and Refunding Revenue Bonds, Senior Series 2017-3 (the "Series 2017-3 Bonds" and together with the Series 2017-1 Bonds and the Series 2017-2 Bonds, the "Bonds"). Unless otherwise defined herein, capitalized terms used herein shall have the meanings set forth in Appendix D – "Summary of Legal Documents."

The Bonds are issued pursuant to Chapter 773 of the Acts of 1960 of the Commonwealth of Massachusetts, as amended (the "Enabling Act") and the Trust Agreement dated as of November 1, 2000 (the "Project Trust Agreement"), between the Authority and U.S. Bank National Association, Boston, Massachusetts, as successor trustee (the "Trustee"). The Series 2017-1 Bonds are issued pursuant to the Series Resolution Authorizing the Issuance of Project Revenue Bonds, Senior Series 2017-1 (the "2017-1 Series Resolution"), adopted by the Authority on September 8, 2016. The Series 2017-2 Bonds are issued pursuant to the Series Resolution Authorizing the Issuance of Project Revenue Bonds, Senior Series 2017-2 (Federally Taxable) (the "2017-2 Series Resolution"), adopted by the Authority on September 8, 2016. The Series 2017-3 Bonds are issued pursuant to the Series Resolution Authorizing the Issuance of Refunding Revenue Bonds, Senior Series 2017-3 (the "2017-3 Series Resolution," and together with the 2017-1 Series Resolution and the 2017-2 Series Resolution, the "Series Resolutions"), adopted by the Authority on September 8, 2016.

The Authority was created by the Enabling Act as a body politic and corporate and a public instrumentality of The Commonwealth of Massachusetts (the "Commonwealth") for the general purpose of aiding and contributing to the performance of the educational and other purposes of the University of Massachusetts (the "University") by providing dormitories, dining commons and other buildings and structures for the use of the University, its students, staff and their dependents and for lease to certain other entities related to the University, all in accordance with the Enabling Act. See "THE AUTHORITY."

The Series 2017-1 Bonds are being issued to finance and refinance projects set forth in the University's capital plan. See "THE PROJECTS." The proceeds of the Series 2017-1 Bonds will be used to finance the costs of such projects, to repay principal and interest on commercial paper notes issued by the Authority and to pay costs of issuing the Series 2017-1 Bonds.

The Series 2017-2 Bonds are being issued to finance and refinance projects set forth in the University's capital plan. See "THE PROJECTS." The proceeds of the Series 2017-2 Bonds will be used to finance the costs of such projects and to pay costs of issuing the Series 2017-2 Bonds.

The Series 2017-3 Bonds are being issued to refund a portion of the bonds listed on Appendix H (the "Refunded Bonds") and to pay costs of issuance of the Series 2017-3 Bonds.

The Enabling Act prohibits the Authority from initiating any project except upon request made by the University and upon written approval from the Secretary of the Executive Office for Administration and Finance of the Commonwealth. In connection with the Bonds, such request has been made and all such approvals shall be obtained prior to the issuance of the Bonds. The Enabling Act provides that any refunding of Authority indebtedness shall be approved by the Trustees of the University, which approval has been obtained with respect to the issuance of the Series 2017-3 Bonds.

The Bonds will be special obligations of the Authority payable solely from funds provided under the Enabling Act, the Project Trust Agreement and the Series Resolutions, including payments made by the University under the Amended and Restated Master Contract for Financial Assistance, Management and Services dated as of February 25, 2014 (the "Contract") among the Commonwealth, acting by and through the University, the University and the Authority.

Under the Contract, the University is obligated to pay debt service on the Bonds and other costs of the Authority related thereto with respect to the Projects from all available funds of the University. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS."

The obligations of the University in connection with the Bonds do not constitute a general obligation of the University or a debt or obligation of the Commonwealth, and (a) the Commonwealth shall not be obligated to pay the Bonds, and (b) neither the faith and credit nor the taxing power of the Commonwealth or of any political subdivision thereof is pledged to the payment of the Bonds. The Enabling Act does not in any way create a so-called moral obligation of the Commonwealth or of any political subdivision thereof to pay debt service with respect to the Bonds. The Authority does not have taxing power.

Purpose and Content of Official Statement

This Official Statement describes the terms and use of proceeds of, and security for, the Bonds. This introduction is subject in all respects to the additional information contained in this Official Statement, including Appendices A through H hereto. All descriptions of documents contained herein are only summaries and are qualified in their entirety by reference to each such document.

Information about the University is set forth in Appendix A. Financial Statements of the Authority and of the University, respectively, as of and for the fiscal years ended June 30, 2016 and 2015 are set forth in Appendices B and C. A summary of certain provisions of the Project Trust Agreement and the Contract is included as Appendices D-1 and D-2, respectively. The proposed form of opinions of Bond Counsel is included in Appendix E. Appendix F includes a summary of the Continuing Disclosure Agreement with respect to the Authority and the University. Appendix G includes information about The Depository Trust Company and the book-entry only system. Appendix H includes information about the Refunded Bonds.

The summaries of the agreements and other documents herein do not purport to be comprehensive or definitive and all references to any contract, agreement and other document described herein are qualified in their entirety by reference to each such contract, agreement and other document. Definitive copies of all contracts, agreements and other documents described in the Official Statement are available for inspection prior to the date of issuance of the Bonds at the offices of the Authority, located at One Beacon Street, 31st Floor, Boston, Massachusetts 02108, and subsequent to the date of issuance of the Bonds, at the principal corporate trust office of the Trustee.

THE AUTHORITY

General

The Authority was created in 1960 by the Enabling Act as a body politic and corporate and a public instrumentality placed in the Commonwealth's Department of Education, but not subject to the supervision or regulation of that Department or of any other department, commission, board, bureau or agency of the Commonwealth except as specifically provided in the Enabling Act and described herein. In 1995, the Authority was consolidated with and assumed the obligations of the Southeastern Massachusetts Building Authority and the University of Lowell Building Authority, following the University of Lowell and Southeastern Massachusetts University, respectively, being made the University's Lowell Campus and Dartmouth Campus in 1991.

The Authority was created for the general purpose of aiding and contributing to the performance of the educational and other purposes of the University by providing dormitories, dining commons and other buildings and structures primarily for (i) the use of the University, its students, staff and their dependents, (ii) lease to or use by an organization or association of students or others, the activities of which are a part of the activities at the University and subject to regulation by the University, (iii) a research foundation or other research organization the operation of which is approved by the University or (iv) any other entity the activities of which are approved by the University as furthering the purposes of the University.

The Authority is empowered, among other things, to acquire, construct, remove, demolish, add to, alter, enlarge, reconstruct, remodel and do other work upon any building or structure and to provide and install furnishings, furniture, machinery, equipment, approaches, driveways, walkways, parking areas, planting, landscaping and other facilities therein. The Enabling Act authorizes the Authority, among other things, to acquire property from the Commonwealth or others (but the Authority has no eminent domain power), to rent or lease as lessor or lessee any portion of a project, to operate projects, to employ experts and other persons, to enter into contracts, to borrow money to finance and refinance projects it undertakes and to issue and sell its revenue bonds and notes therefor payable solely from its revenues.

The Authority's outstanding debt has primarily been issued under the Project Trust Agreement. This includes bonds that refunded debt previously issued by the Authority, the University of Lowell Building Authority, the Southeastern Massachusetts University Building Authority and the Massachusetts Development Finance Agency (or its predecessor authority). The Authority also has issued bonds under the Trust Agreement dated as of December 1, 2000 (the "Facilities Trust Agreement"), between the Authority and the Trustee. Such bonds are designated Facilities Revenue Bonds and are secured by amounts pledged therefor under the Facilities Trust Agreement and under contracts with the University executed in connection with the issuance of such bonds. Facilities Revenue Bonds, unlike bonds issued under the Project Trust Agreement, are not secured by all available funds of the University.

For information about outstanding indebtedness of the Authority, including the Authority's authorized \$200 million commercial paper program, see Appendix A under the heading "INDEBTEDNESS OF THE UNIVERSITY – Bonds Issued by the Authority." See Appendix B for a copy of the Authority's audited financial statements as of and for the years ended June 30, 2016 and 2015.

Under the Enabling Act, the Authority may have up to \$200 million principal amount of notes and bonds issued by the Authority that are outstanding and guaranteed by the Commonwealth. As of January 1, 2017, \$116,220,000 principal amount of Commonwealth guaranteed bonds were outstanding, including all outstanding bonds issued under the Facilities Trust Agreement (\$20,105,000 par amount) and \$96,115,000 of bonds issued under the Project Trust Agreement.

The Bonds are not guaranteed by the Commonwealth.

The Enabling Act requires approval by the Treasurer and Receiver General of the Commonwealth and the Secretary of the Executive Office for Administration and Finance of the Commonwealth, or by their designees, of the sale and terms of bonds or notes sold by the Authority, which approval has been obtained by the Authority.

Members, Officers and Staff

The Authority consists of eleven members appointed by the Governor of the Commonwealth, five of whom shall be appointive members of the Board of Trustees of the University and may, but need not, be graduates of the University, and two others who shall be graduates of the University. Members from the Board of Trustees of the University serve while they are Trustees of the University; each other member serves for a term expiring on June 30 in the sixth calendar year after the calendar year in which his or her term began (unless appointed to fill a vacancy in which case such member shall serve for the unexpired term). Each member continues in office until his or her successor is appointed and qualified. The Authority annually elects a chairman and vice-chairman from its members and also elects a secretary-treasurer and may elect an assistant secretary-treasurer, neither of whom needs to be a member of the Authority.

The present members and officers of the Authority and the dates of expiration of their respective terms are as follows:

<u>Member's Name, Position, Residence and Profession</u>	<u>Term Expires</u>
Mr. Victor Woolridge, Chairman, Springfield Vice President, Barings	September 1, 2019
Philip W. Johnston,* Vice Chair, Marshfield President, Philip W. Johnston Associates	September 13, 2017
Henry M. Thomas, III,* Vice Chair, Springfield President and Chief Executive Officer, Urban League of Springfield, Inc.	September 13, 2017
Paul J. Carney, Secretary-Treasurer, Montecito, California	June 30, 2020
Edward W. Collins, Jr.,* Member, Springfield International Representative, International Brotherhood of Electrical Workers	September 13, 2017
Karen G. Courtney, Member, Winchester President, K Courtney & Associates, Inc.	June 30, 2017
Gerry-Lynn Darcy, Member, Middleton Vice President of Real Estate, Lupoli Companies	June 30, 2022
Paul Lonergan, Member, Cambridge President, Congress Wealth Management	June 30, 2019
Mr. Michael J. O'Brien, North Attleboro Executive Vice President, WinnCompanies	September 1, 2021
Christopher Philbin, Member, Berlin Vice President, UMass Memorial Health Care Inc.	June 30, 2020
John T. Smolak, Member, North Andover Partner and Co-Founder, Smolak & Vaughan LLP	June 30, 2021

* University Trustee member of Authority Board. Pursuant to the Enabling Act, the members who are appointive members of the University Trustees shall continue in office as members of the Authority so long as they continue in office as University Trustees. The date indicated is the expiration date of such member's term as a University Trustee.

Patricia Filippone is the Executive Director and Assistant Secretary-Treasurer of the Authority. Prior to joining the Authority in June 2012, Ms. Filippone served in various positions at The Broad Institute since 2008, including Chief Financial Officer and Assistant Treasurer, Senior Financial Officer and Controller. Previously, she was Director of Allston Finance at Harvard University. Prior to that, Ms. Filippone was at the Massachusetts Water Resources Authority for 12 years in various positions, including as Director of Finance and Chief Financial Officer, Treasurer and Controller. She began her career at Coopers & Lybrand and has been a Certified Public Accountant since 1991. She received a B.S. from Babson College.

David P. Mullen, Esq. is the Deputy Director and General Counsel of the Authority. Prior to joining the Authority in June 2015, Mr. Mullen was in private practice from December 2002. Previously, he served as the First Deputy General Counsel for the Massachusetts Bay Transportation Authority from August 2000 to November 2002. Prior to that Mr. Mullen was at the Massachusetts Highway Department from August 1992 to August 2000; serving as its Chief Counsel from 1998 to 2000. Mr. Mullen has also been an adjunct professor at law at the New England School of Law, Southern New England School of Law and Quincy College teaching various classes beginning in 1992 to present. After graduating from Suffolk University Law School in 1988, Mr. Mullen was appointed as an Assistant District Attorney in Suffolk County, Massachusetts. He has been a member of the Massachusetts Bar for 28 years and is a member of the Federal Bar.

Robert Dolan is the Chief Financial Officer of the Authority. Previously, Mr. Dolan served as the Director of Finance from 2010-2015 and as Assistant Budget Director from 2007-2010, both in the Executive Office for Administration and Finance of the Commonwealth. Prior to that, he served on the staff of the Massachusetts Senate Committee on Ways and Means for seven years. Mr. Dolan received a B.A. from St. Anselm College.

Michael Wilson is the Treasurer and Budget Director of the Authority. Previously, Mr. Wilson worked as the Acting Budget Director for the Massachusetts Department of Transportation where he managed a \$1.3 billion operating and capital budget. Prior to that, he was the Budget Director for the Massachusetts Turnpike Authority. Mr. Wilson received a B.S. in Business Administration from Salem State University.

Joseph Naughton is the Director of Capital Projects of the Authority. Previously, Mr. Naughton worked for the University's President's Office since 2006 in various positions, including as Director of Budget and Planning and Assistant Budget Director and Manager of Capital Planning. Prior to that, he was the Bond Fund Manager of the Capital Expenditure and Program Office for the Commonwealth's Department of Transportation. Mr. Naughton received a B.S. in Accounting from the Carroll School of Management at Boston College.

The Authority maintains offices at One Beacon Street, 31st Floor, Boston, Massachusetts 02108. The Authority's telephone number is (617) 287-3200. Its website can be found at <http://www.massachusetts.edu/buildingauthority/bahome.html>.

THE BONDS

General

The Bonds will be issued as fully registered bonds in the aggregate principal amounts as set forth on the inside cover page hereof, will be dated the date of delivery and will bear interest from that date to their respective maturities as set forth on the inside cover page hereof, subject to redemption as described below. Ownership interests in the Bonds will be available in denominations of \$5,000 and integral multiples thereof. Interest on the Bonds will be payable on May 1, 2017 and on each November 1 and May 1 thereafter or, if any such day is not a Business Day, the next Business Day.

So long as Cede & Co. is the registered owner of Bonds, all payments of principal and interest on the Series Bonds are payable by wire transfer by the Trustee to Cede & Co., as nominee for The Depository Trust Company ("DTC"), New York, New York, which will, in turn, remit such amounts to the DTC Participants for subsequent disposition to Beneficial Owners. See Appendix G – "Book-Entry Only System" herein.

Redemption Provisions

The Series 2017-2 Bonds are not subject to redemption prior to maturity.

Redemption of the Series 2017-1 Bonds by Sinking Fund Installments. The Series 2017-1 Bonds stated to mature on November 1, 2042 shall be redeemed as provided in the 2017-1 Series Resolution by mandatory Sinking Fund Installments on November 1 at their principal amounts without premium, plus accrued interest to the redemption date as follows:

<u>Year</u>	<u>Amount</u>
2038	\$13,040,000
2039	13,745,000
2040	14,485,000
2041	15,260,000
2042	16,090,000

The Series 2017-1 Bonds stated to mature on November 1, 2044 shall be redeemed as provided in the 2017-1 Series Resolution by mandatory Sinking Fund Installments on November 1 at their principal amounts without premium, plus accrued interest to the redemption date as follows:

<u>Year</u>	<u>Amount</u>
2043	\$16,850,000
2044	17,535,000

The Series 2017-1 Bonds stated to mature on November 1, 2047 shall be redeemed as provided in the 2017-1 Series Resolution by mandatory Sinking Fund Installments on November 1 at their principal amounts without premium, plus accrued interest to the redemption date as follows:

<u>Year</u>	<u>Amount</u>
2045	\$18,365,000
2046	19,360,000
2047	20,400,000

Optional Redemption of the Series 2017-1 Bonds and the Series 2017-3 Bonds. All of the Series 2017-1 Bonds and the portion of the Series 2017-3 Bonds maturing on or after November 1, 2028 are subject to optional redemption prior to their stated maturity date on or after November 1, 2027 at the option of the Authority, in whole or in part, at any time, at a Redemption Price equal to the principal amount of such Bonds or portion thereof to be redeemed, without premium, plus interest accrued thereon to the date fixed for redemption. Any optional redemption may be stated to be conditional, and shall be conditioned upon the Trustee's receipt of funds sufficient to pay the Redemption Price of the Bonds to be redeemed on or prior to the Redemption Date.

Notice of Redemption. The Trustee is required to give notice of redemption of any Bonds, specifying the date of redemption, the portions of the principal amounts thereof to be redeemed and the redemption price, by mail, not more than sixty (60) days nor less than thirty (30) days prior to the redemption date, to the registered owners of any Bonds, or portions thereof, to be redeemed. Notice of redemption will be mailed to DTC or its nominee, as registered owner of the Bonds. Any notice of optional redemption may be conditional. The Trustee will not be responsible for mailing notices of redemption to anyone other than DTC or its nominee. The Authority is not responsible for mailing any notice of redemption.

Selection of Bonds To Be Redeemed Upon Partial Redemption. If less than all of the Bonds or a series are to be redeemed, the particular maturities or Sinking Fund Installments of the series of Bonds to be redeemed at the option of the Authority will be determined by the Authority in its sole discretion.

If the Bonds are registered in book-entry only form and so long as DTC or a successor securities depository is the sole registered owner of such Bonds, if less than all of the Bonds of a maturity are called for prior redemption, the particular Bonds or portions thereof to be redeemed shall be selected on a pro rata pass-through distribution of principal basis in accordance with DTC procedures, provided that, so long as the Bonds are held in book-entry form, the selection for redemption of such Bonds shall be made in accordance with the operational arrangements of DTC then in effect, and, if the DTC operational arrangements do not allow for redemption on a pro rata pass-through distribution of principal basis, the Bonds will be selected for redemption, in accordance with DTC procedures, by lot.

The Authority intends that redemption allocations made by DTC be made on a pro rata pass-through distribution of principal basis as described above. However, neither the Authority nor the Underwriters can provide any assurance that DTC, DTC's direct and indirect participants or any other intermediary will allocate the redemption of Bonds on such basis.

Effect of Redemption. Notice of redemption having been given in the manner provided above, money sufficient for the redemption being held by the Trustee for such purpose, the Bonds so called for redemption shall become due and payable on the redemption date, and interest thereon shall cease to accrue and the owners of the Bonds so called for redemption shall thereafter no longer have any security or benefit under the Project Trust Agreement except to receive payment of the redemption price for such Bonds.

SECURITY AND SOURCES OF PAYMENT FOR THE BONDS

General

The Bonds are special obligations of the Authority payable solely from the funds provided under the provisions of the Enabling Act, the Project Trust Agreement and the Series Resolutions, including payments received from the University under the Contract.

Pursuant to the Contract, the University is obligated to make payments to the Authority to pay debt service on the Bonds and other costs related to the Bonds and the Projects. Such payments are secured by a pledge of the University of all available funds of the University, including trust funds and other funds administered by the University as gifts, grants or trusts, or as provided in the University's enabling act. Further, under the Contract, the University is obligated to cause to be available in the Unrestricted Net Assets at all times amounts sufficient to pay such costs.

However, the Bonds themselves do not constitute a general obligation of the University or a debt or obligation of the Commonwealth, and (a) the Commonwealth shall not be obligated to pay the Bonds, and (b) neither the faith and credit nor the taxing power of the Commonwealth or of any political subdivision thereof is pledged to the payment of the Bonds. The Enabling Act does not in any way create a so-called moral obligation of the Commonwealth or of any political subdivision thereof to pay debt service with respect to the Bonds. The Authority does not have taxing power.

Contract

The following is a brief overview of the terms of the Contract. For more details, see Appendix D-2 – "Summary of Certain Provisions of the Contract."

In connection with the issuance of the Bonds, the Authority and the University will certify that the Bonds are subject to the Contract.

Under the Contract, the University has agreed to remit to the Trustee amounts sufficient to pay debt service on the Authority bonds and notes that are secured by the Contract, including the Bonds, and to maintain, repair and operate the projects financed or refinanced by such bonds or notes.

The Contract also sets forth the Authority's and the University's respective obligations with respect to the projects that are the subject of the Contract, including, as applicable, acquisition, planning, construction, completion, operation, management, maintenance and repair thereof.

Under the Contract, the Authority shall annually certify by March 1 to the University for the twelve-month period commencing the next succeeding November 1, the amount estimated to cover the costs of debt service and other related expenses, including amounts to be funded under the Project Trust Agreement or Facilities Trust Agreement, as applicable, and costs related to the projects that are the subject of the Contract, in each case detailed by component of the financed projects. Such certificate, which may be revised from time to time as necessary, shall include the date on which such amounts are due and the source of such payments. For any project operated by the Authority for which the Authority sets rates and charges for such project, such certificate shall detail the fees, rents, rates and other charges proposed for the use of such projects, which shall be fixed so as to be sufficient, in the aggregate, together with other available moneys, to cover all of the costs allocable to such projects.

Under the Contract, the University pledges to the making of payments required thereunder from all available funds of the University, including trust funds and other funds administered by the University as gifts, grants or trusts. In addition, the University shall cause to be available in the Unrestricted Net Assets at all times amounts sufficient to pay such portion of the amounts certified by the Authority required to be paid therefrom and to provide for any other payments required under the MDFA Financing Agreements (as defined in Appendix D and referred to below under "Additional Indebtedness"). This pledge of the general obligation of the University does not apply to certain projects, referred to in the Contract as "Specific Revenue Projects" and bonds or notes related thereto. See Appendix D-2.

By April 1 of each year, the University Treasurer shall certify in writing to the Authority whether or not there are sufficient funds in the Unrestricted Net Assets to pay the amounts so required to be paid therefrom and, if so, that such funds will be held in trust in the Unrestricted Net Assets for the equal and ratable benefit of the Authority and each other person or entity for whose benefit amounts will be applied to the payment of amounts required to be paid therefrom and will not be expended for any other purpose. Such funds will be so held and not expended for any other purpose; provided, however, that if any portion of the amount to be paid to the Authority is paid from gifts or trust funds or funds generated by the Authority from projects, then after any such payment an amount equal to such portion so paid need no longer be held in the Unrestricted Net Assets.

If such certification states that sufficient funds are not available in the Unrestricted Net Assets to pay such amounts, such certification shall state the amount of funds so available and ratable portion of such funds and hold them in trust for the benefit of the Authority to be applied pro rata. Notwithstanding any shortfall, the University will continue to be obligated to make payments in full. Further, under the Contract, the Authority is authorized to adopt or revise fee and other charges for the use of its projects and to bill and collect from students in the University the amounts necessary to cover any such shortfall. To date, there has never been such a shortfall.

Pledge of Revenues Under the Project Trust Agreement

The following is a brief overview of certain terms of the Project Trust Agreement. For more details, see Appendix D-1 – "Summary of Certain Provisions of the Project Trust Agreement."

Under the Project Trust Agreement the Authority assigns, pledges and grants to the Trustee a security interest in all rights of the Authority under the Contract to receive amounts payable to the Authority thereunder.

Under the Project Trust Agreement the Authority pledges to the Trustee for the benefit of the holders of the Bonds and all other bonds issued under the Project Trust Agreement (i) all moneys paid or payable for deposit in or on deposit in any Fund, Account or subaccount created under the Project Trust Agreement, all investments received or receivable for deposit in or on deposit in any Fund, Account or subaccount created under the Project Trust Agreement and all interest or other income on such investments paid or payable for deposit in or on deposit in any Fund, Account or subaccount created thereunder and all rights of the Authority to receive such moneys, investments and interest or other income (except for the Rebate Fund), subject to application of such moneys, investments and other income as provided in the Project Trust Agreement and (ii) subject to the Project Trust Agreement, (a) the Revenues from each project financed or refinanced under the Project Trust Agreement and (b) the Revenues,

including Secondary Revenues payable to the Authority from Other Projects, except as set forth in the Project Trust Agreement.

Pursuant to the Enabling Act, Revenues pledged by the Project Trust Agreement and received by the Authority in connection with the projects financed or refinanced by any Series of bonds issued under the Project Trust Agreement are pledged to the payment of the principal of and interest on all Outstanding bonds under the Project Trust Agreement as they become due, the redemption price or the purchase price of Outstanding bonds redeemed or purchased as provided in the Project Trust Agreement and other costs payable with respect to Outstanding bonds under the Project Trust Agreement. As of January 1, 2017, there was \$2,648,285,000 principal amount of bonds outstanding under the Project Trust Agreement.

Rate Covenant

Under the Project Trust Agreement, the Authority covenants that it will fix, revise, adjust and collect fees, rents, rates and other charges for the use of each Project and any other projects or property the Revenues from which are pledged under such Project Trust Agreement to provide Revenues sufficient in the aggregate to pay all expenses of the Authority allocable to projects financed or refinanced under the Project Trust Agreement and debt service on all bonds issued and Outstanding under the Project Trust Agreement, all as set forth in Appendix D-1 – “Summary of Legal Documents.”

Additional Indebtedness

The Project Trust Agreement provides that the Authority may issue additional bonds on a parity with or subordinate to the Bonds issued under the Project Trust Agreement. See Appendix D-1 – “Summary of Certain Provisions of the Project Trust Agreement.”

For a description of the Authority’s indebtedness, see Appendix B.

Pursuant to certain financing agreements between the University, acting in the name and on behalf of the Commonwealth, and the Massachusetts Health and Educational Facilities Authority and its successor, the Massachusetts Development Finance Agency, in connection with the issuance of other debt for the University, the University agreed not to request or permit the Authority to issue additional indebtedness on behalf of the University except (i) indebtedness that is payable from all available funds of the University or (ii) indebtedness secured by pledged revenues derived from the project or projects being financed, new or increased student fees, existing pledged revenues or any combination of the foregoing, provided, that the maximum annual debt service on all such revenue-backed indebtedness then outstanding, including the proposed additional indebtedness, does not exceed 10% of the amount shown on the then most recent audited financial statements of the University as total available revenues. In addition, no such indebtedness shall be subject to acceleration.

For a description of the University’s indebtedness, see Appendix A.

Annual Debt Service Requirements

The following table sets forth for each fiscal year ending June 30 the debt service on Outstanding bonds under the Project Trust Agreement and the Facilities Trust Agreement (excluding the Refunded Bonds), following the issuance of the Bonds, including principal (whether at maturity or by mandatory sinking fund redemption), interest and total debt service.

Fiscal Year Ended June 30	Debt Service on Outstanding Authority Bonds*	Principal of Series 2017-1 Bonds	Interest on Series 2017-1 Bonds	Principal of Series 2017-2 Bonds	Interest on Series 2017-2 Bonds	Principal of Series 2017-3 Bonds	Interest on Series 2017-3 Bonds	Total Debt Service Requirements for the Bonds	Total Debt Service on Authority Bonds
2017	\$203,936,802	-	\$2,082,766	-	\$134,484	-	\$2,342,605	\$ 4,559,855	\$208,496,657
2018	196,519,330	-	8,239,513	-	532,023	\$ 2,920,000	9,223,650	20,915,186	217,434,516
2019	195,128,356	-	8,239,513	\$1,445,000	520,608	5,815,000	9,063,550	25,083,670	220,212,026
2020	182,426,074	-	8,239,513	1,470,000	496,844	18,930,000	8,474,000	37,610,357	220,036,431
2021	197,457,686	-	8,239,513	1,495,000	469,322	4,385,000	7,891,125	22,479,959	219,937,645
2022	186,989,786	-	8,239,513	1,530,000	436,017	3,480,000	7,694,500	21,380,030	208,369,816
2023	187,179,853	-	8,239,513	1,570,000	397,712	3,650,000	7,516,250	21,373,475	208,553,327
2024	186,716,127	-	8,239,513	2,255,000	345,517	3,840,000	7,329,000	22,009,029	208,725,156
2025	168,742,675	-	8,239,513	2,320,000	278,232	5,335,000	7,099,625	23,272,369	192,015,044
2026	169,180,998	-	8,239,513	2,390,000	205,086	8,010,000	6,766,000	25,610,599	194,791,597
2027	164,830,593	-	8,239,513	2,475,000	126,738	8,410,000	6,355,500	25,606,751	190,437,344
2028	163,506,820	-	8,239,513	2,560,000	43,136	8,830,000	5,924,500	25,597,149	189,103,968
2029	154,597,165	-	8,239,513	-	-	14,075,000	5,351,875	27,666,388	182,263,553
2030	146,025,285	-	8,239,513	-	-	11,850,000	4,703,750	24,793,263	170,818,548
2031	126,254,008	-	8,239,513	-	-	15,540,000	4,019,000	27,798,513	154,052,521
2032	126,684,174	-	8,239,513	-	-	16,325,000	3,222,375	27,786,888	154,471,062
2033	134,365,536	-	8,239,513	-	-	9,285,000	2,582,125	20,106,638	154,472,174
2034	120,427,719	-	8,239,513	-	-	7,650,000	2,158,750	18,048,263	138,475,982
2035	135,132,658	-	8,239,513	-	-	8,050,000	1,766,250	18,055,763	153,188,421
2036	148,525,695	-	8,239,513	-	-	8,450,000	1,353,750	18,043,263	166,568,958
2037	147,579,454	-	8,239,513	-	-	8,895,000	920,125	18,054,638	165,634,092
2038	139,709,861	-	8,239,513	-	-	9,340,000	464,250	18,043,763	157,753,624
2039	137,878,250	\$13,040,000	7,897,213	-	-	4,615,000	115,375	25,667,588	163,545,838
2040	115,760,470	13,745,000	7,194,106	-	-	-	-	20,939,106	136,699,576
2041	114,285,318	14,485,000	6,453,069	-	-	-	-	20,938,069	135,223,387
2042	844,139,086	15,260,000	5,672,263	-	-	-	-	20,932,263	865,071,349
2043	84,415,423	16,090,000	4,849,325	-	-	-	-	20,939,325	105,354,748
2044	81,390,276	16,850,000	4,089,963	-	-	-	-	20,939,963	102,330,239
2045	56,247,741	17,535,000	3,402,263	-	-	-	-	20,937,263	77,185,004
2046	21,884,100	18,365,000	2,569,481	-	-	-	-	20,934,481	42,818,581
2047	-	19,360,000	1,579,200	-	-	-	-	20,939,200	20,939,200
2048	-	20,400,000	535,500	-	-	-	-	20,935,500	20,935,500

*Includes interest on the Authority's Project Revenue Bonds, Senior Series 2008-1, Facilities Revenue Bonds, Senior Series 2008-A Bonds, Project Revenue Bonds, Senior Series 2011-1 Bonds and Project Revenue Bonds, Senior Series 2011-2, each issued as variable rate debt, Outstanding as of January 1, 2017 in the principal amounts of \$179,425,000, \$20,105,000, \$126,540,000 and \$96,115,000, respectively, and amortizing in accordance with the terms thereof, assumed at the rates of 3.388%, with respect to the 2008-1 Bonds; 3.378%, with respect to the 2008-A Bonds; and 3.482%, with respect to the 2011-1 Bonds and 2011-2 Bonds. These assumed rates are based on the fixed rates being paid to the counterparties under interest rate swap agreements associated with such bonds. See Note 5 to the Financial Statements of the Authority as of and for the years ended June 30, 2016 and 2015 attached hereto as Appendix B and see also Appendix A under the heading "INDEBTEDNESS OF THE UNIVERSITY – Bonds Issued by the Authority – Interest Rate Swap Agreements." With respect to the Authority's Project Revenue Bonds, Senior Series 2009-2 and Project Revenue Bonds, Senior Series 2010-2, which were issued as so-called "Build America Bonds" under the American Recovery and Reinvestment Act of 2009, outstanding as of January 1, 2017 in the aggregate principal amount of \$702,175,000 and amortizing in accordance with the terms thereof, interest *includes* the cash subsidy payments expected to be received from the United States Department of the Treasury.

THE PROJECTS

The Series 2017-1 Bonds are being issued to finance and refinance projects in the University's capital plan that meet certain conditions set forth in the 2017-1 Series Resolution (collectively, the "Series 2017-1 Projects"), including without limitation all or a portion of the costs of the projects listed below:

On the Amherst Campus:

- Renovations to the backfill of the Life Science Laboratories;
- Expansion and renovation of the Isenberg School of Management;
- Expansion of and improvements to central chilled water plants;
- Improvements to the Physical Sciences Building;
- Improvements to the Integrated Design Building;
- Improvements to the South College Academic Building;
- Restoration of and improvements to Old Chapel; and
- Maintenance and improvements to the DuBois writing program and image library.

On the Dartmouth Campus:

- Expansion of the School for Marine Science & Technology; and
- General improvements to classroom, teaching laboratory and learning space.

On the Lowell Campus:

- Improvements to the elevators in Fox Hall.

The Series 2017-2 Bonds are being issued to finance projects in the University's capital plan that meet certain conditions set forth in the 2017-2 Series Resolution (collectively, the "Series 2017-2 Projects"), including without limitation all or a portion of the costs of the projects listed below:

On the Amherst Campus:

- Renovation of and addition to the Isenberg School of Management.

On the Dartmouth Campus:

- Expansion of the Charlton School of Management.

See Appendix A under the heading "CURRENT AND FUTURE CAPITAL PLANS" for additional information about the Series 2017-1 Projects, the Series 2017-2 Projects and the University's capital plan. Under the 2017-1 Series Resolution and the Series 2017-2 Resolution, the Authority may substitute other projects in the University's capital plan that have been requested by the University to be initiated by the Authority and that have been approved by the Secretary of the Executive Office for Administration and Finance of the Commonwealth.

PLAN OF REFUNDING

A portion of the proceeds of the Series 2017-3 Bonds will be used to refund the Refunded Bonds listed in Appendix H. Such proceeds will be deposited into accounts of refunding escrow funds held by U.S. Bank National Association, as escrow agent, in amounts that will be invested in direct obligations of, or obligations the payment of the principal and interest on which are unconditionally guaranteed by, the United States of America (the "Defeasance Obligations"). The Defeasance Obligations will mature at such times and earn interest in such amounts that, together with any initial cash deposits, will produce sufficient moneys to provide for the payment of the redemption prices, plus accrued interest on the Refunded Bonds to the redemption date, as set forth in Appendix H.

APPLICATION OF PROCEEDS OF THE BONDS

Costs of the Series 2017-1 Projects	\$167,900,000
Costs of the Series 2017-2 Projects	19,400,000
Refunding of the Refunded Bonds	218,520,574
Principal of and interest on commercial paper notes	20,034,489
Costs of issuance	<u>2,452,255</u>
Total	\$428,307,318

LITIGATION

There is no litigation of any nature now pending or, to the knowledge of the Authority, threatened seeking to restrain or enjoin or restraining or enjoining the issuance, sale, execution or delivery of the Bonds or in any way contesting the validity of the Bonds or any proceedings of the Authority taken with respect to the issuance or sale thereof, the validity of the Contract, or any proceedings of the Authority or of the Commonwealth taken with respect thereto, or of the pledge of any moneys or security provided under the Project Trust Agreement for the payment of the Bonds or the existence or powers of the Authority or the titles of its officers to their offices.

See Appendix A under the caption "LITIGATION" for information about the University.

LEGALITY FOR INVESTMENT

As declared by the Enabling Act, the Bonds are securities in which all public officers and public bodies of the Commonwealth and its political subdivisions, all savings banks, insurance companies, trust companies in their commercial departments and, within the limits set by Section 40 of Chapter 172 of the General Laws of the Commonwealth, banking associations, investment companies, executors, trustees and other fiduciaries, and all other persons whatsoever who are now or may hereto be authorized to invest in bonds or other obligations of a similar nature, may properly and legally invest funds, including capital, in their control or belonging to them. The Bonds are securities which may properly and legally be deposited with and received by any state or municipal officer or any agency or political subdivision of the Commonwealth for any purpose for which the deposit of bonds or other obligations of the Commonwealth is now or may hereto be authorized by law.

TAX MATTERS

Federal Tax Matters for the Series 2017-1 Bonds and the Series 2017-3 Bonds

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Bond Counsel to the Authority ("Bond Counsel"), is of the opinion that, under existing law, interest on the Series 2017-1 Bonds and the Series 2017-3 Bonds (together, the "Tax Exempt Bonds") will not be included in the gross income of the holders of such Tax Exempt Bonds for federal income tax purposes. This opinion is expressly conditioned upon compliance with certain requirements imposed by the Internal Revenue Code of 1986, as amended (the "Code"), which must be satisfied subsequent to the date of issuance of the Tax Exempt Bonds in order to ensure that interest on the Tax Exempt Bonds is and continues to be excludable from the gross income of the holders of the Tax Exempt Bonds. Failure to comply with certain of such requirements could cause the interest on the Tax Exempt Bonds to be included in the gross income of holders of the Tax Exempt Bonds, retroactive to the date of issuance of the Tax Exempt Bonds. In particular, and without limitation, those requirements include restrictions on the use, expenditure and investment of proceeds and payment of rebate, or penalties in lieu of rebate, to the United States, subject to certain exceptions. The Authority has provided covenants and certificates as to continued compliance with such requirements.

A portion of the Series 2017-3 Bonds will be used to refinance certain projects of the University used by Worcester City Campus Corporation ("WCCC") and to refinance the EMK Project which will be used by the Edward M. Kennedy Institute for the United States Senate, Inc. (the "EMK Institute"). WCCC and EMK Institute have each received a determination from the Internal Revenue Service that it is exempt from federal income taxation pursuant to Section 501(c)(3) of the Code. Such portion of the Series 2017-3 Bonds will be treated as "qualified 501(c)(3) bonds" under the Code. WCCC and EMK Institute have provided covenants and certificates as to continued compliance with the requirements of the Code to maintain the tax exempt status of such portion of the Series 2017-3 Bonds.

In the opinion of Bond Counsel, under existing law, since the Tax Exempt Bonds are not “private activity bonds” under the Code, interest on the Tax Exempt Bonds will not constitute a preference item under Section 57(a)(5) of the Code for purposes of computation of the alternative minimum tax imposed on certain individuals and corporations under Section 55 of the Code. However, interest on the Tax Exempt Bonds will be included in “adjusted current earnings” of corporate holders of the Tax Exempt Bonds and therefore will be taken into account under Section 56(g) of the Code in the computation of the alternative minimum tax applicable to certain corporations.

Bond Counsel has not opined as to any other federal tax consequences of holding the Tax Exempt Bonds. However, prospective purchasers should be aware that (i) Section 265 of the Code denies a deduction for interest on indebtedness incurred or continued to purchase or carry the Tax Exempt Bonds or, in the case of a financial institution, that portion of the holder’s interest expense allocated to such Bonds, (ii) with respect to insurance companies subject to the tax imposed by Section 831 of the Code, Section 832(b)(5)(B)(1) reduces the deduction for losses incurred by 15 percent of the sum of certain items, including interest on the Tax Exempt Bonds, (iii) interest on the Tax Exempt Bonds earned by certain foreign corporations doing business in the United States could be subject to a foreign branch profits tax imposed by Section 884 of the Code, (iv) passive investment income, including interest on the Tax Exempt Bonds, may be subject to federal income taxation under Section 1375 of the Code for an S Corporation that has Subchapter C earnings and profits at the close of the taxable year if greater than 25% of the gross receipts of such S Corporation is passive investment income, (v) Section 86 of the Code requires recipients of certain Social Security and certain Railroad Retirement benefits to take into account in determining gross income receipts or accruals of interest on the Tax Exempt Bonds and (vi) receipt of investment income, including interest on the Tax Exempt Bonds, may, pursuant to Section 32(i) of the Code, disqualify the recipient from obtaining the earned income credit otherwise provided by Section 32(a) of the Code.

Interest paid on tax-exempt obligations such as the Tax Exempt Bonds is generally required to be reported by payors to the IRS and to recipients in the same manner as interest on taxable obligations. In addition, such interest may be subject to “backup withholding” if the Bondholder fails to provide the information required on IRS Form W-9, Request for Taxpayer Identification Number and Certification, or the IRS has specifically identified the Bondholder as being subject to backup withholding because of prior underreporting. Neither the information reporting requirement nor the backup withholding requirement affects the excludability of interest on the Tax Exempt Bonds from gross income for federal tax purposes.

An amount equal to the excess, if any, of the purchase price of a Tax Exempt Bond over the principal amount payable at maturity constitutes amortizable bond premium. The required amortization of such premium during the term of a Tax Exempt Bond will result in reduction of the holder’s tax basis in such Tax Exempt Bond. Such amortization also will result in reduction of the amount of the stated interest on the Tax Exempt Bond taken into account as interest for tax purposes. Holders of Tax Exempt Bonds purchased at a premium should consult their own tax advisors with respect to the determination and treatment of such premium for federal income tax purposes and with respect to the state or local tax consequences of owning such Tax Exempt Bonds.

Bond Counsel has not undertaken to advise in the future whether any events after the date of issuance of the Tax Exempt Bonds, including legislation, court decisions, or administrative actions, whether at the federal or state level, may affect the tax exempt status of interest on the Tax Exempt Bonds or the tax consequences of ownership of the Tax Exempt Bonds. No assurance can be given that future legislation, if enacted into law, will not contain provisions which could directly or indirectly reduce the benefit of the exclusion of the interest on the Tax Exempt Bonds from gross income for federal income tax purposes or any state tax benefit. Tax reform proposals and deficit reduction measures, including the limitation of federal tax expenditures, are expected to be under ongoing consideration by the United States Congress. These efforts to date have included proposals to reduce the benefit of the interest exclusion from income for certain holders of tax-exempt bonds, including bonds issued prior to the proposed effective date of the applicable legislation. Future proposed changes could affect the market value or marketability of the Tax Exempt Bonds, and, if enacted, could also affect the tax treatment of all or a portion of the interest on the Tax Exempt Bonds for some or all holders. Holders should consult their own tax advisors with respect to any of the foregoing tax consequences.

Federal Tax Matters for the Series 2017-2 Bonds

The following discussion briefly summarizes the principal U.S. federal tax consequences of the acquisition, ownership, and disposition of the Series 2017-2 Bonds for holders who acquire any Series 2017-2 Bonds in the initial offering and hold such Series 2017-2 Bonds as “capital assets.” It does not discuss all aspects of U.S. federal income taxation which may apply to a particular holder, nor does it discuss U.S. federal income tax provisions which may apply to particular categories of holders, such as partnerships, insurance companies, financial institutions, regulated investment companies, real estate investment trusts, employee benefit plans, tax-exempt organizations, dealers in securities or foreign currencies, persons holding Series 2017-2 Bonds as a position in a “hedge” or “straddle,” an integrated conversion transaction, or holders whose functional currency is not the U.S. dollar. It is based upon provisions of existing law which are subject to change at any time, possibly with retroactive effect. No rulings have been or are expected to be sought from the U.S. Internal Revenue Service (the “IRS”) with respect to any of the U.S. federal income tax consequences discussed below, and no assurance can be given that the IRS will not take contrary positions.

Except as otherwise explicitly noted below, this summary addresses only “U.S. Holders,” that is, individual citizens or residents of the United States, corporations or other business entities organized under the laws of the United States, any state, or the District of Columbia, estates with income subject to United States federal income tax, trusts subject to primary supervision by a United States court and for which United States persons control all substantial decisions, and certain other trusts that elect to be treated as United States persons. This discussion relates only to U.S. federal income taxes and not to any state, local or foreign taxes or U.S. federal taxes other than income taxes.

Interest on the Series 2017-2 Bonds that is “qualified stated interest” generally will be taxable to a U.S. Holder as ordinary interest income at the time such payments are accrued or are received (in accordance with the U.S. Holder’s regular method of tax accounting). Generally, “qualified stated interest” means stated interest that is unconditionally payable in cash or property (other than debt instruments of the issuer) at least annually at a single fixed rate and includes the semi-annual interest payments as set forth on the inside cover hereof.

An amount equal to the excess, if any, of the purchase price of a Series 2017-2 Bond over the principal amount payable at maturity generally constitutes amortizable bond premium. A holder of a Series 2017-2 Bond may elect to amortize such premium during the term of such Series 2017-2 Bond by claiming an offset to interest otherwise required to be included in income during any taxable year by the amortizable amount of such premium for the taxable year. Such amortization will result in a corresponding reduction of the holder’s tax basis in such Series 2017-2 Bond. Any election to amortize bond premium applies to all taxable debt instruments held by the holder at the beginning of the first taxable year to which the election applies and to all taxable debt instruments acquired on or after such date and may be revoked only with the consent of the Internal Revenue Service. Holders of Series 2017-2 Bonds purchased at a premium should consult their own tax advisors with respect to the determination and treatment of amortizable bond premium.

Unless a non-recognition provision of the Code applies, upon the sale, exchange, redemption, or other disposition (including a legal defeasance) of a Series 2017-2 Bond, a U.S. Holder will recognize taxable gain or loss in an amount equal to the difference between the amount realized (other than amounts representing accrued but unpaid interest) and such holder’s adjusted tax basis in such Series 2017-2 Bond. Such gain or loss generally will be long-term capital gain or loss if the Series 2017-2 Bond was held for more than one year. If the U.S. Holder is an individual, long-term gains will be subject to reduced rates of taxation. The deductibility of losses is subject to limitations.

A non-U.S. Holder of Series 2017-2 Bonds whose income from such Series 2017-2 Bonds is effectively connected with the conduct of a U.S. trade or business generally will be taxed as if the holder were a U.S. Holder. Otherwise: (i) a non-U.S. Holder who is an individual or corporation (or an entity treated as a corporation for federal income tax purposes) holding Series 2017-2 Bonds on its own behalf (other than a bank which acquires the Series 2017-2 Bonds in consideration of an extension of credit made pursuant to a loan agreement entered into in the ordinary course of business) generally will not be subject to federal income taxes on payments of principal, premium, interest or original issue discount on a Series 2017-2 Bond, as long as the non-U.S. Holder makes an appropriate filing with a U.S. withholding agent; and (ii) a non-U.S. Holder will not be subject to federal income

taxes on any amount which constitutes capital gain upon retirement or disposition of a Series 2017-2 Bond unless such non-U.S. Holder is an individual who is present in the United States for 183 days or more in the taxable year of the disposition and such gain is derived from sources within the United States.

A Series 2017-2 Bond held by an individual Non-U.S. Holder who at the time of death is not a citizen or resident of the United States will not be subject to U.S. federal estate tax as a result of such individual's death, provided that at the time of such individual's death, payments of interest with respect to the Series 2017-2 Bond would not have been effectively connected with the conduct by such individual of a trade or business within the United States.

Information as to interest on or proceeds from the sale or other disposition of Series 2017-2 Bonds is required to be reported by payors to the IRS and to recipients. In addition, backup withholding may apply unless the holder of a Series 2017-2 Bond provides to a withholding agent its taxpayer identification number and certain other information or certification of foreign or other exempt status. Any amount withheld under the backup withholding rules is allowable as a refund or credit against the holder's actual U.S. federal income tax liability.

Certain non-corporate U.S. Holders will be subject to a 3.8% tax, in addition to regular tax on income and gains, on some or all of their "net investment income," which generally will include interest on the Series 2017-2 Bonds and any net gain recognized upon a disposition of a Series 2017-2 Bond. U.S. Holders should consult their tax advisors regarding the applicability of this tax.

Under the Foreign Account Tax Compliance Act ("FATCA"), foreign financial institutions must comply with information reporting rules with respect to their U.S. account holders and investors or be required to withhold tax on U.S. source payments made to them.

Bond counsel is not rendering an opinion as to the foregoing federal tax consequences of ownership of the Series 2017-2 Bonds. Series 2017-2 Bondholders should seek advice based on their particular circumstances relating to the tax consequences of purchasing or holding federally taxable bonds from an independent tax advisor.

State Tax Matters for the Bonds

In the opinion of Bond Counsel, interest on the Bonds and any profit made on the sale thereof are exempt from Massachusetts personal income taxes and the Bonds are exempt from Massachusetts personal property taxes. Bond Counsel has not opined as to other Massachusetts tax consequences arising with respect to the Bonds. Prospective purchasers should be aware, however, that the Bonds are included in the measure of Massachusetts estate and inheritance taxes, and the Bonds and the interest thereon are included in the measure of Massachusetts corporate excise and franchise taxes. Bond Counsel has not opined as to the taxability of the Bonds, their transfer and the income therefrom, including any profit made on the sale thereof, under the laws of any state other than Massachusetts.

Opinion of Bond Counsel

On the date of delivery of the Bonds, the original purchasers of the Bonds will be furnished with an opinion of Bond Counsel substantially in the applicable form shown in "Proposed Form of Opinions of Bond Counsel" attached hereto as Appendix E.

CERTAIN ERISA CONSIDERATIONS

The information under this heading summarizes certain considerations associated with the purchase of the Bonds by employee pension and welfare plans. The Employee Retirement Income Security Act of 1974, as amended ("ERISA"), imposes certain fiduciary obligations and prohibited transaction restrictions on employee benefit plans subject to Title I of ERISA ("ERISA Plans"). Section 4975 of the Code imposes essentially the same prohibited transaction restrictions on certain arrangements set forth in Section 4975(e)(1) which include, among other arrangements, tax-qualified retirement plans described in Section 401(a) and 403(b) of the Code, which are exempt from tax under Section 501(a) of the Code, individual retirement accounts, individual retirement annuities, Archer MSAs, health savings accounts, and Coverdell education savings accounts described in sections 4975(e)(1)(B) through (F) of the Code (collectively, "Tax-Favored Plans"). Certain types of U.S. employee benefit plans, such as

governmental plans (as defined in Section 3(32) of ERISA), and church plans (as defined in Section 3(33) of ERISA and Section 4975(g)(3) of the Code), as well as non-U.S. employee benefit plans, are exempt from ERISA requirements and Code requirements but may nonetheless be subject to similar provisions of state and federal or foreign laws (“Similar Laws”). The information under this heading addresses the requirements of ERISA and the Code, but it should be understood that Similar Laws may impose comparable requirements.

General Fiduciary Matters. Among other requirements, ERISA requires fiduciaries to exercise prudence when investing ERISA Plan assets, taking into account diversification of the ERISA Plan’s portfolio, liquidity needs and the requirement that ERISA Plan investments be made in accordance with the documents governing such ERISA Plan. Under ERISA, any person who has any discretionary authority or responsibility in the administration of an ERISA Plan or who exercises any discretionary authority or control with respect to the management, or disposition of the assets of an ERISA Plan, or who renders investment advice for a fee or other compensation, direct or indirect, with respect to the assets of an ERISA Plan, or has any authority or responsibility to do so, is generally considered to be a fiduciary of the ERISA Plan, unless a statutory or administrative exemption is available. The term “plan assets” is defined at 26 CFR 2510.3-101.

Prohibited Transaction Issues. Section 406 of ERISA and Section 4975 of the Code (the “Prohibited Transaction Rules”) prohibit a broad range of transactions between plans and “Parties in Interest” under ERISA or “Disqualified Persons” under the Code. The definitions of “Party in Interest” and “Disqualified Person” are expansive. While other entities may be encompassed by these definitions, they include: (i) a fiduciary with respect to a plan (including the owner of a Tax-Favored Plan); (ii) a person or entity providing services to a plan; and (iii) an employer or employee organization any of whose employees or members are covered by the plan. Certain Parties in Interest (or Disqualified Persons) that participate in a prohibited transaction may be subject to a penalty (or an excise tax or other liability) imposed pursuant to Section 502(i) of ERISA (or Section 4975 of the Code) unless a statutory or administrative exemption is available and certain prohibited transactions may be subject to rescission.

ERISA and the Code generally prohibit the lending of money or other extension of credit between an ERISA Plan or Tax-Favored Plan and a Party in Interest or Disqualified Person. The acquisition of any of the Bonds by a Party in Interest or Disqualified Person would involve the lending of money or extension of credit. In such a case, however, certain exemptions from the prohibited transaction rules might be available depending on the type and circumstances of the plan fiduciary making the decision to acquire a Bond. In this regard, the U.S. Department of Labor has issued prohibited transaction class exemptions, or “PTCEs.” These class exemptions include, without limitation, PTCE 84-14 respecting transactions determined by independent qualified professional asset managers, PTCE 90-1 respecting insurance company pooled separate accounts, PTCE 91-38 respecting bank collective investment funds, PTCE 95-60 respecting life insurance company general accounts and PTCE 96-23 respecting transactions determined by in-house asset managers. In addition, Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code provide limited relief from the Prohibited Transaction Rules for certain transactions, provided, among other things, that neither the issuer of the securities nor any of its affiliates (directly or indirectly) have or exercise any discretionary authority or control or render any investment advice with respect to the assets of any ERISA Plan involved in the transaction and provided further that the ERISA Plan pays no more than adequate consideration in connection with the transaction. There can be no assurance that all of the conditions of any such exemptions will be satisfied with respect to any purchase, holding or disposition of the Bonds by any investor, and even if the conditions specified in one or more of these exemptions are satisfied, the scope of relief provided by these exemptions might or might not cover all acts which might be construed as prohibited transactions.

Plan Asset Issues. Under the Department of Labor’s regulations governing what constitutes “plan assets”, assets of an entity in which an ERISA Plan invests may be treated as plan assets for the purposes of ERISA and the Code only if the plan acquires an “equity interest” by reason of the investment and no other exception is available. If a plan invests in an entity whose assets thereby are considered plan assets, the manager of the entity would be a plan fiduciary to the extent it exercises any authority or control respecting management or disposition of the entity’s assets or provides investment advice for a fee. Any such manager that is considered a plan fiduciary would be separately required to comply with ERISA’s prohibited transaction provisions. An equity interest is defined for this purpose as an interest in an entity other than an instrument which is treated as indebtedness under applicable local law and which has no substantial equity features. Although there can be no assurances in this regard, it appears that the Bonds should be treated as debt for these purposes.

Representation and Warranty. By acquiring a Bond, each purchaser of a Bond will be deemed to have represented and warranted that either (i) no portion of the assets used by such purchaser to acquire or hold the Bonds constitutes assets of any ERISA Plan or Tax-Favored Plan or of a plan subject to Similar Laws or (ii) the acquisition and holding of the Bonds will not constitute a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a similar violation under applicable Similar Laws.

The foregoing discussion is general in nature and is not intended to be all inclusive. Due to the complexity of the “plan asset” rules and the penalties that may be imposed upon persons involved in non-exempt prohibited transactions, it is particularly important that ERISA Plan fiduciaries and other fiduciaries, and other persons considering purchasing the Bonds, consult with their counsel regarding the potential applicability of ERISA, Section 4975 of the Code and any Similar Laws to the assets intended to be used in the acquisition of such investment and to the particular circumstances of the transaction.

RATINGS

The Bonds have been rated “AA,” “Aa2” and “AA-”, respectively, by Fitch Ratings, Inc., Moody’s Investors Service and S&P Global Ratings.

Such ratings reflect only the respective views of such organizations, and an explanation of the significance of such ratings may be obtained from the rating agency furnishing the same. There is no assurance that a rating will continue for any given period of time or that a rating will not be revised or withdrawn entirely by any or all of such rating agencies, if in its or their judgment, circumstances so warrant. Any downward revision or withdrawal of a rating could have an adverse effect on the market prices of the Bonds.

LEGAL MATTERS

All legal matters related to the authorization and issuance of the Bonds are subject to the approval of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, Bond Counsel for the Authority. The approving opinions of Bond Counsel, substantially in the form attached hereto as Appendix E, will be delivered on the date of delivery of the Bonds. Certain matters will be passed upon for the Authority and the University by its Disclosure Counsel, Hinckley, Allen & Snyder, Boston, Massachusetts and for the Underwriters by their counsel, McCarter & English, LLP, Boston, Massachusetts.

DISCLOSURE CERTIFICATES

At the time of delivery of the Bonds, the Executive Director of the Authority will furnish a certificate to the effect that, to the best of her knowledge and belief, the Preliminary Official Statement as of its date and as of the date of the Official Statement and the Official Statement as of its date and as of the date of delivery of the Bonds did not contain any untrue statement of a material fact and do not omit to state a material fact necessary to make the statements made therein, in the light of the circumstances under which they are made, not misleading. To the extent that such certificate covers information regarding the University, the Executive Director of the Authority will rely solely upon the certificates of the University discussed in the following paragraph.

At the time of delivery of the Bonds, the President and Senior Vice President for Administration and Finance & Treasurer of the University will deliver a certificate to the effect that, to the best of their knowledge and belief, the information set forth in the Preliminary Official Statement relating to the University, as of the date of the Preliminary Official Statement and as of the date of the Official Statement, and the information set forth in the Official Statement relating to the University, as of the date of the Official Statement and the date of delivery of the Bonds did not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made therein, in light of the circumstances under which they were made, not misleading.

UNDERWRITING

The Bonds are being purchased for reoffering by the Underwriters pursuant to a purchase contract (the "Purchase Contract") between the Authority and Citigroup Global Markets Inc., as representative of the Underwriters. The Underwriters have agreed to purchase the Bonds at an aggregate discount of \$1,814,403.61 from the public offering prices (or prices computed at the yields) set forth on the inside cover page hereof. The Underwriters may offer and sell the Bonds to certain dealers (including dealers depositing Bonds into investment trusts, certain of which may be sponsored or managed by the Underwriters) and others at prices lower (or yields higher) than the public offering prices (or yields) stated on the inside cover page hereof. The Purchase Contract provides that the Underwriters will purchase all the Bonds if any are purchased. The Underwriters may allow concessions from the public offering price to certain dealers, banks and others. After the initial public offering at the offering prices (or yields) set forth on the inside cover of this Official Statement, the public offering prices (or yields) may be changed from time to time by the Underwriters

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage services. The Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking services for the Authority or the University, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities, which may include credit default swaps) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Authority or the University.

The Underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

In addition, certain of the Underwriters have entered into distribution agreements with other broker-dealers (that have not been designated by the Authority as Underwriters) for the distribution of the Bonds at the original issue prices. Such agreements generally provide that the relevant Underwriter will share a portion of its underwriting compensation or selling concession with such broker-dealers.

VERIFICATION OF MATHEMATICAL COMPUTATIONS

The arithmetical accuracy of certain computations included in the schedules provided by the Underwriters, on behalf of the Authority, relating to (a) computation of anticipated receipts of principal and interest on Defeasance Obligations and the anticipated payments of principal and interest to redeem the Refunded Bonds, and (b) computation of the yields on the Bonds and the Defeasance Obligations was verified by AMTEC Corporation, of Avon, Connecticut, and Stephen Miller, C.P.A. (an independent Certified Public Accountant), of Treasure Island, Florida (together, the "Verification Agent"). Such computations were based solely upon information supplied by the Underwriters, on behalf of the Authority. The Verification Agent has restricted its procedures to verifying the arithmetical accuracy of certain computations and has not made any study or evaluation of the information upon which the computations are based and, accordingly, has not expressed an opinion on the data used, the reasonableness of the assumptions reflected in its report, or the achievability of future events.

CONTINUING DISCLOSURE

The Authority and the University will undertake to provide annual reports and notices of certain events. A description of these undertakings is set forth in Appendix F attached hereto.

With respect to previous undertakings of the Authority and the University, due to an administrative oversight, the audited financial statements of the Authority required to be filed for fiscal year 2011 were filed late. Additionally, certain of the Authority and University financial statements and annual financial information and operating data during such five year period were filed on a timely basis, but such information did not appear under certain CUSIP numbers on the databases of nationally recognized municipal securities information repositories or MSRB's Electronic Municipal Marketplace Access database ("EMMA") and certain notices with respect to rating changes were not filed on a timely basis or were filed and not properly linked with every CUSIP number. At this time, all such information has been refiled or relinked on EMMA.

FINANCIAL ADVISOR

The Authority has retained First Southwest, a Division of Hilltop Securities Inc. (the "Financial Advisor") to serve as its financial advisor in connection with the issuance of the Bonds. The Financial Advisor has not independently verified any of the information contained in this Official Statement and makes no guarantee as to its completeness or accuracy. The Financial Advisor's fee for services rendered with respect to the sale of the Bonds is contingent upon the issuance and delivery of the Bonds, and receipt by the Authority of payment therefor. The Authority may engage the Financial Advisor to perform other services, including without limitation, providing certain investment services with regard to the investment of proceeds of the Bonds.

FINANCIAL STATEMENTS OF THE AUTHORITY

The financial statements of the Authority as of and for the years ended June 30, 2016 and 2015, included in this Official Statement as Appendix B, have been audited by Grant Thornton LLP, certified public accountants, as stated in their report included therein.

FINANCIAL STATEMENTS OF THE UNIVERSITY

The Annual Financial Report of the University for Fiscal Year 2016 is included in this Official Statement as Appendix C. It includes the financial statements of the business-type activities and the aggregate discretely presented component units of the University, which collectively comprise the University's basic financial statements, as of and for the years ended June 30, 2016 and 2015, which have been audited by Grant Thornton LLP, certified public accountants, as stated in their report included therein.

MISCELLANEOUS

All quotations from and summaries and explanations of the Enabling Act, the Project Trust Agreement, the Series Resolutions and the Contract contained herein do not purport to be complete and reference is made to said laws and documents for full and complete statements of their provisions. The Appendices attached hereto are a part of this Official Statement. Copies, in reasonable quantity, of the Project Trust Agreement, the Series Resolutions and the Contract may be obtained upon request directed to the University of Massachusetts Building Authority, One Beacon Street, 31st Floor, Boston, Massachusetts 02108, Attention: Executive Director.

Any statements in this Official Statement involving estimates or matters of opinion, whether or not expressly so stated, are intended as such and not as representations of fact. This Official Statement is not to be construed as a contract or agreement between the Authority and the purchasers or holders of any of the Bonds.

The execution and delivery of this Official Statement by its Executive Director have been duly authorized by the Authority.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY

By: /s/ Patricia Filippone
Executive Director

LETTER FROM THE UNIVERSITY

[Intentionally Left Blank]

UNIVERSITY
OF
MASSACHUSETTS

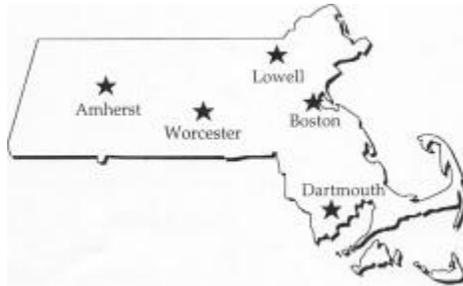


TABLE OF CONTENTS

HISTORY AND MISSION	A-1
UNIVERSITY CAMPUSES	A-2
UNIVERSITY RELATED ORGANIZATIONS.....	A-8
GOVERNANCE.....	A-8
STRATEGIC INITIATIVES.....	A-13
ACADEMIC PROGRAMS AND ACCREDITATION.....	A-14
ENROLLMENT.....	A-14
TUITION AND FEES.....	A-17
UNIVERSITY REVENUES AND BUDGETING.....	A-23
SUMMARY OF FINANCIAL RESULTS, FISCAL YEARS 2014 THROUGH 2016.....	A-32
CURRENT AND FUTURE CAPITAL PLANS.....	A-36
INDEBTEDNESS OF THE UNIVERSITY.....	A-39
INSURANCE.....	A-43
TECHNOLOGICAL INITIATIVES	A-43
LITIGATION.....	A-45
EMPLOYEE RELATIONS	A-45

APPENDIX A

January 20, 2017

University of Massachusetts Building Authority
1 Beacon Street, 31st Floor
Boston, MA 02108

Members of the University of Massachusetts Building Authority:

In connection with the issuance by the University of Massachusetts Building Authority (the “Authority”) of its Project Revenue Bonds, Senior Series 2017-1 (the “Series 2017-1 Bonds”), its Project Revenue Bonds, Senior Series 2017-2 (Federally Taxable) (the “Series 2017-2 Bonds”) and its Refunding Revenue Bonds, Senior Series 2017-3 (the “Series 2017-3 Bonds” and collectively with the Series 2017-1 Bonds and the Series 2017-2 Bonds, the “Bonds”), we are pleased to submit the following information with respect to the University of Massachusetts (the “University” or “UMass”) and other pertinent matters for inclusion in this Official Statement. As more particularly described in the front part of the Official Statement and in APPENDIX D-2 – “SUMMARY OF CERTAIN PROVISIONS OF THE CONTRACT,” the University is obligated under the Contract to pay debt service on the Bonds. The University is also obligated under other contractual arrangements to pay debt service on other indebtedness issued on its behalf, including indebtedness issued by the Authority and the Massachusetts Development Finance Agency (“MDFA”) other than the Bonds. See “INDEBTEDNESS OF THE UNIVERSITY” herein. Unless otherwise indicated by context, all utilization and financial data for any year refers to the fiscal year ended June 30. Unless otherwise indicated, the University is the source of all information included in this Appendix A.

University of Massachusetts



HISTORY AND MISSION

The University is a state coeducational institution for higher education with separate campuses at Amherst, Boston, Dartmouth, Lowell and Worcester in The Commonwealth of Massachusetts (the “Commonwealth”). The University was established in 1863 in Amherst, under the provisions of the 1862 Morrill Land Grant Acts, as the Massachusetts Agricultural College. It became known as the Massachusetts State College in 1932 and in 1947 became the University of Massachusetts. The Boston and Worcester campuses were opened in 1965 and 1970, respectively. The Lowell and Dartmouth campuses (previously the University of Lowell and Southeastern Massachusetts University, respectively) were made a part of the University by a legislative act of the Commonwealth, effective September 1, 1991.

The University’s core mission is “to provide an affordable and accessible education of high quality and to conduct programs of research and public service that advance knowledge and improve the lives of the people of the Commonwealth, the nation and the world.” For Fall 2016, the University enrolled 74,496 students. The University’s five campuses are geographically dispersed throughout the Commonwealth and possess unique and complementary missions. In addition, the University has a system-wide online education consortium called UMassOnline, which in academic year 2015-2016 offered approximately 1,500 online and blended courses and had 70,864 course enrollments.

The University was rated as one of the world's best universities in the *Times Higher Education* of London's "World University Rankings" for 2016-2017. UMass was ranked 165th out of the top 400 universities in the world and was the only public university in New England to be listed in the global top 200. The University was ranked fifth highest in Massachusetts, eighth highest in New England, 29th highest in American public universities and 58th highest of all American institutions (public or private). In addition, for the first time, all four of the UMass undergraduate campuses were rated in the "National Universities" category in *U.S. News & World Report's* ("*U.S. News*") Best Colleges rankings – making UMass one of the few university systems in the nation to have each campus so acclaimed. Adding to its global reputation, total research and development expenditures at the University reached approximately \$629 million in fiscal year 2015, marking the sixth straight year that the University has exceeded the \$500 million mark.

UNIVERSITY CAMPUSES

The University is composed of five campuses, spread across the Commonwealth in Amherst, Boston, Dartmouth, Lowell and Worcester. Each campus has a unique history and plays a unique role in helping the University meet its mission.

Amherst Campus

The Amherst campus ("UMass Amherst" or the "Amherst Campus"), the University's flagship campus approximately 90 miles west of Boston, is the largest in the University system. With a student body of 23,443 full-time equivalent ("FTE") undergraduate and 4,897 FTE graduate students enrolled in Fall 2016, the Amherst Campus offers the most comprehensive and varied programs of the campuses in the University system, including liberal arts and professional programs, in addition to doctoral and research programs. It offers six associate-level programs and 112 bachelor's, 76 master's and 48 doctoral degree programs. During the 2015-2016 academic year, 44 associate's, 5,843 bachelor's, 270 undergraduate certificates, 1,675 advanced degrees and 44 graduate certificates were conferred. Students may enroll in the College of Education, College of Engineering, College of Humanities and Fine Arts, College of Information and Computer Sciences, Isenberg School of Management, College of Nursing, College of Natural Sciences, School of Public Health and Health Sciences, College of Social and Behavioral Sciences and the Stockbridge School of Agriculture.

The 1,400-acre Amherst Campus includes more than 13 million square feet in buildings, including the 28-story W.E.B. DuBois Library, containing over six million volumes including eBooks as well as governmental documents and law collections, the 9,000-seat multi-purpose arena, the William D. Mullins Center, and 52 campus residence halls in seven unique residential areas. Since 2008, the campus opened the Studio Arts Building, the Central Heating Plant, a new student recreation center, an integrated sciences building, a new Campus Police Station and Emergency Operations Center (which was the first new construction on campus to meet LEED certification standards), the Life Science Laboratories Complex and a 1400-bed residential and classroom Commonwealth Honors College complex. A state-of-the-art classroom and academic facility opened in Fall 2014 and a completely renovated South College and a new innovative wood-constructed Design Building is expected to open in January 2017. The iconic Old Chapel, closed since 1986 and listed on the National Register of Historic Places in 2015, underwent a complete renovation and opened in late 2016.

The Amherst Campus is initiating a variety of efficiency and effectiveness initiatives that are expected to save or avoid \$40 million in annual operating costs, including procurement, utility commodities, energy savings and administrative systems. UMass Amherst is a national leader in campus sustainability, recently receiving prestigious awards for its sustainable academics, research and campus operations. In 2014, it was one of only four schools in the country to receive the Climate Leadership Award from Second Nature, reach STARS (Sustainability Tracking, Assessment and Rating System) Gold from the Association for the Advancement of Sustainability in Higher Education (AASHE) and be placed on the *Princeton Review* Green Honor Roll. UMass Amherst continues to be a STARS Gold campus and is ranked among the top 50 Green Colleges by the *Princeton Review*.

The Amherst Campus is now ranked 27th among national public universities by the *U.S. News*, the most-improved top-tier public university in America over the past decade. The 2015 report of The Center for Measuring University Performance, "The Top American Research Universities 2015 Annual Report," ranks UMass Amherst 73rd for total research and 68th for federal research expenditures among public research institutions. On a number of other

measures of competitive success – national academy memberships, faculty awards, doctorates awarded and postdoctoral appointees – the Amherst Campus ranks in the top 60 among public research universities. During fiscal year 2016, the campus once again secured a record amount of sponsored research, including approximately 424 federal awards totaling approximately \$107.1 million. In total, 1,116 awards were secured for a total of approximately \$188.7 million.

In 2016, UMass Amherst completed its first major capital campaign – the largest in Massachusetts public higher education history – by raising \$379.0 million, exceeding the \$300.0 million goal one year ahead of schedule.

Boston Campus

The 175-acre Boston campus (“UMass Boston” or the “Boston Campus”), which is located three miles from downtown Boston on a harbor peninsula with the nearby John F. Kennedy Presidential Library and Museum (the “JFK Library”), the Edward M. Kennedy Institute for the United States Senate (the “Kennedy Institute”) and the Massachusetts State Archives and Commonwealth Museum (the “State Archives”), is currently a non-residential campus. The Boston Campus focuses on the academic needs of the local urban and non-traditional populations and the research and policy needs of business, government and communities in the greater Boston metropolitan region. The Boston Campus has a diverse student body, consisting of 10,280 FTE undergraduate students and 2,821 FTE graduate students enrolled in Fall 2016. The Boston Campus offers 67 undergraduate degree programs, 13 undergraduate certificate programs, 102 master’s programs and graduate certificate programs and 30 doctoral programs through the College of Liberal Arts, College of Science and Mathematics, College of Management, College of Nursing and Health Sciences, College of Public and Community Service, McCormack Graduate School of Policy and Global Studies, College of Education and Human Development, College of Advancing and Professional Studies, School for Global Inclusion and Social Development and School for the Environment.

During the 2015-2016 academic year, the University conferred 321 certificates, 2,564 bachelor’s and 997 advanced degrees at the Boston Campus.

The Boston Campus is the only educational institution in the Northeast to share its campus with a presidential library. The students and faculty have access to the JFK Library, as well as to the State Archives, which houses valuable Massachusetts historic and state government records. The Boston Campus also has over 550,000 books and journals at its Healey Library.

UMass Boston completed the construction of the Integrated Sciences Complex in Fall 2015 and a general academic building known as University Hall was opened for the 2016 spring semester. Additionally, the Kennedy Institute opened in Spring 2015. The Integrated Science Complex and University Hall are both operated by the Boston Campus. The Kennedy Institute is operated by a charitable organization registered in the District of Columbia with the same name and is owned by the Authority. The Kennedy Institute operates as a civic, academic and research institution focused on the study of the United States Senate. Although the Kennedy Institute has broad public access and is available for target groups outside of the University, one of the primary purposes of the Kennedy Institute is to enhance the academic and research environment available to the students and faculty of the University. Due to the multi-purpose nature of the Kennedy Institute, the University’s annual financial commitment for the capital and operating expenses of the Kennedy Institute is limited to approximately \$1.25 million.

On May 19, 2010, the Authority purchased the Bayside Exposition Center (the “Bayside Site”) for \$18.7 million. The 20-acre Bayside Site is approximately one-half mile from the Boston Campus and will help meet the space needs of the Boston Campus as it begins to develop new campus facilities and renovate outdated existing facilities. The acquisition of the Bayside Site has initiated a University-led planning process to create a vision for redeveloping the site to further University and local objectives. UMass Boston plans to work with the City of Boston, the Commonwealth, neighbors and the surrounding communities to develop a plan that realizes the potential of the Bayside Site, stimulates economic activity, creates jobs and brings greater activity and opportunity to the region. In the interim, the Bayside Site will allow the University to replace parking eliminated during the above-referenced construction process.

UMass Boston’s 25-year capital plan calls for the redevelopment of the campus with new and renovated facilities, new infrastructure and green space for greater access to and engagement with the public. The first ten years

of the capital plan, launched in 2007, calls for more than \$500 million in new facilities and infrastructure construction on the Boston Campus. UMass Boston expects to open its first-ever student dormitory in September 2018, achieving a long-held goal of providing students with an on-campus residential option.

Dartmouth Campus

The Dartmouth campus (“UMass Dartmouth” or the “Dartmouth Campus”) distinguishes itself as a vibrant public research university dedicated to engaged learning and innovative research resulting in personal and lifelong student success. The Dartmouth Campus serves as an intellectual catalyst for economic, social and cultural transformation on a global, national and regional scale. The Dartmouth Campus offers 54 undergraduate and 43 graduate programs of study (including 13 at the Doctorate level) through the College of Arts and Sciences (with a School of Education), the Charlton College of Business, the College of Engineering, the College of Nursing, the College of Visual and Performing Arts, the School for Marine Science and Technology and the University of Massachusetts School of Law (the “Law School”). The main campus, designed by the eminent architect Paul Rudolph, is located on 710 acres in Dartmouth and is approximately 55 miles south of Boston and 30 miles east of Providence, Rhode Island. Other Dartmouth Campus sites include the Law School in Dartmouth, the School for Marine Science and Technology on the waterfront in New Bedford, the Star Store Center for the Arts in New Bedford, the Center for Innovation & Entrepreneurship in Fall River and offices in New Bedford, Fall River and Fairhaven. In September 2016, the University officially launched a wide-ranging search for a new Chancellor for UMass Dartmouth.

On February 2, 2010, the Massachusetts Board of Higher Education issued approval for UMass Dartmouth to offer the Juris Doctor (J.D.) degree and established the first public law school in the Commonwealth with the Law School. Through the donation of assets to the University of Massachusetts Foundation, Inc. (the “Foundation”), including the facility, equipment, systems and furnishings from an existing private law school, Southern New England School of Law (“SNE SL”), the Dartmouth Campus admitted the first class of new students to the Law School in August 2010. The opening August 2010 head count enrollment for the first year was 316, which was composed of 165 new law students and 151 students continuing from SNE SL. During the first year, 51 of the 151 mid-stream students graduated with the J.D. degree and the bar pass rate of those who took the Massachusetts Bar was within 15% of the average bar pass rate for Massachusetts law schools accredited by the American Bar Association (“ABA”). The Law School prepared a comprehensive self-study for consideration of provisional ABA accreditation and received an ABA site visit; the final decision for provisional accreditation was granted on June 12, 2012. On December 6, 2016, the Law School received full accreditation from the ABA. Current downturns in admissions to law schools across the country have resulted in a smaller than expected number of new students; the Fall 2016 overall enrollment was 186. Despite lower than expected Law School enrollment, the Dartmouth Campus’s detailed overall enrollment and revenue planning for a variety of admissions-demand scenarios continues to ensure institutional strength and provides for hiring and program development needed to ensure educational quality and success. The Law School has a public-service focus, with a curriculum concentrating on civil and human rights, legal support for businesses, economic justice and community law. The operating plan for the Law School calls for increasing enrollment, the bar pass rate, employment rate, and reputation, as well as assuring compliance with ABA standards.

The Dartmouth Campus had 6,290 FTE undergraduate and 1,268 FTE graduate students enrolled in Fall 2016. During the 2015-2016 academic year, 36 undergraduate certificates, 1,385 bachelor’s and 543 advanced degrees/certificates were conferred. In the most recent edition of the *U.S. News* “America’s Best Colleges” report, UMass Dartmouth achieved a National Tier 1 designation for the first time in its history, rising from its previous designation as a regional university. The College of Engineering is listed among the best undergraduate engineering programs in the country, as are the online programs. The Dartmouth Campus, which is implementing its strategic plan, UMassDTtransform2020, weaves the research, academic, creative and community service activities of faculty and graduate students into the undergraduate experience and into the economic and cultural life of southeastern Massachusetts and beyond. Areas of focus for the strategic plan include marine science, law and public policy, K-12 education, healthcare and economic development.

In Fall 2016, the Dartmouth campus opened the Charlton College Learning Pavilion providing approximately 22,000 square feet of classrooms, meeting spaces, an auditorium and technology-enhanced space. In October 2015, the University broke ground on the \$55 million expansion of its School for Marine Science and Technology in New Bedford and launched its Center for Innovation and Entrepreneurship in Fall River to strengthen the connections between UMass Dartmouth research and regional economic development.

In 2016, UMass Dartmouth was officially designated as a Doctoral University – Higher Research Activity (R2) from the National Carnegie Classification of Institutions of Higher Education at the Center for Postsecondary Research at Indiana University, achieving a major milestone for the University and the region. UMass Dartmouth is the only Massachusetts research university located south of Boston. This designation elevates UMass Dartmouth from its previous designation as a Master’s University.

Lowell Campus

The Lowell Campus (“UMass Lowell” or the “Lowell Campus”) is a doctoral-level research university committed to educating students for lifelong success and conducting hands-on research and outreach that sustains the economic, environmental and social health of the world.

Located in the historic industrial City of Lowell, approximately 25 miles northwest of Boston, the campus spans more than 125 acres along the Merrimack River in three campus clusters – North, South and East. The Lowell Campus had a student body of 11,196 FTE undergraduate and 2,713 FTE graduate students in Fall 2016. The Lowell Campus offers four associate’s, 111 bachelor’s, 48 master’s and 28 doctoral degree programs through the College of Fine Arts, Humanities and Social Sciences, the Kennedy College of Sciences, the Francis College of Engineering, the College of Health Sciences, the Manning School of Business and the Graduate School of Education. The most recent additions to UMass Lowell’s degree inventory are a master’s degree in business analytics, engineering management and public administration, and doctoral degrees in education and in applied psychology and prevention science. During the 2015-2016 academic year, 138 associate’s degrees and undergraduate certificates, 2,333 bachelor’s degrees and 1,592 advanced degrees/certificates were conferred.

UMass Lowell is the second-fastest-rising school on *U.S. News*’s national universities list over the last six years, improving by 31 places. Its dramatic transformation has been driven by the campus’s “2020 Strategic Plan”, which led to rapid gains in enrollment, retention, student achievement, research expenditures and fundraising. Undergraduate enrollment has increased 63% since Fall 2007, with 42% of full-time undergraduates now living on what had historically been a commuter campus. The Fall 2016 incoming class is among the strongest in UMass Lowell history, with an average SAT score of 1171, and an average high school GPA of 3.59. Since Fall 2010, freshmen retention has increased from 78 to 85%, the four-year graduation rate has increased from 26 to 38% and the six-year graduation rate has increased from 51 to 56%. UMass Lowell’s 1,000-student Honors College, established in 2014, had a one-year retention rate of 93%.

The Lowell Campus continues to receive new honors and accolades. In the past year, UMass Lowell received its second consecutive Higher Education Excellence in Diversity (HEED) Award from *Insight Into Diversity* magazine, reached “Gold” status in STARS (Sustainability Tracking, Assessment and Rating System) from the Association for the Advancement of Sustainability in Higher Education (AASHE), and was honored as a Military Friendly School by *G.I. Jobs* magazine for the seventh consecutive year.

Over the last seven years, 13 buildings have been constructed, acquired and redeveloped, fully renovated or built via public-private partnership on the Lowell Campus. In 2009, the Authority purchased the former Doubletree Hotel in downtown Lowell and converted the property into the UMass Lowell Inn & Conference Center (the “ICC”), a multi-purpose property that provides hotel accommodations, high-quality conference space and housing for 500 students. In 2010, the Authority acquired the 6,500-seat Tsongas Arena from the City of Lowell, renaming it the Tsongas Center at UMass Lowell and hosting hockey and basketball games, concerts, functions, University events and other community activities. In 2011, the Authority purchased the former St. Joseph’s Hospital in Lowell, redeveloping it as University Crossing, an important connection point among UMass Lowell’s North, South and East campuses that has become a vibrant hub for students and the community since opening in 2014. The \$80 million, 84,000-square-foot Mark and Elisia Saab Emerging Technologies and Innovation Center (the “Saab Center”) opened in October 2012 as the first new academic building on campus in more than three decades. The opening of the Saab Center was followed by the opening of the \$40 million Health and Social Sciences Building in 2013. Also in 2013, UMass Lowell opened the \$54 million University Suites residence hall, providing suite-style housing for 472 students. A second suite-style residence hall, Riverview Suites, with housing for 800 students, was built by a private developer for lease by UMass Lowell in 2013 with the second phase completed in 2015. In 2014, the Charles J. Hoff Alumni Scholarship Center opened following a private developer’s historic renovation and lease to the campus. In 2015, the

McGauvran Center reopened as a hub for dining, learning and gathering following a \$34 million renovation and expansion. During that span, two parking garages were also constructed at a total cost of \$40 million. The campus's 13th building since 2009, the \$40 million Pulichino Tong Business Center, is expected to open in 2017. UMass Lowell purchased the \$61.5 million Residences at Perkins Park and the Lofts at Perkins Park near East Campus for conversion to student housing in 2017. A renovation of Perry Hall, which houses UMass Lowell's engineering programs and is intended to encourage additional industry partnerships, is in the design phase. In 2015, UMass Lowell launched a \$27 million project with the Commonwealth's Accelerated Energy Program (AEP) that is expected to generate \$1.5 million in annual energy savings and reduce campus-wide energy usage by 20% or more.

In July 2013, UMass Lowell athletics officially elevated to Division I in all sports, with 17 sports joining the America East Conference. The reclassification to full Division I status is a four-year process, and UMass Lowell welcomed its NCAA visiting team to the campus in Fall 2016. The ice hockey program has competed in Division I since 1983 and is a member of Hockey East.

Worcester Campus

The Worcester campus ("UMass Worcester" or the "Worcester Campus") provides general and specialized medical education, engages in a comprehensive program of basic scientific and clinical research and provides graduate level training in biomedical sciences and nursing. Located approximately 40 miles west of Boston and 50 miles east of Amherst, the campus is home to three graduate schools: the School of Medicine (the "Medical School"), the Graduate School of Biomedical Sciences and the Graduate School of Nursing. The Worcester Campus also consists of a \$280 million research enterprise, public service entities such as Commonwealth Medicine and MassBiologics and the University Campus hospital of UMass Memorial Health Care (formerly the Clinical Services Division of the University) which is the clinical partner of the Medical School. Effective March 31, 1998, as enacted by Chapter 163 of the Acts of 1997 of the Commonwealth, the Clinical Services Division of the University and the subsidiaries of a University-related organization, UMASS Health System, were contributed to and merged with and into an independent Massachusetts not-for-profit corporation named UMass Memorial Health Care, Inc. ("UMass Memorial"). Pursuant to an agreement between the parties, the University's obligations to UMass Memorial are limited to allowing it to remain on the UMass Worcester Campus and to sharing certain capital, operating and shared-services expenses relating to such premises, as more fully described in the notes to the University's financial statements (attached as Appendix C).

Founded in 1962 by the Massachusetts Legislature and sited in Worcester in 1965, the Worcester Campus welcomed its first class of 16 medical students to campus in 1970. Less than 50 years later, the Worcester Campus has become an internationally renowned hub for medical education, biomedical research and health care innovation. Through its educational, research, healthcare delivery, and service activities, the Worcester Campus's presence is tangible throughout the Commonwealth. UMass Worcester provides medical education at an affordable cost to Massachusetts residents and graduate education to science and nursing students, offering incentives to graduates who practice primary care and other medical disciplines in underserved areas in Massachusetts. With a nationally recognized program in primary care training, which is perennially ranked in the top 10% of all U.S. medical schools by *U.S. News*, as well as its success in graduating physicians who remain in Massachusetts to establish their careers, the Medical School plays a unique role in fulfilling the health care workforce needs of Massachusetts. The Medical School, therefore, has aligned itself with the Association of American Medical Colleges' recommendation that medical schools increase the number of physicians they educate to help address the looming shortage of doctors, especially those in primary care fields. The Worcester Campus has, in recent years, increased its class size for the Medical School from 125 to 150 students. Once again and on account of the Medical School's ongoing commitment to increase the supply of physicians practicing in the Commonwealth, the Worcester Campus is in the midst of another Medical School class size expansion. In the 2017-2018 academic year, the Medical School will welcome a first-year class of 162 students. This further expansion has necessitated identifying and partnering with additional clinical affiliates to ensure an outstanding educational experience for Medical School students. In 2015, the Worcester Campus announced a new affiliation with Cape Cod Hospital in Hyannis, as well as the establishment of its first-ever regional campus in partnership with Baystate Health in Springfield.

For Fall 2016, the Worcester Campus had 1,070 FTE graduate and medical students enrolled in six master's and six doctoral degree programs, as well as 461 residents and 114 fellows enrolled in residency and fellowship programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). The Medical School

Graduate Medical Education enterprise consists of 20 core residency programs and 33 fellowship programs. During the 2015-2016 academic year, two post-master's certificates and 236 advanced degrees were conferred.

The Medical School has provided medical students with an accessible and exceptional academic experience that strives to prepare students to become physicians who are caring, competent, productive and self-fulfilled in their chosen careers. The Graduate School of Biomedical Sciences, composed of Basic & Biomedical Sciences and Clinical & Population Health Research divisions, trains students in their selected specialty area, while emphasizing a broad background in the basic medical sciences in preparation for research with direct relevance to human disease. The Graduate School of Nursing provides high quality master's and doctoral-level preparation for advanced-practice nurses and nurse educators. In 2012, the educational program leading to the M.D. degree at the Worcester Campus was successfully re-accredited by the Liaison Committee on Medical Education (LCME), with a full eight-year cycle. In addition, the NEASC conducted a site visit evaluation for the reaccreditation of UMass Worcester, and the final NEASC reaccreditation report was confirmed in May 2013.

While the Worcester Campus's academic community has evolved over the years, the Worcester Campus's commitment to its founding public mission remains steadfast. The Worcester Campus educates future physicians, researchers, and nurses for the Commonwealth. The Worcester Campus's alumni survey data indicate that 62% of graduates establish their careers in Massachusetts, including 58% of physician graduates, 64% of biomedical scientist graduates and 88% of nursing graduates.

Consistent with its strategic plan and mission, the Worcester Campus supports a highly productive and collaborative research enterprise with outstanding scientific resources and facilities. The Worcester Campus research community includes Nobel Laureate, Breakthrough Prize and Lasker award recipients, three members of the National Academy of Sciences, three members of the Institute of Medicine, one member of the Royal Society and seven Howard Hughes Medical Institute Investigators. The research enterprise at the Worcester Campus is founded upon a world-class basic science research program with well-documented programmatic strengths in RNA biology, gene therapy, receptors and cell signaling, neurodegenerative diseases, cardiovascular diseases, diabetes, immunology and autoimmunity and infectious diseases.

UMassOnline

In February 2001, the University launched UMassOnline, the University's system-wide online education consortium. Headquartered at the President's Office Collaborative Services Facility in Shrewsbury, Massachusetts, UMassOnline enables the University to provide greater access to its educational programs and to increase revenues that can be used to support the campuses. In fiscal year 2016, UMassOnline and the Continuing Education units at the five campuses collaboratively generated tuition revenue of \$96 million and supported over 70,864 course enrollments.

UMassOnline's mission is to provide access to a University of Massachusetts education to students who are unable to attend one of the campuses, serving community needs for education in the critical areas of economic development, health and welfare and education, and raising revenues for support of students, faculty, teaching, outreach and research. To this end, UMassOnline supports the campuses in developing, growing and marketing online programs by funding the development of new online programs, providing faculty support, development and training, providing technology support and by creating and maintaining a robust platform for online learning, assessing new teaching and learning technologies, and deploying marketing programs that will position the University as a high-quality national leader in online higher education, as well as increase online course and program enrollments in the Massachusetts, New England, national and international markets.

In academic year 2015-2016, the University offered over 147 online degrees, certificates and continuing medical education programs, as well as 1,500 online and blended courses.

The University of Massachusetts Collaborative Service Facility

The University established the University of Massachusetts Collaborative Services Facility ("CSF") in November 2003. The CSF is located in Shrewsbury, Massachusetts. The CSF was created for the purpose of

consolidating a number of departments within the University President's Office and other UMass organizations in an effort to both reduce costs and better serve the University system.

The University of Massachusetts Club

The University, acting through the Authority, has established an Alumni dining club, known as "the University of Massachusetts Club" or the "Club." The Club opened on October 31, 2005 and is now located on the 32nd floor of One Beacon Street in downtown Boston. As of August 1, 2015, the Club was managed by the not-for-profit organization University Services, Inc.

UNIVERSITY RELATED ORGANIZATIONS

The financial statements of the University include the University and certain other organizations that have a significant relationship with the University. The statements include the University's blended component units, which are the Authority, a public instrumentality of the Commonwealth created by Chapter 773 of the Acts of 1960 of the Commonwealth, as amended, the Worcester City Campus Corporation ("WCCC"), a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code of 1986, and the University of Massachusetts Amherst Foundation, Inc. (the "UMass Amherst Foundation"), a tax-exempt organization that was established in 2003.

The purposes of the Authority are to provide dormitories, dining commons and other buildings and structures for use by the University and other entities associated with the University and to issue bonds to finance such projects. The University created WCCC in 1992 to purchase various assets of Worcester City Hospital, to operate as a real estate holding company, and to foster and promote the growth, progress, and general welfare of the University's Worcester Campus and all of its locations. The subsidiaries of WCCC include Worcester Campus Services, Inc. ("WCS") and U Health Solutions, Inc. ("UHS") (formerly Public Sector Partners, Inc. ("PSP")). WCS has 12 real estate holding company subsidiaries. Through its Board of Directors, the UMass Amherst Foundation leads and supports private fundraising on behalf of UMass Amherst faculty, students and facilities.

The University's discrete component units are the University of Massachusetts Foundation, Inc. (the "Foundation") and the University of Massachusetts Dartmouth Foundation, Inc. (the "Dartmouth Foundation"). These foundations are tax-exempt organizations related to the University and were established to foster and promote the growth, progress and general welfare of the University and to solicit, receive and administer gifts and donations for such purposes. The Foundation manages the majority of the University's endowments, including the endowment of the UMass Amherst Foundation. The Foundation and the Dartmouth Foundation are reported in the financial statements of the University as part of the University Related Organizations.

GOVERNANCE

Under the General Laws of the Commonwealth (the "General Laws"), the University is governed by a Board of Trustees (the body herein called the "University Trustees" or the "Board of Trustees of the University") under the coordinating authority of the Commonwealth's Department of Higher Education ("DHE") (successor to the Commonwealth Board of Higher Education). The day-to-day operations of the University are directed by a team of administrative officers of the University, the chief executive officer being the President of the University (the "President").

The General Laws give the University Trustees the authority to govern the University and to appoint the President, the Chancellors (the senior administrative officers of each campus) and other officers and members of the professional staff. The General Laws also grant to the University Trustees the legal right to establish and manage non-appropriated funds, which funds include, for example, tuition, certain student fees, grants and contracts, and funds used to support certain self-sufficient operations within the University. See "UNIVERSITY REVENUES AND BUDGETING" below. The University Trustees consist of 19 voting members and three non-voting members. Seventeen voting members of the University Trustees are appointed by the Governor of the Commonwealth (the "Governor"). One of these appointees is the Secretary of Education, as mandated by Chapter 27 of the Acts of 2008 and at least five of those appointed must be alumni of the University and one must be a representative of organized labor. Two of the voting members are full-time students of the University and three additional full-time students act

as non-voting members. The student members are elected annually from each of the five campuses and the two voting student positions are rotated annually among the members representing the five campuses. The University Trustees, except for the student members, serve five-year staggered terms, and are eligible for reappointment for an additional five-year term.

The President is responsible for implementing the policies of the University Trustees and for providing leadership for the activities and operations of the University. The President's Office is responsible for the development of academic and financial policies, overall coordination of University activities, and certain University-wide operational activities, including Internal Audit, the General Counsel's office, the Treasurer's and Controller's functions, Information Systems and Human Resources.

Education System Reorganization

In February 2008, legislation was passed that reorganized the leadership structure of education in the Commonwealth. A cabinet-level executive office of education was established with comprehensive education oversight, including the following departments: Early Education, Elementary and Secondary Education and DHE. The legislation also established a position of Secretary of Education whose authority includes authorizing the hiring of the respective Commissioners of the education departments, approving long-term planning, and approving budget and capital requests. In addition, the reorganization increased the size of each of the education boards by two members and designated the Secretary of Education as a voting member on the three education boards as well as a voting member of the Board of Trustees of the University. The reorganization also provided the Governor with the authority to appoint the chair of the University Trustees.

Department of Higher Education

The University is subject to the coordinating authority of the DHE, which has the statutory responsibility to develop, foster and advocate for the public higher education system in Massachusetts (which consists of the University, nine state universities, and 15 community colleges), to review and establish tuition at the state universities and the community colleges, to approve changes in academic programs at these institutions, and to collaborate with the public institutions of higher education in order to identify and define institutional missions.

The Board of the DHE consists of 13 voting members; one of whom is the Secretary of Education, nine members appointed by the Governor reflecting regional geographic representation and three members chosen to represent public institutions of higher education. Of the members appointed by the Governor, at least one must be a representative of organized labor, one must be a representative of the business community and one must be a full-time undergraduate student at a public institution of higher education. Of the members chosen to represent public institutions of higher education, one must be a member of the Board of Trustees of the University as voted by the University Trustees, one must be a member of a board of trustees of a state university chosen by vote of the chairs of the boards of trustees of each of the state universities, and one must be a member of a board of trustees of a community college chosen by vote of the chairs of the boards of trustees of each of the community colleges. Three of the DHE members appointed by the Governor are appointed for terms coterminous with that of the Governor. The remaining members of the Board of the DHE are appointed to serve five-year terms, except that the undergraduate student members will be appointed annually. The chairperson of the Board of the DHE is selected by the Governor.

Board of Trustees

The present members and officers of the University Trustees, their original appointment dates and the expiration dates of their respective current terms are set forth below. The term expiration date is September 1 of the applicable year; however, University Trustees generally continue to serve until a successor University Trustee is appointed.

Name and Position; Month and Year Initially Appointed	Current Term Expiration Date
Robert Manning, <i>Board of Trustees Chair</i> , Swampscott <i>Appointed August 2015</i> Chairman and Co-CEO, MFS Investment Management	2021
Maria D. Furman, <i>Board of Trustees Vice Chair</i> , Wellesley <i>Appointed November 2009</i> Former Managing Director and Bond Portfolio Manager of Standish Mellon Asset Management (retired)	2019
Edward W. Collins, Jr., <i>Board of Trustees Vice Chair</i> , Springfield <i>Appointed September 2007</i> International Representative, International Brotherhood of Electrical Workers	2017
Pantea Fatemi Ardestani, Mission Viejo, CA <i>Non-voting Student Member, Appointed April 2016</i> University of Massachusetts, Boston	2017
James R. Buonomo, Shrewsbury <i>Appointed April 2013</i> Consultant, JRB Advising	2018
Mary L. Burns, Lowell <i>Appointed December 2016</i> Managing Partner, MLB Realty Trust, LLC, Chesapeake Outdoor, LLC, Splash Media Group Boston, LLC, and Capital Advertising, LLC	2021
Kevin F. Delaney, Walpole <i>Voting Student Member, Appointed April 2016</i> University of Massachusetts, Dartmouth	2017
Robert Epstein, Brockton <i>Appointed September 2015</i> President & CEO, Horizon Beverage Group	2020
Philip A. Feinberg, Ardsley, NY <i>Non-voting Student Member, Appointed April 2016</i> University of Massachusetts, Medical School	2017
David G. Fubini, Boston <i>Appointed April 2013</i> Senior Lecturer, Harvard Business School	2018
Imari K. Paris Jeffries, M.Ed., M.A., Boston <i>Appointed December 2016</i> Consultant, United South End Settlement Houses	2021
Philip W. Johnston, Marshfield <i>Appointed September 2007</i> President, Philip W. Johnston Associates	2017
Michael O'Brien, Southborough <i>Appointed December 2016</i> Executive Vice President, WinnCompanies	2021
Joshua S. Odam, Brooklyn, NY <i>Non-voting Student Member, Appointed April 2016</i> University of Massachusetts, Amherst	2017
Kerri Osterhaus-Houle, M.D., Hudson <i>Appointed September 2007</i> Partner, Women's Health of Central Massachusetts, PC	2018

R. Norman Peters, J.D., Paxton <i>Appointed September 2009</i> Partner, Peters & Sowyrda	2019
James A. Peyser, MALD, Milton <i>Appointed January 2015</i> Secretary of Education, Executive Office of Education Commonwealth of Massachusetts	<i>Serves ex-officio</i>
Malinda E. Reed, Lowell <i>Voting Student Member, Appointed April 2016</i> University of Massachusetts, Lowell	2017
Elizabeth D. Scheibel, J.D., South Hadley <i>Appointed December 2016</i> Former Massachusetts Northwestern District Attorney	2021
Henry M. Thomas, III, J.D., Springfield <i>Appointed September 2007</i> President, Urban League of Springfield, Inc.	2017
Victor Woolridge, Springfield <i>Appointed November 2009</i> Vice President, Barings	2019
Charles F. Wu, MBA, Newton <i>Appointed December 2016</i> Senior Lecturer, Harvard University Business School Founding Partner, Baynorth Capital, LLC	2021

Administrative Officers

The following is a list of the current administrative officers of the University.

Martin T. Meehan, J.D., age 60

Martin T. Meehan, J.D., began his term as President of the University on July 1, 2015. Mr. Meehan was previously the Chancellor of the Lowell Campus since July 2007. Prior to that, Mr. Meehan represented the Fifth Congressional District of Massachusetts in the U.S. House of Representatives since 1993. He has also served as the First Assistant District Attorney for Middlesex County from 1991 to 1992. Mr. Meehan was also the Director of Public Affairs for the Massachusetts Secretary of the Commonwealth and the Deputy Secretary of State for Securities and Corporations from 1986 to 1990. Mr. Meehan earned his B.S. in Education and Political Science from the University of Massachusetts, Lowell, a Master's degree in Public Administration from Suffolk University and a J.D. degree from Suffolk University Law School. He holds honorary degrees from Suffolk University, Green Mountain College in Vermont and Shenkar College of Engineering & Design in Israel.

James R. Julian, Jr., J.D., Executive Vice President and Chief Operating Officer, age 55

James R. Julian, Jr., J.D., has been the Executive Vice President at the University since January 1996. Prior to joining the University, he served as Chief of Staff and Counsel for the former Massachusetts Senate President, William M. Bulger, from 1991 to 1996. He holds a B.S. degree in Political Science from Suffolk University and a J.D. degree from the New England School of Law.

Marcellette G. Williams, Ph.D., Senior Vice President for Academic Affairs, Student Affairs and International Relations, age 75

Marcellette G. Williams, Ph.D., has been the Senior Vice President for Academic and Student Affairs and International Relations since July 2005. Dr. Williams served as interim Chancellor of the Amherst Campus from July 2001 through July 2002. Prior to becoming interim Chancellor, Dr. Williams was Deputy Chancellor and Professor

of English and Comparative Literature at the Amherst Campus. Prior to joining the University, Dr. Williams served in a variety of academic and administrative positions at Michigan State University, where she earned her bachelor's, master's and doctoral degrees.

Christine M. Wilda, Senior Vice President for Administration & Finance and Treasurer, age 46

Christine M. Wilda was appointed to the position of Senior Vice President for Administration & Finance and Treasurer in July 2012. Previously, she served as interim Vice President for Administration & Finance, Treasurer and Controller from February 2012 to June 2012 and as the University Controller from 2002 to January 2012. Prior to that, Ms. Wilda was an associate in the University Controller's office since 1992. Ms. Wilda received a B.A. degree in Accounting and an M.B.A. degree from the Isenberg School of Management at UMass Amherst. Ms. Wilda has accepted another position within the University; her successor is expected to be appointed February 2017.

Kumble R. Subbaswamy, Ph.D., Chancellor, Amherst Campus, age 65

Kumble R. Subbaswamy, Ph.D., became the Chancellor of the Amherst Campus in July 2012. Dr. Subbaswamy previously served as provost at the University of Kentucky since 2006. He joined the University of Kentucky's physics faculty in 1978 after serving as a post-doctoral fellow at the University of California, Irvine. During his first 18 years at the University of Kentucky, he served as Associate Dean of Arts and Sciences and as chair of the Department of Physics and Astronomy. Dr. Subbaswamy was also Dean of the College of Arts and Sciences at the University of Miami from 1997 to 2000, when he left to become Dean of Arts and Sciences at Indiana University in Bloomington, where he served until 2006. Dr. Subbaswamy holds a B.S. degree in Physics from Bangalore University, an M.S. degree in Physics from Delhi University and a Ph.D. degree in Physics from Indiana University.

J. Keith Motley, Ph.D., Chancellor, Boston Campus, age 60

J. Keith Motley, Ph.D., became the Chancellor of the Boston Campus in July 2007. Previously, Dr. Motley had held the position of Vice President for Business and Public Affairs since 2005. Dr. Motley served as Interim Chancellor of the Boston Campus from August 2004 until June 2005. Prior to becoming Interim Chancellor, Dr. Motley served as the Vice Chancellor for Student Affairs at the Boston Campus. Previously, Dr. Motley held a variety of student-service positions at Northeastern University including Dean of Student Services, Associate Dean/Director of the John D. O'Bryant African-American Institute and Assistant Dean/Director of the Office of Minority Student Affairs. Dr. Motley is a founder of the Roxbury Preparatory Charter School and chair emeritus of the school's board of trustees. He also serves on the board of trustees of Newbury College in Brookline. Dr. Motley holds B.S. and M.Ed. degrees from Northeastern University and a Ph.D. degree from Boston College.

Peyton Randolph Helm, Ph.D., Interim Chancellor, Dartmouth Campus, age 67

Peyton Randolph (Randy) Helm, Ph.D., was appointed interim Chancellor of the Dartmouth Campus, effective March 15, 2016. Previously, Dr. Helm was the President at Muhlenberg College for 12 years and was named President Emeritus by the Muhlenberg trustees at commencement in May 2015. At Muhlenberg, Dr. Helm served as a professor of history and taught courses in Homeric Epic and Greek history. Prior to his Muhlenberg presidency, Dr. Helm served as Vice President for College Relations and professor of classical studies at Colby College in Waterville, Maine, and held leadership positions in student affairs and development at the University of Pennsylvania. Dr. Helm earned a B.A. degree in Archaeology from Yale University and a Ph.D. in Ancient History from the University of Pennsylvania.

Jacqueline Moloney, Ed. D., Chancellor, Lowell Campus, age 63

Jacqueline Moloney, Ed.D, was appointed Chancellor of the Lowell Campus in August 2015. Previously, Dr. Moloney served as Executive Vice Chancellor of the Lowell campus since 2007. Prior to becoming Executive Vice Chancellor, Dr. Moloney served as Dean of the Division of Online and Continuing Education at UMass Lowell since 1994 and Executive in Residence for UMassOnline since 2000. Dr. Moloney also served as Dean of University College and Director of the Centers for Learning at UMass Lowell from 1990 to 1994. Dr. Moloney received a B.S. degree in

Sociology from UMass Lowell, an M.A. degree in Social Psychology from Goddard College, and an Ed.D. degree from UMass Lowell.

Michael F. Collins, M.D., Chancellor, Worcester Campus and Senior Vice President for Health Sciences, age 61

Michael F. Collins, M.D., was appointed Chancellor of the Worcester Campus, where he also serves as professor of quantitative health sciences and medicine, on September 26, 2008. Dr. Collins served as interim Chancellor of the Worcester Campus from June 2007 to September 2008. In June 2007, Dr. Collins was appointed Senior Vice President for Health Sciences at the University of Massachusetts. Dr. Collins served as Chancellor of the UMass Boston Campus from 2005 through 2007. Prior to joining the University of Massachusetts, Dr. Collins served as President and Chief Executive Officer of Caritas Christi Health Care from 1994 to 2004 and from 1994 to 2001 he served as President of St. Elizabeth's Medical Center in Brighton, a university academic medical center affiliated with Tufts University School of Medicine. A board certified physician in internal medicine and a Fellow of the American College of Physicians, Dr. Collins has held a number of faculty and academic leadership positions over the course of his career. At Texas Tech University Health Sciences Center, his posts included Assistant Professor of Internal Medicine and Assistant Dean for Patient Care Resources. At Tufts University, he served as Clinical Professor of Internal Medicine and Associate Dean of Government and Medical Affairs in the School of Medicine and as a senior fellow at the Jonathan M. Tisch College of Citizenship and Public Service. Dr. Collins received a B.A. degree from the College of the Holy Cross and earned an M.D. degree from Tufts University School of Medicine.

Faculty and Staff

The University had 6,322 faculty members for Fall 2016, including 4,385 full-time faculty. Of the full-time faculty (excluding Worcester faculty), 52.9% were tenured, 22.5% were on track for tenure and the remaining 24.6% were not on tenure track. In addition, the University had 11,318 staff members for Fall 2016, of which 88.7% were full-time. The University faculty has received some of the world's most prestigious awards and honors, including the MacArthur Fellowship, the Pulitzer Prize, the National Book Award and the Nobel Prize. The University faculty also includes National Science Foundation grant winners and Fulbright Scholars. The University student FTE to faculty FTE ratios, excluding continuing education, are 18:1, 16:1, 16:1 and 18:1 for the Amherst, Boston, Dartmouth and Lowell campuses, respectively. The Worcester Campus ratio is not presented because the delivery of graduate medical education is not comparable to that of campuses offering a traditional range of undergraduate and graduate programs.

STRATEGIC INITIATIVES

Under the leadership of President Meehan and the University Trustees, the University is engaged in a series of strategic initiatives identified as a result of an interactive, collaborative process between the President's Office and campus leadership. The strategic initiatives acknowledge the unique strengths of each of the campuses and recognize the important role of the University in supporting the Commonwealth's economic success. The initiatives are as follows:

- *Accountability* – The University has set benchmarks and peer comparisons for each of the five UMass campuses and specific goals have been set for each Chancellor of the University.
- *Growing the University* – To further economic and academic growth, the University has established satellite centers in Springfield, Haverhill and in the President's new office site in downtown Boston.
- *Expanding Research and Development* – The University participates as a member of the Mass Green High Performance Computing Center providing increased capacity for research and created the UMass Innovation Institute to expand the University's capacity for applied research.
- *Fundraising* – The University is developing and focusing its fundraising efforts across all five campuses.
- *Stewards of Resources* – The University continues to increase cost efficiency in providing educational services to students.

- *Efficient and Effective* – The University has been charged by the University Trustees to find ways to achieve the same or better results through more efficient and effective means.
- *Excellence* – The University continues to enhance its reputation and rankings, providing the Commonwealth with a high-quality public education. UMass was ranked by the *Times Higher Education World University Rankings* as the No. 1 public university in New England and one of the 30 best public universities in the nation.
- *Quality* – The University continues to admit high-quality students and strives to increase the academic profiles of all five campuses. Despite increasing enrollment, student quality continues to improve. The Fall 2016 incoming class is among the strongest in University history, with average SAT scores of 1225 and 1171, and average high school GPAs of 3.83 and 3.59 at the Amherst and Lowell Campuses, respectively. In addition, UMass faculty includes Nobel Laureate and Pulitzer Prize winners, members of the National Academy of Sciences, an American Book Award winner and Fulbright, Guggenheim, MacArthur and Mellon fellows.
- *Student Success* – The University continues to review policies and other best practices that focus on ways to improve student output measures. Since Fall 2011, one-year retention rates have increased from 83.1% to 85.4% while six-year graduation rates have increased from 58.2% to 63.6%.

ACADEMIC PROGRAMS AND ACCREDITATION

The University offers a broad spectrum of academic programs, granting Bachelor of Arts degrees in over 60 fields, Bachelor of Science degrees in over 50 fields and bachelor's degrees in a number of other areas, including Fine Arts and Business Administration. Master of Arts degrees are granted in more than 25 fields, Master of Science degrees in over 45 academic fields and a variety of other master's degrees are granted in specialized areas including Education, Teaching, Business Administration and Public Health. In addition to the foregoing, the University grants Doctor of Philosophy degrees in over 50 fields, as well as Doctor of Education, Doctor of Science, Doctor of Engineering, Juris Doctor and Doctor of Medicine degrees. The academic resources of the University are also accessible to part-time students, to local, national and international businesses and to the general community through the continuing education programs.

Each campus of the University is accredited by NEASC, the major accrediting body for institutions of higher education in New England. The Amherst, Boston, Dartmouth, Lowell and Worcester Campuses are accredited through 2018, 2025, 2020, 2023 and 2020, respectively. The Medical School at the Worcester Campus is a member of the Association of American Medical Colleges and was given full accreditation through the 2019-2020 academic year by the LCME, the major accrediting body for programs leading to the M.D. degree. On December 6, 2016, the Law School at the Dartmouth Campus received full accreditation from the ABA. In addition to the foregoing, individual schools and academic programs are accredited by the appropriate agencies in their particular fields.

The University is also an institutional member of numerous organizations of higher learning and professional societies, including, among others, the Association of American Colleges, the Association of Public and Land-Grant Universities, the American Council on Education, the American Association of Colleges for Teacher Education, the American Association of Colleges of Nursing, the Council of Colleges of Arts and Sciences and the New England Board of Higher Education.

ENROLLMENT

Admission to the University is open to residents and non-residents of the Commonwealth on a competitive basis. Massachusetts residents accounted for 82.3% and 52.4% of the University's total undergraduate and graduate fall enrollment, respectively, during Fall 2016.

For Fall 2016, total full-time equivalent enrollment at the University (including continuing education) was 63,978, representing an increase of 6.0% over the five-year period.

Total Full-Time Equivalent Enrollment, Fall 2012-2016

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Undergraduate	48,135	48,893	49,732	50,816	51,209
Graduate	<u>12,202</u>	<u>12,443</u>	<u>12,576</u>	<u>12,517</u>	<u>12,769</u>
Total	60,337	61,336	62,308	63,333	63,978

Head Count Enrollment

Total Headcount Enrollment

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
In-state undergraduate	44,914	45,064	45,315	45,817	46,784
Out-of-state undergraduate	8,987	9,607	10,084	10,441	10,077
In-state graduate	9,393	9,322	9,220	9,172	9,232
Out-of-state graduate	<u>7,480</u>	<u>7,948</u>	<u>8,177</u>	<u>8,314</u>	<u>8,403</u>
Total	70,774	71,941	72,796	73,744	74,496

The following tables show opening head count enrollment as of the University's Fall semester for each of the five campuses since 2012.

Amherst Campus

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
In-state undergraduate	16,952	16,900	16,949	17,277	17,833
Out-of-state undergraduate	4,976	5,234	5,303	5,471	5,540
In-state graduate	2,270	2,232	2,260	2,282	2,308
Out-of-state graduate	<u>4,038</u>	<u>4,152</u>	<u>4,123</u>	<u>4,239</u>	<u>4,356</u>
Total	28,236	28,518	28,635	29,269	30,037

Boston Campus

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
In-state undergraduate	10,610	10,639	10,734	10,866	10,765
Out-of-state undergraduate	1,514	1,727	1,966	2,083	2,082
In-state graduate	2,623	2,667	2,698	2,638	2,544
Out-of-state graduate	<u>1,127</u>	<u>1,244</u>	<u>1,358</u>	<u>1,443</u>	<u>1,456</u>
Total	15,874	16,277	16,756	17,030	16,847

Dartmouth Campus

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
In-state undergraduate	7,123	6,969	6,939	6,762	6,394
Out-of-state undergraduate	439	468	515	533	605
In-state graduate	1,128	1,019	979	939	957
Out-of-state graduate	<u>520</u>	<u>597</u>	<u>678</u>	<u>682</u>	<u>691</u>
Total	9,210	9,053	9,111	8,916	8,647

Lowell Campus

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
In-state undergraduate	10,229	10,556	10,693	10,912	11,792
Out-of-state undergraduate	2,058	2,178	2,300	2,354	1,850
In-state graduate	2,508	2,551	2,451	2,508	2,614
Out-of-state graduate	<u>1,499</u>	<u>1,647</u>	<u>1,747</u>	<u>1,676</u>	<u>1,601</u>
Total	16,294	16,932	17,191	17,450	17,857

Worcester Campus

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Medical School	519	518	508	515	543
Other	<u>641</u>	<u>643</u>	<u>595</u>	<u>564</u>	<u>565</u>
Total ⁺⁺	1,160	1,161	1,103	1,079	1,108

⁺⁺Does not include the head count of registrants in the various continuing medical education programs offered at the Worcester Campus.

From Fall 2015 to Fall 2016, total new freshmen enrollees decreased by approximately 0.4% for the system as a whole, while total new transfer enrollees decreased by 2.6% for the system as a whole, based on headcount. The number of total new freshmen enrollees reflected a 0.4% decrease in the size of the entering class at the Amherst Campus, a 1.7% decrease in new freshmen at the Boston Campus, a 4.5% decrease at the Dartmouth Campus, and a 4.8% increase at the Lowell Campus. The number of total new transfer enrollees reflected a 10.2% increase at the Amherst Campus, a 9.9% decrease at the Boston Campus, a 6.9% decrease at the Dartmouth Campus, and a 5.0% decrease at the Lowell Campus.

The University saw an increase of approximately 3.6% in freshmen applications in Fall 2016 compared to Fall 2015. The increase in total freshmen applications included a 1.7% increase at the Amherst Campus, a 5.6% increase at the Boston Campus, an 8.2% increase at the Dartmouth Campus and a 5.5% increase at the Lowell Campus. Transfer applications included a 3.3% increase at the Amherst Campus, a 7.3% decrease at the Boston Campus, a 6.9% increase at the Dartmouth Campus and a 2.6% increase at the Lowell Campus.

The following tables provide aggregate data for the campuses (except the Worcester Campus) on University applications, acceptances and matriculations for first year undergraduates and for transfer students.

First Year Applicants, Acceptances and Matriculants, Fall 2012-2016

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Applications Received	58,313	61,253	62,497	67,602	70,025
Number of Acceptances	37,417	40,294	40,347	41,582	43,604
Percent of Applicants Accepted	64%	66%	65%	62%	62%
Number of Matriculants	8,797	9,105	9,332	9,377	9,343
Percent Matriculated of Those Accepted	24%	23%	23%	23%	21%

Transfer Student Applicants, Acceptances and Matriculants, Fall 2012-2016

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Applications Received	10,981	10,033	10,048	9,961	9,971
Number of Acceptances	7,985	7,909	7,988	7,727	7,818
Percent of Applicants Accepted	73%	79%	79%	78%	78%
Number of Matriculants	4,824	4,835	4,893	4,873	4,746
Percent Matriculated of Those Accepted	60%	61%	61%	63%	61%

The following tables show the most currently available retention and graduation rates for undergraduate freshmen entering the University. The level and changes in retention and graduation rates reflect the diversity of the entering students.

One-Year Retention Rates - Fall Term (%)

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Range of Campus Averages	74-88	76-89	79-90	75-91	73-91

Six-Year Graduation Rates (%)

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Year of Entry	2006	2007	2008	2009	2010
Graduation After 6 Years - Range of Campus Averages ⁺	38-70	44-77	42-76	42-78	45-77

⁺The low-end averages of the University data result from the Boston Campus, which focuses on the needs of non-traditional students.

The following table shows the average Scholastic Aptitude Test (“SAT”) scores for entering University undergraduate freshmen.

SAT Scores for Incoming Freshmen

Academic Year	<u>2011-2012</u> [*]	<u>2012-2013</u> [*]	<u>2013-2014</u> [*]	<u>2014-2015</u> [*]	<u>2015-2016</u> [*]
Range of Campus Averages	1056-1197	1052-1208	1029-1218	1029-1218	1022-1225

^{*}Combined Mathematics and Critical Reasoning scores.

Degrees Awarded

The University awards four levels of degrees: associate’s, bachelor’s, master’s and doctoral/professional degrees. Trends in University degrees and certificates awarded for the past five years are shown in the following table.

Trends in Degrees Awarded

Academic Year	<u>2011-2012</u>	<u>2012-2013</u>	<u>2013-2014</u>	<u>2014-2015</u>	<u>2015-2016</u>
Associate’s/Certificate	445	547	472	538	508
Bachelor’s	10,399	10,910	11,544	11,875	12,125
Master’s/CAGS ⁺	4,166	4,225	4,385	4,679	4,578
Doctorate/Professional	678	765	773	759	812

⁺CAGS means Certificate of Advanced Graduate Studies.

TUITION AND FEES

The following tables show tuition and mandatory fees for full-time graduate and undergraduate students in effect at the Amherst, Boston, Dartmouth, Lowell and Worcester Campuses for fiscal years 2013 through 2017.

AMHERST CAMPUS
Tuition & Mandatory Fees: FY 2013-2017

	<u>Actual</u> <u>2013¹</u>	<u>Actual</u> <u>2014²</u>	<u>Actual</u> <u>2015³</u>	<u>Actual</u> <u>2016⁴</u>	<u>Actual</u> <u>2017⁵</u>
TUITION					
Undergraduate (MA resident)	\$1,714	\$1,714	\$1,714	\$1,714	\$14,590
Undergraduate (non-resident)	9,937	9,937	9,937	9,937	31,823
Graduate (MA resident)	2,640	2,640	2,640	2,640	13,524
Graduate (non-resident)	9,937	9,937	9,937	9,937	29,644
OTHER MANDATORY FEES					
Undergraduate (MA resident)	\$11,516	\$11,544	\$11,544	\$12,457	\$ 381
Undergraduate (non-resident)	16,708	18,037	18,876	20,567	381
Graduate (MA resident)	10,338	11,002	11,411	12,144	2,089
Graduate (non-resident)	16,200	17,778	18,609	20,037	2,089
TOTAL TUITION & MANDATORY FEES					
Undergraduate (MA resident)	\$13,230	\$13,258	\$13,258	\$14,171	\$14,971
Undergraduate (non-resident)	26,645	27,974	28,813	30,504	32,204
Graduate (MA resident)	12,978	13,642	14,051	14,754	15,613
Graduate (non-resident)	26,137	27,715	28,546	29,974	31,733
DORMITORY RESIDENTS ONLY					
Average Room & Board	\$9,937	\$10,439	\$10,957	\$11,503	\$11,897
TUITION, MANDATORY FEES, ROOM & BOARD					
Undergraduate (MA resident)	\$23,167	\$23,697	\$24,215	\$25,674	\$26,868
Undergraduate (non-resident)	36,582	38,413	39,770	42,007	44,101
Graduate (MA resident)	22,915	24,081	25,008	26,257	27,510
Graduate (non-resident)	36,074	38,154	39,503	41,477	43,630

¹ Includes an increase in fees approved by the University Trustees on June 5, 2012.

² Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the first year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

³ Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the second year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

⁴ Includes an increase in fees approved by the University Trustees on June 17, 2015.

⁵ Reflects the restructuring of tuition and fees enabled by the tuition retention legislation and includes an increase in tuition approved by the University Trustees on July 14, 2016. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

BOSTON CAMPUS

Tuition & Mandatory Fees: FY 2013- 2017

	<u>Actual</u> <u>2013¹</u>	<u>Actual</u> <u>2014²</u>	<u>Actual</u> <u>2015³</u>	<u>Actual</u> <u>2016⁴</u>	<u>Actual</u> <u>2017⁵</u>
TUITION					
Undergraduate (MA resident)	\$1,714	\$1,714	\$1,714	\$1,714	\$13,110
Undergraduate (non-resident)	9,758	9,758	9,758	9,758	31,698
Graduate (MA resident)	2,590	2,590	2,590	2,590	16,863
Graduate (non-resident)	9,758	9,758	9,758	9,758	32,913
OTHER MANDATORY FEES					
Undergraduate (MA resident)	\$10,252	\$10,252	\$10,252	\$10,968	\$325
Undergraduate (non-resident)	16,390	17,672	18,632	20,162	325
Graduate (MA resident)	10,916	11,578	12,428	13,525	355
Graduate (non-resident)	16,405	17,687	19,334	21,357	355
TOTAL TUITION & MANDATORY FEES					
Undergraduate (MA resident)	\$11,966	\$11,966	\$11,966	\$12,682	\$13,435
Undergraduate (non-resident)	26,148	27,430	28,390	29,920	32,023
Graduate (MA resident)	13,506	14,168	15,018	16,115	17,218
Graduate (non-resident)	26,163	27,445	29,092	31,115	33,268

¹ Includes an increase in fees approved by the University Trustees on June 5, 2012.

² Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the first year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

³ Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the second year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

⁴ Includes an increase in fees approved by the University Trustees on June 17, 2015.

⁵ Reflects the restructuring of tuition and fees enabled by the tuition retention legislation and includes an increase in tuition approved by the University Trustees on July 14, 2016. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

DARTMOUTH CAMPUS
Tuition & Mandatory Fees: FY 2013-2017

	<u>Actual</u> <u>2013¹</u>	<u>Actual</u> <u>2014²</u>	<u>Actual</u> <u>2015³</u>	<u>Actual</u> <u>2016⁴</u>	<u>Actual</u> <u>2017⁵</u>
TUITION					
Undergraduate (MA resident)	\$1,417	\$1,417	\$1,417	\$1,417	\$12,783
Undergraduate (non-resident)	8,099	8,099	8,099	8,099	27,068
Graduate (MA resident)	2,071	2,071	2,071	2,071	14,994
Graduate (non-resident)	8,099	8,099	8,099	8,099	27,068
Graduate Law School (MA resident)	2,071	2,071	2,071	2,071	25,586
Graduate Law School (non-resident)	8,099	8,099	8,099	8,099	33,738
OTHER MANDATORY FEES					
Undergraduate (MA resident)	\$10,264	\$10,264	\$10,264	\$11,171	\$405
Undergraduate (non-resident)	14,929	16,057	16,520	18,074	405
Graduate (MA resident)	10,917	11,553	11,881	12,092	405
Graduate (non-resident)	14,929	16,057	16,520	26,173	405
Graduate Law School (MA resident)	21,631	21,631	21,631	24,541	405
Graduate Law School (non-resident)	23,295	23,295	23,295	32,293	405
TOTAL TUITION & MANDATORY FEES					
Undergraduate (MA resident)	\$11,681	\$11,681	\$11,681	\$12,588	\$13,188
Undergraduate (non-resident)	23,028	24,156	24,619	26,173	27,473
Graduate (MA resident)	12,988	13,624	13,952	14,973	15,399
Graduate (non-resident)	23,028	24,156	24,619	26,173	27,473
Graduate Law School (MA resident)	23,702	23,702	23,702	24,541	25,991
Graduate Law School (non-resident)	31,394	31,394	31,394	32,293	34,143
DORMITORY RESIDENTS ONLY					
Average Room & Board	\$10,574	\$10,908	\$11,435	\$11,622	\$12,296
TUITION, MANDATORY FEES, ROOM & BOARD					
Undergraduate (MA resident)	\$22,255	\$22,589	\$23,116	\$24,210	\$25,484
Undergraduate (non-resident)	33,602	35,064	36,054	37,795	39,769
Graduate (MA resident)	23,562	24,532	25,387	26,595	27,695
Graduate (non-resident)	33,602	35,064	36,054	37,795	39,769
Graduate Law School (MA resident)	34,276	34,610	35,137	36,163	38,287
Graduate Law School (non-resident)	41,968	42,302	42,829	43,915	46,439

¹ Includes an increase in fees approved by the University Trustees on June 5, 2012.

² Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the first year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

³ Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the second year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

⁴ Includes an increase in fees approved by the University Trustees on June 17, 2015.

⁵ Reflects the restructuring of tuition and fees enabled by the tuition retention legislation and includes an increase in tuition approved by the University Trustees on July 14, 2016. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

LOWELL CAMPUS
Tuition & Mandatory Fees: FY 2013-2017

	<u>Actual</u> <u>2013</u> ¹	<u>Actual</u> <u>2014</u> ²	<u>Actual</u> <u>2015</u> ³	<u>Actual</u> <u>2016</u> ⁴	<u>Actual</u> <u>2017</u> ⁵
TUITION					
Undergraduate (MA resident)	\$1,454	\$1,454	\$1,454	\$1,454	\$13,932
Undergraduate (non-resident)	8,567	8,567	8,567	8,567	30,500
Graduate (MA resident) ⁺	1,637	1,637	1,637	1,637	14,304
Graduate (non-resident) ⁺	6,425	6,425	6,425	6,425	25,853
OTHER MANDATORY FEES					
Undergraduate (MA resident)	\$10,393	\$10,643	\$10,993	\$11,973	\$375
Undergraduate (non-resident)	16,329	17,579	18,833	20,558	375
Graduate (MA resident) ⁺⁺	9,592	10,402	11,162	12,162	375
Graduate (non-resident) ⁺⁺	14,349	15,449	16,553	18,053	375
TOTAL TUITION & MANDATORY FEES					
Undergraduate (MA resident)	\$11,847	\$12,097	\$12,447	\$13,427	\$14,307
Undergraduate (non-resident)	24,896	26,146	27,400	29,125	30,875
Graduate (MA resident)	11,229	12,039	12,799	13,799	14,679
Graduate (non-resident)	20,774	21,874	22,978	24,478	26,228
DORMITORY RESIDENTS ONLY					
Average Room & Board	\$10,282	\$10,793	\$11,278	\$11,670	\$12,073
TUITION, MANDATORY FEES, ROOM & BOARD					
Undergraduate (MA resident)	\$22,129	\$22,890	\$23,725	\$25,097	\$26,380
Undergraduate (non-resident)	35,178	36,939	38,678	40,795	42,948
Graduate (MA resident)	21,511	22,832	24,077	25,469	26,752
Graduate (non-resident)	31,056	32,667	34,256	36,148	38,301

¹ Includes an increase in fees approved by the University Trustees on June 5, 2012.

² Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the first year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

³ Reflects the tuition and mandatory curriculum fee freeze for resident undergraduates as supported by the second year of the 50/50 Initiative. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

⁴ Includes an increase in fees approved by the University Trustees on June 17, 2015.

⁵ Reflects the restructuring of tuition and fees enabled by the tuition retention legislation and includes an increase in tuition approved by the University Trustees on July 14, 2016. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

⁺ Graduate tuition charges at UMass Lowell are on a 9-credit load basis.

⁺⁺ Graduate fee charges at UMass Lowell are on a 9-credit load basis.

WORCESTER CAMPUS
Tuition & Mandatory Fees: FY 2013-2017

	<u>Actual</u> <u>2013¹</u>	<u>Actual</u> <u>2014²</u>	<u>Actual</u> <u>2015³</u>	<u>Actual</u> <u>2016⁴</u>	<u>Actual</u> <u>2017⁵</u>
TUITION					
Medical School (resident)	\$8,352	\$8,352	\$8,352	\$8,352	\$25,842
Medical School (Class of '19 and beyond)	-	-	-	-	33,600
Medical School (non-resident)	-	-	-	-	59,400
Graduate School of Nursing (MA resident)	2,640	2,640	2,640	2,640	10,450
Graduate School of Biomedical Sciences (MA resident)	2,640	2,640	2,640	2,640	6,424
Graduate School of Nursing (non-resident)	9,856	9,856	9,856	9,856	15,675
Graduate School of Biomedical Sciences (non-resident)	9,856	9,856	9,856	9,856	13,640
OTHER MANDATORY FEES					
Medical School (resident)	\$12,310	\$14,535	\$14,998	\$17,158	\$2,057
Medical School (Class of '19 and beyond)	-	-	-	25,665	2,057
Medical School (non-resident)	-	-	-	58,517	2,057
Graduate School of Nursing	8,107	8,307	8,330	8,354	1,927
Graduate School of Biomedical Sciences	4,079	4,279	4,302	4,326	932
TOTAL TUITION & MANDATORY FEES					
Medical School (resident)	\$20,662	\$22,887	\$23,350	\$25,510	\$27,899
Medical School (Class of '19 and beyond)	-	-	-	34,017	35,657
Medical School (non-resident)	-	-	-	58,517	61,457
Graduate School of Nursing (MA resident)	10,747	10,947	10,970	10,994	12,377
Graduate School of Biomedical Sciences (MA resident)	6,719	6,919	6,942	6,966	7,356
Graduate School of Nursing (non-resident)	17,963	18,163	18,186	18,210	17,602
Graduate School of Biomedical Sciences (non-resident)	13,935	14,135	14,158	14,182	14,572

¹ Includes an increase in fees approved by the University Trustees on June 5, 2012.

² Includes an increase in fees approved by the University Trustees on June 19, 2013.

³ Includes an increase in fees approved by the University Trustees on June 18, 2014.

⁴ Includes an increase in fees approved by the University Trustees on June 17, 2015.

⁵ Reflects the restructuring of tuition and fees enabled by the tuition retention legislation and includes an increase in tuition approved by the University Trustees on July 14, 2016. See "UNIVERSITY REVENUES AND BUDGETING - Appropriated Funds - Annual Appropriations."

Student Financial Aid

Eligible University students receive financial aid packages primarily awarded from the federal government, with varying combinations of grants and scholarships, loans and part-time employment. Grants and scholarships represent financial aid that does not require repayment by the student. The primary federal grants and scholarships awarded to eligible University students were Federal Pell Grants of approximately \$72.8 million and Federal Supplemental Education Opportunity Grants of approximately \$3.1 million for the fiscal year 2016. New loans processed by the University for eligible students under federal student loan programs and federally guaranteed loan programs totaled approximately \$338.8 million for the fiscal year 2016. Eligible University students also received approximately \$5.2 million through the Federal Work-Study Program for fiscal year 2016.

UNIVERSITY REVENUES AND BUDGETING

In general, the University receives revenues from multiple sources: Commonwealth appropriations, student fees and self-supporting activities for which fees are charged to cover the cost of providing the service, and federal and state contracts. In fiscal year 2016, Commonwealth appropriations (net of tuition required to be remitted to the Commonwealth) provided approximately 21% of all operating and non-operating revenues of the University (not including University Related Organizations), retained tuition and fees accounted for approximately 25% of all operating and non-operating revenues and other non-appropriated funds (including grants and contracts, auxiliary enterprises and other operating revenues) provided the remaining 54%.

The University's internal accounting is maintained on a budgetary basis. Additionally, the University prepares annual financial statements in accordance with generally accepted accounting principles on an accrual basis. The financial statements of the University as of June 30, 2015 and June 30, 2016 have been audited by Grant Thornton LLP, independent certified public accountants as stated in their report. The consolidated audited financial statements of the University should be read in their entirety, including the footnotes and the Management Discussion and Analysis attached thereto.

Budget Process

The University's fiscal year, like that of the Commonwealth, is from July 1 through June 30. A key source of University revenues is the annual state appropriation determined in the Commonwealth's annual budget process. This process begins approximately one year in advance of the commencement of each fiscal year. The University prepares its consolidated state budget request and forwards it to the Governor and the House and Senate Committees on Ways and Means. A copy of the University's request is also forwarded to the DHE, which incorporates the University's request in whole or in part into its state budget request for the entire public higher education system. The Governor makes funding recommendations to the state legislature (the "Legislature"). The Legislature in turn appropriates funds through its annual budget and other appropriating acts to the University Trustees, who distribute the funds to the five campuses.

The Commonwealth budget process, however, is only one of several ongoing budgetary and review processes that culminate in the presentation to the University Trustees of the overall annual University operating budget. For purposes of the operating budget, the University's revenues are divided into three separate components: General Operations, Sales and Services and Restricted Funds.

General Operations

Revenues from general operations are derived from a variety of sources and may be expended on activities furthering the general education, research and public service mission of the University, including teaching and related student support services, research, public service, institutional support and general maintenance activities. Funding sources for this category include state appropriations, general student fees, interest income, unrestricted giving and administrative overhead.

Sales and Services (Designated Funds)

Revenues generated from certain sales and/or services are presented in the budget separately from general operations and by law may be used to support only the operations of those services. An example of a designated fund is a trust fund established to receive revenues from a parking garage. By law, these revenues may be used only for expenses relating to parking and transportation. Other examples in this category are: auxiliary enterprises such as dining halls, dormitories and bookstores; student fee-based activities (other than the general student fee), such as continuing education and international programs; and educational activities such as counseling services.

Restricted Funds

In addition to the two foregoing categories of revenue, the University receives revenue from non-campus sources, which, like the designated funds, are limited in their uses. These funds include: state and federal student financial aid funds; state, federal and private grants and contracts; restricted endowment and scholarship funds; and land grant funds for the Amherst Campus.

Appropriated Funds

Tuition Retention

Massachusetts had historically been an anomaly in higher education because of the way it charged students to attend the University. In Massachusetts, mandatory curriculum fees made up the bulk of the cost of attending the University, rather than tuition. Tuition, which had not increased in over two decades, was set by the Massachusetts Board of Higher Education and was generally remitted to the Commonwealth's General Fund as a user fee. In fiscal year 2016, the University remitted approximately \$30.5 million in tuition collected from in-state students. Fees, which had previously accounted for the majority of student charges, were set by the University Trustees and were retained by the University to fund its operations. The fees have fluctuated over the years as the level of state support provided in the state budget has changed. Over time, this led to a high fee, low tuition billing model that was antiquated and confusing.

In July 2015, the Legislature passed and the Governor signed into law provisions in the fiscal year 2016 state budget that would give the University the tools to adopt a new system of billing that conforms to best practices in higher education and is consistent with the rest of the nation. The ability for the University to retain tuition, referred to as "Tuition Retention," is the main provision of the law that allowed the University to rationalize and restructure its tuition and fees in a way that is transparent and consistent with its peer institutions.

The Tuition Retention legislation comprised the following key provisions: the University Trustees were given authority to set tuition rates; the University was required to maintain the value of tuition waivers as tuition discounts; the University would continue to receive fringe support from the Commonwealth for any employee funded with retained tuition; and the University was required to create a simpler student bill with the majority of charges coming in the form of tuition.

With Tuition Retention becoming effective on July 1, 2016, the University assembled a steering committee composed of members from each campus and the President's Office in order to begin work on an implementation plan for system changes and communication to students and families. In addition, and in accordance with Section 195 of the fiscal year 2016 General Appropriation Act, the University established an Advisory Task Force chaired by the President of the University and including members from the University Trustees, the Amherst Chancellor, members of the Governor Baker's Administration, the Office of the Senate President and the Office of the Speaker of the House. The Advisory Task Force conducted its review and reported its findings regarding the calculation relative to the value of all tuition discounts, specific budgetary information to be reported to the Commonwealth, the effect on fringe benefits, the reduction to the University's fiscal year base appropriation, and the process for rationalizing future tuition and fee increases.

Tuition Retention was a major efficiency and an important step toward making the University more accountable and transparent to students, their families, Legislators and other stakeholders by showing student charges in a way that alleviates the confusion that had previously existed between tuition and mandatory fees.

Beginning in fiscal year 2004, the Amherst Campus was authorized to retain tuition for non-resident students. Beginning in fiscal year 2012, all of the University campuses were authorized to retain tuition from non-resident

students. In fiscal years 2012, 2013, 2014, 2015 and 2016, the University retained approximately \$50.8 million, \$74.5 million, \$75.8, million, \$82.0 million, and \$85.1 million of tuition revenue, respectively.

Annual Appropriations

The following tables detail the University's appropriations received from the Commonwealth for fiscal years 2013-2017 and the calculation of total Commonwealth support reported in the financial statements for fiscal years 2012-2016. Table A details the University's base maintenance appropriation as provided for in the annual budget of the Commonwealth for fiscal years 2013 through 2017. An explanation of the legislative appropriation process by fiscal year is described in detail below. Table B details the total Commonwealth support received by the University from all sources for fiscal years 2012 through 2016, and is the basis for the University's financial statements.

TABLE A
Commonwealth Appropriations by Fiscal Year

Years Ended June 30*
(\$ millions)

Commonwealth Appropriations	2013 Budget	2014 Budget	2015 Budget	2016 Budget	2017 Budget[†]
UMass Base Appropriation	\$418.1	\$463.5	\$519.0	\$531.8	\$508.3
Collective Bargaining Costs	25.7	15.3	2.2	10.9	-
9C Budget Reductions	(4.2)	-	(7.8)	-	-
Total UMass Base State Appropriation	\$439.6	\$478.9	\$513.4	\$542.7	\$508.3

*Totals may not add due to rounding.

[†] The 2017 appropriation amount was the result of a reduction related to the Tuition Retention Legislation passed as part of the fiscal year 2016 budget. With the University now able to retain approximately \$30.5 million in tuition, the state appropriation was reduced by a corresponding amount in order to ensure that Tuition Retention is cost neutral to both the University and the Commonwealth.

The Commonwealth pays the fringe benefit cost for those University employees who are paid from Commonwealth appropriations, which includes 39.7% of all University employees. Therefore, such fringe benefit support is added to the "State Appropriations" financial statement line item as presented in the table below. The University pays the Commonwealth for the fringe benefit cost of the employees paid from funding sources other than Commonwealth appropriations which includes 60.3% of University employees. The University includes tuition collected in the line item in its financial statements captioned "Tuition and Fees" under "Combined Statements of Revenue, Expenses and Changes in Net Position" and removes the equal amount from the "State Appropriations" line item through the netting process presented in the following table.

TABLE B

Years Ended June 30
(\$ thousands)

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Gross Commonwealth Appropriations	\$399,469	\$447,837	\$486,656	\$516,794	\$546,953
Plus: Fringe Benefits	154,953	130,005	141,881	159,403	178,032
Less: Tuition Remitted	<u>(37,029)</u>	<u>(35,103)</u>	<u>(34,325)</u>	<u>(31,055)</u>	<u>(30,583)</u>
Net Commonwealth Appropriations	<u>\$517,392</u>	<u>\$519,311</u>	<u>\$570,618</u>	<u>\$621,200</u>	<u>\$669,749</u>

The fiscal year 2012 budget approved by the Legislature and signed by the Governor reduced the University's base state appropriation to \$418.0 million. This reduction was partially offset by legislative approval of the Governor's

bill to allow the University's Boston, Dartmouth, Lowell and Worcester Campuses to retain tuition collected from non-resident students beginning in fiscal year 2012. The amount of non-resident tuition collected by these four campuses totaled \$11.6 million in the initial year. Prior to the legislation, the approximately \$11.6 million of non-resident tuition would have been returned to the Commonwealth. The fiscal year 2012 budget also included \$5.5 million of collective bargaining support and \$6.4 million of line item funding specific to the University.

The Commonwealth's fiscal year 2013 budget included a base state appropriation amount for the University equal to the base state appropriation received in fiscal year 2012. In addition to the base state appropriation, the budget also provided \$25.7 million to cover the fiscal year 2013 cost of the collective bargaining increases for the University's union employees and \$6.6 million of line item funding specific to the University. With state support consistent with the fiscal year 2012 level despite the fact that enrollments had increased at the University by 15% over the prior five years, the University's Board of Trustees approved a 4.9% tuition and fee increase for undergraduate students for the 2012-2013 academic year. In January 2013, the Governor imposed mid-year budget reductions pursuant to his 9C Authority to bring the Commonwealth budget into balance. As part of the reductions, the University received a 1% reduction equaling \$4.2 million. By working with the Legislature, the University was able to utilize revenues to meet the reduction with no impact on the fringe support provided by the Commonwealth. Each campus and the central office absorbed the reduction into operations for fiscal year 2013.

The fiscal year 2014 budget approved in July 2013 included a new funding model pursuant to which the Commonwealth's appropriations are set at an amount expected to cover approximately 50% of the cost to educate Massachusetts undergraduate students at the University (the "50/50 Initiative"). The 50/50 Initiative required an increase in the Commonwealth's base state appropriation of \$39.1 million in each of fiscal year 2014 and 2015. This investment, along with additional fringe support of \$10.8 million provided the University with \$100 million in additional appropriations over fiscal years 2014 and 2015. The Governor and the Legislature embraced the 50/50 Initiative for the fiscal year 2014 budget, and provided the increased funding which allowed the University to freeze undergraduate tuition and mandatory fees for Massachusetts residents for the 2013-2014 academic year. The 50/50 Initiative had an immediate and meaningful impact on thousands of Massachusetts residents as their undergraduate tuition and mandatory curriculum fees did not increase in the 2013-2014 academic year. It is expected to provide such undergraduate students with long-term relief by allowing them to graduate and enter the workforce with less student debt. The total base state appropriation for fiscal year 2014 was \$478.9 million.

The fiscal year 2015 budget approved in July 2014 supported the second year of the 50/50 Initiative by increasing the University's base appropriation to \$519.0 million. With the approval of the Commonwealth's fiscal year 2015 budget and the corresponding increase in appropriations for the University, the University continued the implementation of the 50/50 Initiative. At its June 18, 2014 Board Meeting, the University's Trustees approved the freezing of tuition and mandatory curriculum fees for in-state undergraduate students for the 2014-2015 academic year.

On February 3, 2015, Governor Baker exercised his 9C Authority to address a projected \$765 million shortfall in the Commonwealth's fiscal year 2015 budget, by proposing legislation to make certain budgetary reductions. The final bill, which was signed by the Governor on February 13, 2015, reduced the University's fiscal year 2015 base appropriation of \$519.0 million by approximately \$7.8 million to \$511.2 million. The University absorbed these reductions into its operations for fiscal year 2015. The University requested funding to account for the first year of collective bargaining increases with parameters set by the Commonwealth's administration with a total first year cost of \$13.1 million. Supplemental funding was supported in Chapter 10 of the Acts of 2015 for \$2.2 million of the total need.

The fiscal year 2016 budget approved in July 2015 included a base state appropriation of \$531.8 million, representing an increase of 2.5% over the original fiscal year 2015 amount. The original 2016 base appropriation did not include funding for the fiscal year 2015 or fiscal year 2016 collective bargaining increases and fell short of the University's request of \$578 million. Given the level of state funding, the University did not continue to freeze tuition and fees for fiscal year 2016. On June 17, 2015, the University Board of Trustees approved a 5% tuition and mandatory fee increase for in-state undergraduate students. Supplemental funding for collective bargaining was subsequently supported in Chapter 70 of the Acts of 2016 for \$10.9 million, satisfying the remaining need for the first year cost of the collective bargaining increases.

The fiscal year 2017 budget approved in July 2016 included a base state appropriation of \$508.3 million, representing an increase of 1.5% over the original fiscal year 2016 appropriation, and a decrease of 1% from the 2016 appropriation including supplemental funds. The 2017 appropriation amount was also the result of a reduction related to the Tuition Retention Legislation passed as part of the fiscal year 2016 budget. With the University now being able to retain approximately \$31 million in tuition, the state appropriation was reduced by a corresponding amount in order to ensure that Tuition Retention is cost neutral to both the University and the Commonwealth. With flat state appropriations and no additional funds for the second or third years of collective bargaining increases, the University Board of Trustees approved an average increase to tuition and mandatory fees of 5.6% for in-state undergraduates at a special meeting on July 14, 2016.

The University has submitted its budget request to the Administration for fiscal year 2018. UMass is requesting a base appropriation of \$538.6 million, which assumes enrollment growth of 1.6% and reflects an increase of \$30 million or 5.9%. This amount is based on the University's need to address increases in mandatory and other fixed costs related to the core educational and general portion of its budget. Furthermore, with the majority of the University's collective bargaining agreements set to expire on June 30, 2017, the University is estimating that the first year cost of the new agreements for fiscal year 2018 will total \$29.8 million. In addition to the base appropriation, the University is requesting funding for the Commonwealth's \$16.6 million share of the first year collective bargaining cost. The total request of \$555.3 million would allow the campuses to meet their obligations while limiting tuition increases for Fall 2017.

Management of Non-Appropriated Funds

All non-appropriated funds are managed and grouped for budgetary purposes into several trust funds. Non-appropriated funds are funds derived by the University from revenue sources other than Commonwealth appropriations and include, for example, student fees, gifts, grants, contracts and sponsored programs. The University Trustees establish and collect certain student fees and charges, including charges for room and board. Non-appropriated funds are retained by the University. Approximately 79% of the University's operating and non-operating revenues for fiscal year 2016 were non-appropriated.

University trust funds are financial accounts that are established by the University Trustees under authority granted by the Legislature in connection with self-supporting operations, such as student services, parking and certain research and public service activities. Revenues received from these self-supporting activities are expended by law for the respective purposes for which each trust fund was established. The University Trustees exercise oversight and control over these funds through official policy guidelines, annual budget review and approval and periodic internal audits of certain accounts. Beginning with fiscal year 1992, the University Trustees have required that external audits of the accounts and fund groups be performed by certified public accountants on a combined basis.

The University's financial operations consist of two major expense categories: Educational and General and Auxiliary Enterprises. The Educational and General expense budget includes research, academic programs, public service programs, student services programs, academic and institutional support programs, physical plant operations and financial aid. These activities are funded from student tuition and fees, Commonwealth and Federal appropriations, and grants and contracts. Auxiliary Enterprises are a set of self-sufficient services ancillary to the general educational mission of the University. These include such items as dining and residence halls, student health services and parking facilities. The Auxiliary Enterprises budget is a revenue-based trust fund. No assurance can be given that future trust fund revenues will continue to be sufficient to support self-amortizing projects or other Auxiliary Enterprises. The University reviews fees annually with the goal of having the Auxiliary Enterprises budget be self-sufficient.

Responding to Challenging Fiscal Environment

The University continues to benefit from the increased demand for its educational services. The University's growing reputation, combined with difficult economic conditions in the Commonwealth, have resulted in continued growth in student enrollment and the associated revenue growth from student charges, at all of the University's campuses. In addition, the University benefits from having diverse revenue streams. Grant and contract revenues have grown consistently over the years and the University anticipates continued growth in this area. Modest increases in room and board rates also are expected to generate revenues for auxiliary operations. Additionally, the University's

online presence continues to expand. For fiscal year 2016, UMassOnline achieved an approximate 7% increase in revenue and an approximate 6% increase in enrollment. Compared with the previous year, revenues increased from approximately \$89.6 million to approximately \$96.0 million. All of these revenue sources contribute to the University's fiscal position.

Understanding that the current fiscal environment poses significant challenges for the University and its students, the responsibility to be a good steward of limited resources is taken seriously. The University, through its Board of Trustees, created a permanent Task Force on Efficiencies and Effectiveness charged with helping to ensure that improving quality through more efficient and effective operations continues to be a priority for the University. The Task Force, along with the President's Office and the campuses, is working to promote a more standardized approach for cross campus collaboration and oversight of the entire effort, track and report progress, and quantify the benefits to the University and its campuses. Over the last few years the University has achieved measureable savings and efficiencies and expects current efforts to yield additional savings going forward.

The University continues to focus on improving its competitive position. To meet increased student demand, boost academic credentials and improve campus infrastructure, the University has acquired several strategic properties. On February 2, 2010, the Commonwealth's first and only public law school was established at UMass Dartmouth. This was made possible by a donation of approximately \$23 million in assets from the SNEHL. In February 2010, the Legislature approved making the Tsongas Arena part of UMass Lowell. The acquisition of the facility provides the Lowell Campus with a venue for entertainment, sports and other events. On May 19, 2010, UMass Boston finalized the purchase of the Bayside Site, the former site of the Bayside Exposition Center, which is located less than one mile from the main campus. This acquisition adds 20 acres of waterfront property to the campus and includes 1,500 parking spaces. Additionally, UMass Lowell purchased the former Saint Joseph's Hospital in Lowell on January 25, 2011. The property consists of six buildings totaling 300,000 square feet located within walking distance of University's North, South and East campuses in Lowell. The Lowell Campus has converted the property through a combination of new construction and renovation into an important campus connection point focused on student and administrative services known as University Crossing. The University expects to open the first-ever student dormitories at UMass Boston in September 2018, achieving a long-held goal of providing UMass Boston students with an on-campus residential option. The student housing complex will accommodate UMass Boston freshmen and transfer students and will be built via an innovative public-private partnership. See "CURRENT AND FUTURE CAPITAL PLANS" below.

Basis of Presentation

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America as prescribed by the Governmental Accounting Standards Board ("GASB") using the economic resources measurement focus and the accrual basis of accounting. These statements are reported on a combined basis and all intra-University transactions are eliminated. In accordance with GASB Statement No. 20, the University follows all applicable GASB pronouncements. In addition, the University applies all applicable Financial Accounting Standards Board ("FASB") pronouncements issued on or before November 30, 1989, unless those pronouncements conflict with or contradict GASB pronouncements. The University has elected not to apply FASB pronouncements issued after November 30, 1989.

Operating revenues consist of tuition and fees, grants and contracts, sales and services of educational activities (including royalties from licensing agreements) and Auxiliary Enterprise revenues. Operating expenses include salaries, wages, fringe benefits, utilities, subcontracts on grants and contracts, supplies and services and depreciation and amortization. All other revenues and expenses of the University are reported as non-operating revenues and expenses including state general appropriations, non-capital gifts, short term investment income, endowment income used in operations, interest expenses and capital additions and deductions. Capital items represent all other changes in long term plant and endowment net assets. Revenues are recognized when earned and expenses are recognized when incurred with the exception of revenue earned on certain public service activities. Restricted grant revenue is recognized only when all eligibility requirements have been met, that is to the extent grant revenues are expended or in the case of fixed price contracts, when the contract terms are met or completed. Contributions, including unconditional promises to give (pledges) for non-endowment or non-capital purposes, are recognized as revenues in the period received. Promises of additions to non-expendable endowments are not recognized until cash or other assets are received. Conditional promises to give are not recognized until they become unconditional, that is

when the conditions on which they depend are substantially met. When an expense or outlay is incurred for which both restricted and unrestricted net assets are available, the University applies restricted net assets first.

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and judgments that affect the reported amounts of assets and liabilities, as well as disclosures of contingencies at the date of the financial statements and the revenues and expenditures recognized during the reporting period. Significant estimates include the accrual for employee compensated absences, the accrual for workers' compensation liability, the allowance for doubtful accounts, valuation of certain investments and depreciation expense. Actual results could differ from those estimates.

The University reports its financial statements as a business-type activity ("BTA") under GASB Statement No. 35, *Basic Financial Statements - and Management's Discussion and Analysis - for Public Colleges and Universities* ("GASB 35"). BTAs are defined as those that are financed in whole or in part by fees charged to external parties for goods or services.

In order to ensure observance of limitations and restrictions placed on the use of available resources, the accounts of the University are maintained internally in accordance with the principles of "fund accounting". This is the procedure by which resources for various purposes are maintained in separate funds in accordance with the activities or objectives specified. GASB 35 requires that external financial statements to be reported on a consolidated basis and establishes standards for external financial reporting by public colleges and universities that resources be classified into the following net asset categories:

- **Invested in capital assets, net of related debt:** Capital assets, at historical cost, or fair market value on date of gift, net of accumulated depreciation and outstanding principal balances of debt attributable to the acquisition, construction or improvement of those assets.
- **Restricted Nonexpendable:** Net assets subject to externally imposed stipulations that they be maintained permanently by the University.
- **Restricted Expendable:** Net assets whose use by the University is subject to externally imposed stipulations. Such assets include restricted grants and contracts, the accumulated net gains/losses on true endowment funds, as well as restricted funds loaned to students, restricted gifts and endowment income and other similar restricted funds.
- **Unrestricted:** Net assets that are not subject to externally imposed stipulations. Substantially all unrestricted net assets are designated to support academic, research, Auxiliary Enterprises or unrestricted funds functioning as endowments or are committed to capital construction projects.

Revenues are reported net of discounts and allowances. As a result, student financial aid expenditures are reported as an allowance against tuition and fees revenue while stipends and other payments made directly to students are recorded as scholarship and fellowship expenditures on the statement of revenues, expenses and other changes to net assets and are included in supplies and services on the statement of cash flows. Discounts and allowances for tuition and fees and Auxiliary Enterprises are calculated using the Alternate Method.

For the year ended June 30, 2015, the University adopted the provisions of GASB Statement No. 68, *Accounting and Financial Reporting for Retirement Benefits – an amendment of GASB Statement No. 27* ("GASB 68"). GASB 68 addresses accounting and financial reporting for pensions that are provided to the employees of state and local governments through pension plans that are administered through trusts that have certain characteristics and establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources, and expenditures. The implementation of GASB 68 resulted in a cumulative effect adjustment of (\$238,906) to the beginning net position of the 2015 Statement of Revenues, Expenses and Changes in Net Position as of July 1, 2014 for the recording of pensions. The application of GASB 68 was recorded effective in the beginning of fiscal year 2015 because this was the earliest date for which was practical based on available information.

Summary of Operations*

**University
Combined and Condensed Statement of Net Position
As of June 30 (\$ thousands)**

	2012	2013	2014	2015	2016
ASSETS					
Current Assets	\$ 617,093	\$ 579,824	\$ 592,750	\$ 692,679	\$ 677,927
Noncurrent Assets					
Investment in Plant Net of Accumulated Depreciation	3,098,186	3,705,517	4,064,786	4,333,761	4,615,776
All Other Noncurrent Assets	1,594,140	1,403,449	1,543,391	1,501,421	1,294,028
Total Assets	\$5,309,419	\$5,688,790	\$6,200,927	\$6,527,861	\$6,587,731
LIABILITIES					
Current Liabilities	\$ 880,104	\$ 772,922	\$ 674,330	\$ 856,460	\$ 774,837
Noncurrent Liabilities	2,039,939	2,415,798	2,831,869	3,133,710	3,294,183
Total Liabilities	\$2,920,043	\$3,188,720	\$3,506,199	\$3,990,170	\$4,069,020
NET POSITION					
Invested in Capital Assets Net of Related Debt	\$1,502,171	\$1,682,173	\$1,800,767	\$1,887,941	\$2,013,966
Restricted					
Nonexpendable	17,773	18,058	17,387	18,378	18,384
Expendable	162,341	156,469	174,530	169,591	218,272
Unrestricted	707,091	757,656	825,611	591,438	549,471
Total Net Position	\$2,389,376	\$2,614,356	\$2,818,295	\$2,667,348	\$2,800,093

* Derived from the Annual Audited Financial Report for Fiscal Years 2012-2016. The University's financial statements include prior year comparative information. Certain prior year amounts have been reclassified to conform with the current year presentation. These reclassifications have no effect on total net assets.

University
Combined Statement of Revenues, Expenses and Changes in Net Position
For The Years Ended June 30 (\$ thousands)

REVENUES	2012	2013	2014	2015	2016
<i>Operating Revenues</i>					
Tuition and Fees*	\$ 659,180	\$ 707,495	\$ 740,116	\$765,218	\$826,815
Federal Grants and Contracts	355,792	334,697	322,047	313,754	329,403
State Grants and Contracts	67,927	68,794	74,996	70,871	75,306
Local Grants and Contracts	3,077	2,253	2,223	1,717	2,445
Private Grants and Contracts	109,235	106,714	112,428	124,399	121,198
Sales & Service, Educational	19,311	19,237	21,792	25,601	27,500
Auxiliary Enterprises	297,956	319,544	349,485	362,193	383,281
Other Operating Revenues					
Sales & Service, Independent Operations	61,087	46,062	44,296	48,368	47,613
Sales & Service, Public Service Activities	383,855	447,119	448,478	295,429	476,831
Other	98,107	100,839	93,418	105,234	113,104
<i>Total Operating Revenues</i>	<u>\$2,055,527</u>	<u>\$2,152,754</u>	<u>\$2,209,279</u>	<u>\$2,112,784</u>	<u>\$2,403,496</u>
EXPENSES	2012	2013	2014	2015	2016
<i>Operating Expenses</i>					
Educational and General					
Instruction	\$ 633,481	\$ 657,841	\$ 690,635	\$ 712,430	\$ 794,691
Research	417,124	405,223	407,425	431,586	434,213
Public Service	75,665	74,510	77,985	72,910	71,457
Academic Support	147,767	145,551	151,000	167,582	181,057
Student Services	107,246	108,746	119,295	127,988	141,915
Institutional Support	198,941	209,975	219,920	237,212	248,379
Operation and Maintenance of Plant	215,292	203,115	214,972	217,913	228,406
Depreciation and Amortization	163,166	185,261	204,233	221,043	240,865
Scholarships and Fellowships	47,626	49,731	49,242	49,300	44,645
Auxiliary Enterprises	235,633	248,765	265,080	273,680	297,089
Other Expenditures					
Independent Operations	53,734	47,826	44,861	40,961	47,930
Public Service Activities	293,951	327,293	365,252	227,692	410,106
<i>Total Operating Expenses</i>	<u>\$2,589,626</u>	<u>\$2,663,837</u>	<u>\$2,809,900</u>	<u>\$2,782,297</u>	<u>\$3,140,753</u>
<i>Operating Loss</i>	<u>(\$534,099)</u>	<u>(\$511,083)</u>	<u>(\$600,621)</u>	<u>(\$669,513)</u>	<u>(\$737,257)</u>

* Net of scholarship allowances of \$244,025 at June 30, 2016, \$212,469 at June 30, 2015, \$201,186 at June 30, 2014, \$189,753 at June 30, 2013, and \$177,420 at June 30, 2012.

(continued)
University
Combined Statement of Revenues, Expenses and Changes in Net Position
For The Years Ended June 30 (\$ thousands)

NONOPERATING REVENUES/(EXPENSES)

Federal Appropriations	\$ 6,845	\$ 6,774	\$ 7,020	\$ 6,619	\$ 6,827
State Appropriations	517,392	519,311	570,618	621,200	669,748
State Appropriations – Federal Stimulus Funds	10				
Gifts	22,143	30,044	29,013	30,351	42,415
Investment Income	27,192	56,037	86,685	29,579	29,381
Unrealized Gain (Loss) on Investments				(11,327)	(7,633)
Endowment Income	15,623	13,614	16,642		
Endowment Income Distributed for Operations				23,362	24,740
Interest on Indebtedness	(64,434)	(91,364)	(89,496)	(100,332)	(105,276)
Non-operating Federal Grants	73,908	70,586	74,279	76,539	75,743
Other Non-operating Income	780	1,002	1,046	2,927	1,540
<i>Net Non-operating Revenues</i>	\$599,459	\$606,004	\$695,807	\$678,918	\$737,485
<i>Income/(Loss) Before Other Revenues, Expenses, Gains and Losses</i>	\$65,360	\$94,921	\$95,186	\$9,405	\$228
Capital Appropriations	\$150,367	\$112,581	\$112,132	\$62,582	\$121,298
Capital Grants and Contracts	43,891	39,347	21,987	55,823	51,259
Endowment Return, net of amount used for operations				(13,086)	(28,958)
University Related Organization Transactions					
Capital Contribution	(345)	1,514	250	0	2,985
Disposal of Plant Facilities	(13,606)	(8,802)	(6,198)	(12,120)	(10,462)
Other Additions/Deductions	2,317	2,939	(19,418)	(15,565)	(3,605)
<i>Total Other Revenues, Expenses, Gains and Losses</i>	\$182,624	\$150,579	\$108,753	\$77,634	\$132,517
<i>Total Increase in Net Position</i>	\$247,984	\$245,500	\$203,939	\$87,039	\$132,745
NET POSITION					
Net Position at Beginning of Year	\$2,141,392	\$2,368,856	\$2,614,356	\$2,818,295	\$2,667,348
Cumulative effect of adoption of GASB 68				(238,906)	
Net Position at Beginning of Year, Adjusted	\$2,141,392	\$2,368,856	\$2,614,356	\$2,579,389	\$2,667,348
<i>Net Position at End of Year</i>	\$2,389,376	\$2,614,356	\$2,818,295	\$2,667,348	\$2,800,093

SUMMARY OF FINANCIAL RESULTS, FISCAL YEARS 2014 THROUGH 2016

The following is a summary of the University's financial results for fiscal years 2014 through 2016.

Fiscal Year 2016

Financial Highlights

The University's net position (not including University related organizations) increased approximately \$132.7 million from \$2.7 billion in fiscal year 2015 to \$2.8 billion in fiscal year 2016.

The University expended approximately \$228.4 million on plant operations and maintenance activities during fiscal year 2016.

Summary of Assets and Liabilities

At June 30, 2016, the University's total assets (not including University Related Organizations) were approximately \$6.6 billion, an increase of approximately \$59.9 million over the approximately \$6.5 billion in assets recorded in fiscal year 2015. The University's largest asset continues to be its net investment in its physical plant of \$4.6 billion at June 30, 2016 (\$4.3 billion in fiscal year 2015). Other significant assets include current and noncurrent investments and cash and securities held by the University Trustees.

University liabilities (not including University Related Organizations) totaled approximately \$4.1 billion at June 30, 2016, an increase of approximately \$78.8 million compared to the approximately \$4.0 billion in liabilities in fiscal year 2015.

The University's current assets of approximately \$677.9 million in fiscal year 2016 were below the current liabilities of approximately \$774.8 million, as the current ratio was 0.87 dollars in assets to every one-dollar in liabilities. In fiscal year 2015, the current ratio was 0.81 (approximately \$692.7 million in current assets and \$856.5 million in current liabilities).

The University's unrestricted and restricted expendable net assets totaled approximately \$797.7 million, which represents approximately 25% of total operating expenditures of approximately \$3.1 billion during fiscal year 2016.

In fiscal year 2016, the University's unrestricted net assets (referred to as Expendable Fund Balance under the Former Financial Reporting Model) totaled approximately \$549.5 million. Substantially all unrestricted net assets are designated to support academic, research, Auxiliary Enterprises or unrestricted funds functioning as endowments, or are committed to capital construction projects.

Summary of Operating Revenues and Operating Expenditures

The University's total operating revenues for fiscal year 2016 were approximately \$2.4 billion. This represents an increase of approximately \$290.7 million over the approximately \$2.1 billion in operating revenues in fiscal year 2015. The most significant sources of revenue for the University are tuition and fees, grants and contracts, auxiliary services and public service activities at the Worcester Medical School campus. Tuition and fees, grants and contracts, auxiliary services and all other operating revenue (which includes the above referenced public service activities) represent 34%, 22%, 16% and 28%, respectively, of total operating revenues.

In fiscal year 2016, University operating expenditures, including depreciation and amortization of approximately \$240.9 million, totaled approximately \$3.1 billion. Of this total, approximately \$1.6 billion or 52% was used to support the academic core activities of the University, including approximately \$434.2 million in research.

State Appropriations

In fiscal year 2016, state appropriations represented approximately 21% of all operating and non-operating revenues. The level of state support is a key factor influencing the University's overall financial condition. Although the state appropriation is unrestricted revenue, nearly all of the state appropriation supports payroll and benefits for University employees.

In fiscal year 2016, the net state appropriation increased approximately \$48.6 million over fiscal year 2015 amounts, with the increase attributable to a higher level of state appropriation and related fringe benefit support.

Fiscal Year 2015

Financial Highlights

The University's net position (not including University related organizations) decreased approximately \$150.9 million from \$2.8 billion in fiscal year 2014 to \$2.7 billion in fiscal year 2015. The most significant changes

were the increase in pension liability due to the implementation of GASB 68, Accounting and Reporting for pensions of \$238.8 million and the increase in Bonds Payable of \$258.8 million.

The University expended approximately \$217.9 million on plant operations and maintenance activities during fiscal year 2015.

Summary of Assets and Liabilities

At June 30, 2015, the University's total assets (not including University Related Organizations) were approximately \$6.5 billion, an increase of approximately \$326.9 million over the approximately \$6.2 billion in assets recorded in fiscal year 2014. The University's largest asset continues to be its net investment in its physical plant of \$4.3 billion at June 30, 2015 (\$4.1 billion in fiscal year 2014). Other significant assets include current and noncurrent investments and cash and securities held by the University Trustees.

University liabilities (not including University Related Organizations) totaled approximately \$4.0 billion at June 30, 2015, an increase of approximately \$484.0 million compared to the approximately \$3.5 billion in liabilities in fiscal year 2014.

The University's current assets of approximately \$692.7 million in fiscal year 2015 were below the current liabilities of approximately \$856.5 million, as the current ratio was 0.81 dollars in assets to every one-dollar in liabilities. In fiscal year 2014, the current ratio was 0.88 (approximately \$592.8 million in current assets and \$674.3 million in current liabilities).

The University's unrestricted and restricted expendable net assets totaled approximately \$761.0 million, which represents approximately 27.4% of total operating expenditures of approximately \$2.78 billion during fiscal year 2015.

In fiscal year 2015, the University's unrestricted net assets (referred to as Expendable Fund Balance under the Former Financial Reporting Model) totaled approximately \$591.4 million. Substantially all unrestricted net assets are designated to support academic, research, Auxiliary Enterprises or unrestricted funds functioning as endowments, or are committed to capital construction projects.

Summary of Operating Revenues and Operating Expenditures

The University's total operating revenues for fiscal year 2015 were approximately \$2.1 billion. This represents a decrease of approximately \$96.5 million over the approximately \$2.2 billion in operating revenues in fiscal year 2014. The most significant sources of revenue for the University are tuition and fees, grants and contracts, auxiliary services and public service activities at the Worcester Medical School campus. Tuition and fees, grants and contracts, auxiliary services and all other operating revenue (which includes the above referenced public service activities) represent 36%, 24%, 17% and 22%, respectively, of total operating revenues.

In fiscal year 2015, University operating expenditures, including depreciation and amortization of approximately \$221.0 million, totaled approximately \$2.8 billion. Of this total, approximately \$1.4 billion or 50% was used to support the academic core activities of the University, including approximately \$431.6 million in research.

State Appropriations

In fiscal year 2015, state appropriations represented approximately 22% of all operating and non-operating revenues. The level of state support is a key factor influencing the University's overall financial condition. Although the state appropriation is unrestricted revenue, nearly all of the state appropriation supports payroll and benefits for University employees.

In fiscal year 2015, the net state appropriation increased approximately \$50.6 million over fiscal year 2014 amounts, with the increase attributable to a higher level of state appropriation and related fringe benefit support through the state's investment in the University's 50/50 initiative.

Fiscal Year 2014

Financial Highlights

The University's net position (not including University related organizations) increased approximately \$203.9 million from \$2.6 billion in fiscal year 2013 to \$2.8 billion in fiscal year 2014. The major components of the increase are due to physical plan improvements and positive operating results due primarily to greater student fee revenues associated with increased enrollment, cost reductions and strong market performance for the University's investments.

The University expended approximately \$215.0 million on plant operations and maintenance activities during fiscal year 2014.

Summary of Assets and Liabilities

At June 30, 2014, the University's total assets (not including University Related Organizations) were approximately \$6.2 billion, an increase of approximately \$512.1 million over the approximately \$5.7 billion in assets recorded in fiscal year 2013. The University's largest asset continues to be its net investment in its physical plant of \$4.1 billion at June 30, 2014 (\$3.7 billion in fiscal year 2013). Other significant assets include current and noncurrent investments and cash and securities held by the University Trustees.

University liabilities (not including University Related Organizations) totaled approximately \$3.5 billion at June 30, 2014, an increase of approximately \$306.8 million compared to the approximately \$3.2 billion in liabilities in fiscal year 2013.

The University's current assets of approximately \$592.8 million in fiscal year 2014 were below the current liabilities of approximately \$674.3 million, as the current ratio was 0.88 dollars in assets to every one-dollar in liabilities. In fiscal year 2013, the current ratio was 0.75 (approximately \$579.8 million in current assets and \$772.9 million in current liabilities).

The University's unrestricted and restricted expendable net assets totaled approximately \$1.0 billion, which represents approximately 36% of total operating expenditures of approximately \$2.81 billion during fiscal year 2014.

In fiscal year 2014, the University's unrestricted net assets (referred to as Expendable Fund Balance under the Former Financial Reporting Model) totaled approximately \$825.6 million. Substantially all unrestricted net assets are designated to support academic, research, Auxiliary Enterprises or unrestricted funds functioning as endowments, or are committed to capital construction projects.

Summary of Operating Revenues and Operating Expenditures

The University's total operating revenues for fiscal year 2014 were approximately \$2.2 billion. This represents an increase of approximately \$56.5 million over the approximately \$2.2 billion in operating revenues in fiscal year 2013. The most significant sources of revenue for the University are tuition and fees, grants and contracts, auxiliary services and public service activities at the Worcester Medical School campus. Tuition and fees, grants and contracts, auxiliary services and all other operating revenue (which includes the above referenced public service activities) represent 33%, 23%, 16% and 28%, respectively, of total operating revenues.

In fiscal year 2014, University operating expenditures, including depreciation and amortization of approximately \$204.2 million, totaled approximately \$2.8 billion. Of this total, approximately \$1.4 billion or 49% was used to support the academic core activities of the University, including approximately \$407.4 million in research.

State Appropriations

In fiscal year 2014, state appropriations represented approximately 20% of all operating and non-operating revenues. The level of state support is a key factor influencing the University's overall financial condition. Although

the state appropriation is unrestricted revenue, nearly all of the state appropriation supports payroll and benefits for University employees.

In fiscal year 2014, the net state appropriation increased approximately \$51.3 million over fiscal year 2013 amounts, with the increase attributable to the adoption of the first year of the 50/50 initiative.

Endowment and Fundraising

The combined University and Foundation endowment assets have decreased to approximately \$707.2 million at June 30, 2016 from approximately \$739.6 million at June 30, 2015. The University raised approximately \$117.1 million in cash, pledges, gifts-in-kind and private research grants in fiscal year 2016. The number of endowed chairs has grown from four in 1995 to approximately 93 in 2016, enhancing the University’s academic reputation.

The total investment return for fiscal year 2016, including realized and unrealized activity was a net loss of approximately \$27.9 million. The endowment funds for all five of the University’s campuses are commingled into a pooled investment fund and are tracked by the Foundation using unit value accounting. The Foundation employs a market value unit method of accounting, whereby participating endowment funds enter and withdraw from the pooled investment fund based on monthly unit values. Changes in market value and monthly income are allocated proportionately to each endowment fund participant. The effective spending rate for Foundation endowment funds was 3.4% for fiscal year 2016, which represents approximately 1.0% of the University’s total operating and non-operating revenues.

The following details the University and Foundation endowment assets at June 30:

University and Foundation Endowment Assets (\$ thousands)

<u>2012*</u>	<u>2013*</u>	<u>2014*</u>	<u>2015*</u>	<u>2016*</u>
\$554,538	\$652,033	\$743,710	\$739,606	\$707,246

*The Kennedy Institute quasi-endowment has been removed from the University and Foundation Endowment Assets presented here. The Kennedy Institute invested approximately \$10 million in the Foundation’s pooled Endowment in December 2009 and \$15 million in July 2014. The Kennedy Institute quasi-endowment is recorded by the Foundation on an agency basis.

CURRENT AND FUTURE CAPITAL PLANS

The University Trustees have reviewed and approved a five-year approximately \$2.2 billion capital plan for fiscal years 2017-2021, including projects already in process with prior approval of the University Trustees. The University generally has funded its capital plans through a combination of funds received from University operations, bonds issued by the Authority, bonds issued by MDFA, Commonwealth appropriations and private fund raising.

The University must follow certain procedures for state capital spending as defined by the Commonwealth’s Executive Office for Administration and Finance (“EOAF”). Such spending may be financed through the issuance of Commonwealth general or special obligation bonds or other designated revenue, including transfers from budgeted funds. The Commonwealth’s Division of Capital Asset Management and Maintenance (“DCAMM”) manages a five-year capital-spending plan, which is approved by the Commonwealth’s Secretary of Administration and Finance. The University works closely with DCAMM to ensure that the priorities of the University are included in the five-year capital plan for state funding.

The University Trustees, University administration, and campus leadership have identified capital issues as instrumental to the University’s goal of continuing to improve educational quality at all five campuses by enhancing academic achievement and student experience. Following a period of limited investment in the University’s capital assets in the 1980s and 1990s, the University has invested more than \$3.9 billion in capital projects between fiscal years 2005 and 2016. Given the average age of the University’s campus buildings, a significant need to maintain and upgrade capital assets is expected over the next decade. The University’s administration works closely with each of

the campuses in developing the capital plan to reflect the needs and goals of each of the campuses. To further improve project planning and implementation across the University, the University administration and the Authority have collaborated with campus leadership to design an integrated project assessment and tracking process. Furthermore, within budgetary limitations and programmatic requirements, the University is making a concerted effort to incorporate the principles of energy efficiency and sustainability in all its capital projects.

In August 2008, the Legislature passed the Higher Education Improvement Act, which authorized \$2.2 billion for capital improvement spending over ten years for higher education facilities in the Commonwealth, including more than \$1 billion of funding for University projects exclusively. This authorization was amended by Chapter 237 of the Acts of 2014 which added an additional \$100 million to the bottom line to fund deferred maintenance needs at the University. Of the total \$1.1 billion, \$525 million has been spent through June 2016 and all of the funding has been programmed for specific projects. In 2008, the Legislature also enacted the Life Sciences Industry Investment Act, which authorized \$500 million of capital funding over ten years to fund capital investments and infrastructure improvements throughout the Commonwealth to support the Life Sciences Industry. Of the total, \$276.7 million has been earmarked for the University, \$249 million has been spent to date, and all of the funding has been programmed for specific projects.

The Higher Education Improvement Act and the Life Sciences Industry Investment Act are statutory authorizations necessary to allow the Commonwealth to spend state general obligation bond proceeds on University projects. EOAF and DCAMM are the state agencies that develop the state's capital plan, file bond bills, approve projects that will receive state funding and allocate funds to approved projects. DCAMM is responsible for designing and constructing public facilities and improvements. Accordingly, DCAMM has recognized the importance and scale of the authorized higher education investment program and has reorganized itself in anticipation of increased activity at the Commonwealth's public colleges and the University.

On June 19, 2015, Governor Baker released the FY16-20 Capital Plan. The plan included a number of priority projects for the University that are currently underway and the plan confirmed that future year support will be available for the projects. These projects include the School for Marine Science and Technology/Division of Marine Fisheries expansion at UMass Dartmouth, the Physical Sciences Building and the Integrative Learning Center at UMass Amherst, the Pulichino/Tong Business Building at UMass Lowell, and the Utility Corridor and Roadway Relocation project at UMass Boston. However, there were several other University priority projects that were not included in the Administration's plan for which much preparation has gone into. These projects include repair and renovation of the Lederle Graduate Research Center, Machmer Hall, and the Morrill Science Center at UMass Amherst, repair and renovation at Perry, Olsen, and Coburn Halls at UMass Lowell, and New Academic Buildings at UMass Boston and UMass Dartmouth. On May 19, 2016, Governor Baker released the FY17-21 Capital Plan which continued to provide funding for the University projects that were included in the FY16 plan. However, the University projects that were put on hold in the FY16 plan continue to be on hold in the FY17 plan. The University is trying to determine if the Commonwealth will once again support these projects or if the University will need to find an alternative funding source in order to bring these projects to completion.

The Baker Administration has also launched a multi-phased strategic planning effort with multiple work groups including Economic Development, Workforce Development, and Higher Education. The Higher Education work group, of which President Meehan is a member, will focus first on Capital Planning and develop a work plan with the help of an outside consultant. This group will help inform the Administration's capital budget process by creating a plan that will help in allocating resources wisely and align goals and initiatives across all of higher education to maximize the use of resources and establish coherence. Existing data regarding the current condition of campuses and buildings will provide the basis of information from which the group and outside consultant will work, and President Meehan has indicated that deferred maintenance should be a priority of this planning effort.

Beginning in the late 1990s, the University enhanced its program to address deferred maintenance needs at its campuses. As a result, the University has made investments to repair and renovate facilities at its campuses from a combination of University sources, including bonds issued by the Authority, MDFA and direct Commonwealth support. Addressing deferred maintenance remains a priority within the University's 2017-2021 capital plan. In 2015, the University hired Sightlines to conduct a Building Portfolio Solutions analysis in order to ensure that deferred maintenance was being consistently reported across all campuses and to develop a strategy for addressing deferred

maintenance at the University. This analysis, now complete, will be the basis for recommending projects as part of the University capital planning process outlined in the University Trustee policy.

The projects within the capital plan are also organized by program type in order to demonstrate the manner in which requested projects in the capital plan support the University’s mission:

Basic Infrastructure Projects – projects that will benefit the entire campus and are critical to all operations, including steam-lines, power plants, roadways, general public safety improvements such as fire alarm systems and hazardous waste removal systems and administrative computing.

Research – projects such as new research building construction, renovations and improvements to existing research facilities and large acquisitions of lab equipment.

Student Life – projects such as improvements and renovations to, or the construction of, student centers, dining halls, recreation facilities, dormitories or other facilities that improve the student experience.

Teaching & Learning – projects such as improvements to, or the construction of, classroom facilities, auditoria, studios, library facilities and instructional equipment.

The following chart summarizes the five-year capital plan by these program types:

FY2017 to 2021 Capital Plan Spending by Program Type*	Total Planned Spending	Percentage of Total Planned Spending
Basic Infrastructure	\$527,240,000	24%
Research	749,605,500	34
Student Life & Residential	266,600,000	12
Teaching & Learning	657,040,000	30
Total	\$2,200,485,500	100%

* Source: University of Massachusetts Fiscal Year 2017 to 2021 Five-Year Capital Plan Update dated September 2016.

Set forth below are campus-specific descriptions of the capital plan:

Amherst Campus. The Amherst Campus is the University’s flagship institution and its 2017-2021 capital plan is structured with priorities that support the strategic challenges and campus goals of improving teaching, increasing research, enhancing student life and recruiting and retaining quality students and faculty. The Amherst Campus has completed or is nearing completion of several major new projects that provide new facilities to support its teaching and research mission. Near term priorities include reduction of deferred maintenance projects, new construction projects, renovation and modernization projects, and an on-going strategy of infrastructure improvements with the goal of increasing energy performance and sustainability. Construction of the new Life Science Laboratories, the new Commonwealth Honors Residential College, the new Integrative Learning Center, which will provide new academic space for the Communications/Journalism and Linguistics programs, and the Furcolo Hall/Marks Meadow project, which significantly reduced deferred maintenance at the new home of the College of Education, are complete. Construction of improvements to the McGuirk Alumni Stadium and construction of a new Champions Center for men’s and women’s basketball are also complete. The renovation and revitalization of Old Chapel is nearing completion and will soon be a vibrant hub in the core of campus with spaces for large gatherings, student activities and exhibits. The aggregate amount of planned investments in capital projects for the Amherst Campus in the University’s 2017-2021 capital plan is \$716.2 million.

Boston Campus. The Boston Campus’s 2017-2021 Capital Plan reflects the consistent effort to support the campus’s Strategic Plan both by implementing some of the major projects identified in the 2009 Campus Master Plan and through other capital projects designed to correct deficiencies in the campus facilities infrastructure. The Capital Plan embodies the Boston Campus’s best effort to balance the need to improve academic facilities for current students and faculty and reduce the high density of the campus, continue inroads into the daunting backlog of deferred maintenance needs, and provide a modern utilities infrastructure. The construction of the first new academic buildings since the campus opened in 1974 is complete with construction of the Integrated Sciences Complex and University

Hall. Other ongoing projects include the design for a new utility infrastructure, roadway and surface improvements plan. Stabilization of the campus substructure and related deferred maintenance projects are also underway and are critical to addressing long-standing issues with the quality of construction of the original campus. Eventually, the relocation of the utilities will allow for the demolition of the substructure and the creation of a central quadrangle for students and faculty. The Boston Campus is working with the Authority on a Public-Private Partnership with Capstone Development Partners, LLC, for the development and management of the first residential facility to be located on the campus. The \$115.6M project will include living-learning space, approximately 1,082-beds, and 263,000 gross square feet. The project will also contain a 1st floor commons that includes a Campus-wide dining facility, which will be separately funded by the Boston Campus. The project is expected to be completed for use in the Fall 2018 semester. The aggregate amount of planned investments in capital projects for the Boston Campus in the University's 2017-2021 capital plan is \$889.2 million.

Dartmouth Campus. The Dartmouth Campus's 2017-2021 capital plan presents a realistic approach to the campus's ongoing challenges with restoring the physical assets of a campus that was nearly entirely built five decades ago, is consistent with its goal to provide students with the same high quality facilities that their peers at other campuses enjoy, and to equip the faculty with the world-class research resources that befit the university's recent ascension to doctoral research status. Current ongoing projects include Research Laboratory Improvements, expansion of the Charlton College of Business, and expansion of the School for Marine Science and Technology. The aggregate amount of planned investments in capital projects for the Dartmouth Campus in the University's 2017-2021 capital plan is \$94.7 million.

Lowell Campus. The Lowell Campus's 2017-2021 capital plan impacts a number and variety of the campus's academic, research, student life, athletic, recreational and outreach programs and partnerships while concurrently addressing deferred maintenance. The capital plan acknowledges that if the Lowell Campus is to achieve its goals and aspirations, it must concurrently reduce its backlog of critical maintenance and its energy consumption while creating additional modern academic and research spaces, increasing residential capacity, renewing existing buildings, developing new recreational opportunities, and adding to its capacity to host a broad range of meetings and events – academic, entertainment and civic. On the North campus, academic building improvements include renovations of existing buildings and construction of the new Pulichino Tong School of Business building. The recently completed University Crossing includes a student bookstore, dining facility, student activities and services, admissions, registrar and financial aid offices and similar services and facilities. The South campus master plan academically reorganizes the existing buildings and provides for new buildings to address programmatic space needs, as well as addressing deferred maintenance. The aggregate amount of planned investments in capital projects for the Lowell Campus in the University's 2017-2021 capital plan is \$326.0 million.

Worcester Campus. The Worcester Campus's 2017-2021 capital plan emphasizes the campus's evolving needs and the commitment to maintaining its operational efficiency now and into the foreseeable future. The projects with the highest priority include infrastructure additions or improvements, research related and support items, projects which support teaching and learning functions, and projects to support student life functions. These important projects directly support current campus needs and specifically address repurposing space in the Medical School and Lazare Research Buildings vacated by moves to the Sherman Center (backfill projects), deferred maintenance, infrastructure investments, and improvement priorities in the Medical School Building and campus energy grid. Given the Worcester Campus's strategic partnership with the Department of Veterans Affairs ("VA") of Central and Western Massachusetts and its strong commitment to serving the veterans in the region, the campus initiated a process to formally respond to the VA's solicitation offer to construct a community based outpatient clinic. Pending the results of the bidding process, the Worcester campus is proposing to construct a 230,000 square foot building on the south end of the campus. The aggregate amount of planned investments in capital projects for the Worcester Campus in the University's 2017-2021 capital plan is \$174.3 million.

INDEBTEDNESS OF THE UNIVERSITY

The University is obligated, under various contractual arrangements, to make payments on indebtedness issued on its behalf, including indebtedness issued by the Authority and MDFA, as described below.

Bonds Issued by the Authority

The Authority was created as a body politic and corporate and a public instrumentality of the Commonwealth for the general purpose of aiding and contributing to the performance of the educational and other purposes of the University by providing dormitories, dining commons and other buildings and structures for the use of the University, its students, staff and their dependents and for lease to certain other entities related to the University, all in accordance with the Authority's enabling legislation.

As of June 30, 2016, the Authority had outstanding bonds of approximately \$2.707 billion for which the University is contractually obligated to provide for the payment of debt service or act as the Authority's agent to collect rates, rents, fees and other charges. As of June 30, 2016, approximately \$2.687 billion principal amount of the Authority's bonds are secured by and payable from, in addition to other moneys, all available funds of the University, including trust funds and other funds administered by the University as gifts, grants or trusts, or as provided in the University enabling act. Further, the University is obligated to the Authority to cause to be available in its Unrestricted Net Assets at all times amounts sufficient to pay such costs.

Interest Rate Swap Agreements

The Authority has entered into three separate interest rate swap agreements (the "Swaps") under which the Authority pays a fixed rate and receives a floating rate. The Swaps hedge four series of outstanding variable rate bonds of the Authority, the Project Revenue Bonds, Senior Series 2008-1 (the "Series 2008-1 Bonds"), Facilities Revenue Bonds, Senior Series 2008-A (the "Series 2008-A Bonds"), Project Revenue Bonds, Senior Series 2011-1 (the "Series 2011-1 Bonds") and Project Revenue Bonds, Senior Series 2011-2 (the "Series 2011-2 Bonds" and collectively with the Series 2011-1 Bonds, the "Series 2011 Bonds"). The Swap for the Series 2008-1 Bonds is with UBS AG, and the Authority pays an amount equal to 3.388% per annum of the notional amount and receives the floating rate based on 70% of one-month LIBOR. The Swap for the Series 2008-A Bonds is with Deutsche Bank AG and the Authority pays an amount equal to 3.378% per annum of the notional amount and receives a floating rate based on 70% of one-month LIBOR. The Swap for the Series 2011 Bonds is with Citibank, N.A. and the Authority pays an amount equal to 3.482% per annum of the notional amount and receives the floating rate based on 60% of one-month LIBOR plus 0.18%.

The Swaps are subject to periodic "mark-to-market" valuations and may have a negative impact on the financial statements of the Authority and the University. In addition, the counterparty to each Swap may be able to terminate its respective Swap upon certain events of default under such Swap, in which case the Authority could be required to make a material termination payment to the counterparty, which payment is a contractual obligation of the University to the Authority. In addition, the Authority and the University may be exposed to basis risk (imperfect correlation between the floating rates paid on the applicable bonds and received under the related swap). With respect to the Swap for the Series 2011 Bonds, the Authority and the University would be required to post collateral in certain market situations if the ratings on the Series 2011 Bonds fell to "A2" or below by Moody's or "A" or below by S&P.

Letters of Credit and Liquidity Facilities

The Series 2008-A Bonds, the Series 2008-1 Bonds and the Series 2011-1 Bonds are variable rate demand obligations subject to put by the holders thereof and are supported by standby bond purchase agreements. The standby bond purchase agreements with Barclays Bank PLC supporting the 2008-A and 2008-1 bonds are set to expire on April 15, 2019 and April 22, 2019. The standby bond purchase agreement with Wells Fargo Bank, N.A. that supports the Series 2011-1 Bonds expires on June 9, 2017.

Commercial Paper

In August 2013, the Authority established its commercial paper program, consisting of its \$125 million Commercial Paper Notes, Series 2013 A (the "Series 2013A Notes"), supported by an irrevocable letter of credit provided by State Street Bank and Trust Company, which expired on August 12, 2016, and its \$75 million Commercial Paper Notes, Series 2013 B (the "Series 2013B Notes") secured by a standby liquidity facility provided by U.S. Bank National Association, which expired on August 12, 2016. The letter of credit was replaced with a standby liquidity

facility agreement that expires in August 12, 2019. The standby liquidity facility provided by U.S. Bank National Association was extended in fiscal year 2016 and now expires on August 12, 2019. The Authority may issue notes under either series on a taxable or tax-exempt basis to further the Authority's and the University's efforts to establish a "just in time" borrowing program to fund the University's capital plan as needed during construction periods. Such notes are secured under the Trust Agreement dated as of November 1, 2000, between the Authority and U.S. Bank National Association, Boston, Massachusetts, as successor trustee, and a contract with the University and are repayable from the proceeds of rollover commercial paper notes, funds advanced under the liquidity facilities, bonds to be issued by the Authority in the future or available funds of the University. The Authority currently has \$20 million in commercial paper outstanding, which are expected to be repaid from a portion of the proceeds of the Series 2017-1 Bonds.

Bonds Issued by the Massachusetts Development Finance Agency

As of June 30, 2016, MDFA has outstanding bonds of approximately \$148.607 million, for which the University is contractually obligated to pay debt service.

Annual Debt Service on Authority and MDFA Bonds

The table on the following page sets forth the principal and interest due on bonds issued by the Authority and the MDFA on behalf of the University as of June 30, 2016, on a fiscal year basis.

Annual Debt Service on Authority and MDFA Bonds as of June 30, 2016

Fiscal Year Ending June 30	Outstanding Authority Bonds⁽¹⁾	Outstanding MDFA Bonds	Total⁽¹⁾⁽²⁾
2017	\$208,780,187	\$14,307,572	\$223,087,760
2018	209,726,494	10,863,386	220,589,880
2019	211,552,926	10,872,295	222,425,221
2020	211,355,438	11,229,386	222,584,824
2021	210,951,675	11,252,064	222,203,739
2022	199,174,294	11,190,115	210,364,409
2023	199,352,148	11,169,485	210,521,633
2024	198,887,838	11,159,096	210,046,934
2025	182,180,648	11,424,179	193,604,827
2026	185,270,987	11,625,789	196,896,776
2027	180,907,863	11,279,316	192,187,178
2028	179,575,971	11,161,731	190,737,702
2029	175,871,454	11,159,194	187,030,648
2030	164,396,304	11,149,931	175,546,235
2031	147,663,252	30,793,281	178,456,533
2032	148,076,349	10,418,800	158,495,149
2033	147,331,261	1,988,600	149,319,861
2034	131,333,794	1,985,200	133,318,994
2035	146,047,408	1,983,900	148,031,308
2036	159,431,445	-	159,431,445
2037	158,494,704	-	158,494,704
2038	150,616,111	-	150,616,111
2039	142,991,750	-	142,991,750
2040	115,760,470	-	115,760,470
2041	114,285,318	-	114,285,318
2042	84,413,908	-	84,413,908
2043	84,415,423	-	84,415,423
2044	81,390,276	-	81,390,276
2045	56,247,741	-	56,247,741
2046	21,884,100	-	21,884,100

(1) Assumes the fixed rate payable under the Swaps with respect to the Authority's outstanding variable rate bonds and excludes the subsidy amount expected to be received in connection with the Authority's outstanding "Build America Bonds" issued under ARRA. See "Bonds Issued by the Authority – *Interest Rate Swap Agreements*" herein for a description of the Swaps.

(2) Totals may not add due to rounding.

Unrestricted Net Assets*
(Referred to as Expendable Fund Balance Under the Former Financial Reporting Model)

As of June 30, 2016, the outstanding principal amount of Authority and MDFA debt secured by the University’s unrestricted net assets was approximately \$2.9 billion. The chart below details the University’s unrestricted net assets (not including University Related Organizations) in fiscal years 2012-2016.

Fiscal Year	2012	2013	2014	2015⁺	2016
Unrestricted Net Assets	\$707,091,000	\$757,655,000	\$825,611,000	\$591,438,000	\$549,471,000

* Derived from the Annual Audited Financial Report for Fiscal Years 2012-2016. The University’s financial statements include prior year comparative information. Certain prior year amounts have been reclassified to conform with the current year presentation. These reclassifications have no effect on total net assets.

⁺Adoption of GASB 68 for year ended 6/30/15

Additional Indebtedness

Under the terms of the trust agreements and financing agreements securing the above-referenced indebtedness issued by the Authority, the University may, without limit, issue additional indebtedness or request the Authority or MDFA to issue additional indebtedness on behalf of the University so long as such indebtedness is payable from all funds of the University permitted by law to be applied thereto. With certain exceptions described below, the University may not pledge, or permit to exist any lien on, any of its funds or revenues. The University may request the Authority to issue additional indebtedness on behalf of the University that is not payable from all funds of the University permitted by law to be applied thereto, provided: (i) the additional indebtedness is secured by (a) pledged revenues derived from the project or projects being financed, (b) new or increased student fees whether imposed by the University or the Authority, (c) existing pledged revenues, or (d) any combination of the foregoing; and (ii) the maximum annual debt service on all revenue indebtedness then outstanding, including the proposed additional indebtedness, does not exceed 10% of the amount shown in the then most recent audited financial statements of the University as total available revenues. Indebtedness of the University may not be subject to acceleration.

Capitalized Leases

At June 30, 2016, the University had no capital lease obligations.

INSURANCE

The University, as an agency of the Commonwealth, is self-insured for property loss exposure, subject to appropriation from the Legislature. However, properties owned by the Authority located on a campus of the University, such as the Mullins Center, dining commons and most dormitories, are insured by the Authority. In addition, certain properties owned by other University Related Organizations and leased to the University are insured by the related organization. The University’s liability for damages to third parties as a result of negligence by University employees is limited under Chapter 258 of the General Laws. The University maintains certain liability insurance policies, including Commercial General Liability, leased Automotive Liability, Directors and Officers and Comprehensive Crime policies. Employees of the University are covered for Worker’s Compensation protection under Chapter 152 of the General Laws.

TECHNOLOGICAL INITIATIVES

The University campuses and the President’s Office have undertaken a variety of planning and organizing activities designed to establish project structures, roles and responsibilities and collaborative plans and processes for technology improvements at the University. The University has implemented system-wide human resources/payroll, financial, e-procurement and grants management systems, which it will continue to update. These systems are expected to continue to enhance business functions by further consolidating processing, streamlining operations and increasing utilization through new features and self-service offerings. A major focus in fiscal years 2014-2017 will be application upgrades to leverage contemporary functionality.

In 2015, the University completed the implementation of UMassnet, the next generation wide area network spanning and connecting all UMass campuses across the state. This network is a carrier class optical network spanning over 500 fiber span miles with 10gb/100gb bandwidth. This transformational project is enabling technologies at the University such as Virtual Desktop Infrastructure (VDI), video, lecture capture, unified communications, high performance computing, and campus data center optimization.

The University is a participant in a consortium of academic institutions and government and business leaders that constructed and operates the \$95 million Massachusetts Green High Performance Computing Center (“MGHPCC”) in Holyoke, Massachusetts. The cutting-edge, research-oriented facility relies on hydroelectric power and is intended to encourage economic development in the region and serve as a vehicle for collaboration between key participants while establishing Massachusetts as a global leader in the application and development of next generation computing technologies. In addition to the University, academic partners include the Massachusetts Institute of Technology, Boston University, Harvard University, and Northeastern University, and key business participants include Cisco Systems and EMC Corporation.

The facility was fully commissioned in February 2013 and was awarded LEED Platinum certification. It operates with efficiencies on par with the best commercial data centers. Collaboration amongst university researchers is high as evidenced by the monthly multi-institution collaborative research proposal submissions. Nearly \$20 million dollars for shared infrastructure has already been awarded that supports both industry and university research. The UMass shared high performance computing environment supports the work of over 1,000 researchers across 5 campuses.

The MGHPCC is part of a larger strategy for economic development in the City of Holyoke, MA. The MGHPCC served as an anchor tenant and transformed eight acres in downtown Holyoke. The unique government/public/private partnership to develop the MGHPCC and the Holyoke Innovation District (the first in Massachusetts), coupled with policy and infrastructure improvements, has leveraged over \$100 million dollars in private investment in Holyoke. It has become a destination for business development and a source of pride for the community. Programs such as Holyoke Codes have introduced computers, robotics and programming to thousands of seventh and eighth graders in the region. Community college students that joined the MGHPCC internship program have all been hired by private firms or have gone on to pursue computer science degrees.

In just three years, the MGHPCC and the partnership model used to create it has received national attention. A major focus for the next three years is to plan expansion of existing space to support the growing research activity of the member institutions and the New England region. We continue to make creative use of the resource to deliver results that could not have been delivered otherwise.

Over the past year, UMassOnline has engaged in several technology initiatives that resulted in immediate and long-term positive implications to the University’s internal and external constituents. Beginning in summer 2015, UMassOnline began working towards a partnership with Blackboard’s Managed Hosting services to support the Blackboard Learning Management System. For all of 2015, all UMass courses were hosted locally via UITS (University Information Technology Services) in a shared environment. This meant that all changes, no matter how large or how small, had to be in agreement amongst the campuses. This often resulted in scheduling issues, and falling behind in updates and critical patches. With the move to Blackboard Managed Hosting, all campuses are now separated out into individual systems that allows for each campus to determine their own pace of development, the method for which courses are delivered, the privileges granted, and many other value additions that were not possible on our former self hosted system at UITS. This move will allow for additional growth and capacity at a fraction of the cost that had hindered the campuses from moving ahead previously.

Some of the new features and functions that were included in the move to Blackboard Managed Hosting are the new Blackboard Collaborate Ultra Experience, Blackboard Instant Messenger and Blackboard Mobile. These items were previously purchased as add-ons to the self-hosted LMS, but were now included in the pricing of the Managed Hosting LMS at a significant discount.

UMassOnline has continued to partner with the Donahue Institute to provide Learning Management System services to several programs, including the Massachusetts Department of Housing and Community Development (DHCD) Board Member Training and Civic Initiatives. UMassOnline has also continued its partnership with the

Massachusetts Executive Office of Education and its RETELL program, as well as providing technical support and technology applications for educators across the commonwealth for professional development.

LITIGATION

The University is a defendant in various lawsuits; however, University management is of the opinion that the ultimate outcome of any such litigation will not have any material effect on the financial position or financial results of the University.

EMPLOYEE RELATIONS

The University employs 17,640 full and part-time faculty, professional and clerical and maintenance support staff, of which 10,412 (as of October 1, 2016) are covered by collective bargaining units (not including post-doctoral employees, certain contract employees, graduate employees and undergraduate resident assistants). Of those covered, 3,702 are faculty, 2,884 are professional staff, 3,653 are clerical and maintenance support staff and 173 are police officers. In total, the University currently has approximately 41 collective bargaining units (including two post-doctoral employee units, three graduate employee units and one undergraduate resident assistants unit). The majority of the University's collective bargaining agreements will expire on June 30, 2017. Employees covered by University collective bargaining units cannot strike under Massachusetts law.

In general, University employees are covered by a contributory Massachusetts retirement system set up by Chapter 32 of the General Laws, the State Employees' Retirement System ("SERS" or "State Retirement Plan"). The State Retirement Plan is a defined benefit plan that provides retirement benefits based upon age at retirement, years and months of service and the average of the highest three to five consecutive years of base salary. As an alternative to SERS, eligible employees have the option of participating in the Commonwealth's Optional Retirement Program (the "ORP"). The ORP is a defined contribution plan, administered by the DHE. Eligibility for participation in the ORP was expanded by Chapter 68, Section 44 of the Acts of 2011. Employees can also participate in various optional supplemental retirement programs, such as the University of Massachusetts 403(b) Elective Deferral Savings Plan and the Commonwealth's 457(b) Deferred Compensation Plan. Employees generally are eligible to participate in various fringe benefit plans such as the dependent care assistance program and the health, dental, life and disability insurance plans. The majority of these benefits are sponsored by the Commonwealth. However, the University does sponsor a smaller subset of benefits for employees of the Worcester Campus, including dental and vision plans as well as life and long-term disability plans.

UNIVERSITY OF MASSACHUSETTS

By: /s/ Christine M. Wilda

Christine M. Wilda
Senior Vice President for
Administration & Finance and Treasurer

[Intentionally Left Blank]

FINANCIAL STATEMENTS OF THE AUTHORITY

[Intentionally Left Blank]

Financial Statements and Report of
Independent Certified Public Accountants

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)

June 30, 2016 and 2015

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)

TABLE OF CONTENTS

	Page
Report of Independent Certified Public Accountants	1 - 2
Required Supplementary Information	
Management's Discussion and Analysis	3 - 10
Financial Statements	
Statements of Net Position	11
Statements of Revenues, Expenses and Changes in Net Position	12
Statements of Cash Flows	13 - 14
Notes to Financial Statements	15 - 39



Grant Thornton LLP
75 State Street, 13th Floor
Boston, MA 02109
T 617.723.7900
F 617.723.3640
www.GrantThornton.com
linkd.in/GrantThorntonUS
twitter.com/GrantThorntonUS

REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

Members of the Board
University of Massachusetts Building Authority

We have audited the accompanying financial statements of the University of Massachusetts Building Authority (the “Authority”), a component unit of the University of Massachusetts, which comprise the statements of net position as of June 30, 2016 and 2015, and the related statements of revenues, expenses, and changes in net position and cash flows for the years then ended, and the related notes to the financial statements.

Management’s responsibility for the financial statements

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

Auditor’s responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position of the Authority as of June 30, 2016 and 2015, and the changes in its net position and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other matter

Required supplementary information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis ("MD&A") as listed in the accompanying table of contents be presented to supplement the financial statements. Such information, although not a required part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financing reporting for placing the financial statements in an appropriate operational, economic, or historical context. This required supplementary information is the responsibility of management. We have applied certain limited procedures to this required supplementary information in accordance with auditing standards generally accepted in the United States of America. These limited procedures consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the MD&A information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

A handwritten signature in dark ink that reads "Grant Thornton LLP". The signature is written in a cursive, flowing style.

Boston, Massachusetts
December 15, 2016

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

This section of the annual financial statements of the University of Massachusetts Building Authority (the "Authority") presents a discussion and analysis of the Authority's financial activity for the fiscal years ended June 30, 2016 and 2015. This discussion and analysis has been prepared by management and should be read in conjunction with the Authority's financial statements and related note disclosures, which follow.

INTRODUCTION

The Authority is an independent body politic and corporate and a public instrumentality of the Commonwealth of Massachusetts (the "Commonwealth"), which was created by Chapter 773 of the Acts of 1960 of the Commonwealth, as amended (the "Enabling Act"). The Authority was created with the general purposes of providing dormitories, dining commons and other buildings and structures for use by the University of Massachusetts (the "University"), its students, staff and their dependents and other entities associated with the University as specified in the Enabling Act, as requested by authority of the Trustees of the University (the "Trustees").

The Authority is empowered to acquire, construct, remove, demolish, add to, alter, enlarge, reconstruct, remodel and do other work upon any building or structure and to provide and install furnishings, furniture, machinery, equipment, approaches, driveways, walkways, parking areas, planting, landscaping and other facilities therein. The Enabling Act authorizes the Authority to acquire property from the Commonwealth or others (but the Authority has no eminent domain power), to rent or lease as lessor or lessee any portion of a project, to operate projects, to employ experts and other persons, to enter into contracts, to borrow money to finance and refinance projects it undertakes, and to issue and sell its revenue bonds and notes which are payable solely from its revenues. The Authority's assets and projects are located on all five campuses of the University. The 11 members of the Authority are appointed by the Governor. Five of the members must be Trustees. Two of the other members must be graduates of the University. Non-trustee members serve terms of approximately six years. Trustee members serve as long as they are Trustees. Members whose terms expire continue as members until they are reappointed or replaced.

FINANCIAL HIGHLIGHTS

- The net position of the Authority continued to grow, reaching \$954.1 million in fiscal year 2016 compared to \$865.4 million in fiscal year 2015.
- Capital spending and contributed construction assets totaled \$313.3 million in fiscal year 2016, representing a \$92.5 million decrease as compared to fiscal year 2015. A majority of the capital spending in fiscal year 2016 relates to investments in new buildings and renovation projects including the Historic Chapel Renovation, South College Renovation and Expansion, Design Building, and DuBois Library Renovations at the Amherst Campus; University Hall, Healey Library Roof and Envelope Repair, and Utility Corridor and Roadway Relocation Project at the Boston Campus; Expansion of the Charlton Business School and construction of the new School of Marine Sciences at the Dartmouth Campus; and Phase 1 of the North Quad Renovations and the McGauvran Hall Renovation at the Lowell Campus.

MANAGEMENT'S DISCUSSION AND ANALYSIS

This discussion and analysis is intended to serve as an introduction to the Authority's basic financial statements. The Authority's financial statements comprise two primary components: 1) the financial statements and 2) the notes to the financial statements.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

The Financial Statements

The accompanying financial statements are designed to provide readers with a broad overview of the Authority's finances and are comprised of three basic statements.

The *statements of net position* present information on all of the Authority's assets, deferred outflows, and liabilities, with the difference reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Authority is improving or deteriorating.

The *statements of revenues, expenses and changes in net position* present information that shows how the Authority's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flows in future fiscal periods (e.g., the payments to vendors after year-end for services prior to year-end).

The *statements of cash flows* are reported on the direct method. The direct method of cash flow reporting portrays net cash flows from operations as major classes of operating receipts (e.g., income from contracts) and disbursements (e.g., cash paid to vendors for services), as well as capital and related financing and, noncapital financing, if any, and investing activities.

The financial statements can be found on pages 11 to 14 of this report.

The Authority's financial statements report its activities as business-type, in accordance with generally accepted accounting principles in the United States for government entities, using the economic resources measurement focus, and the full accrual basis of accounting.

The Authority is a blended component unit of the University. Therefore, the results of the Authority's operations, its net position, and its cash flows are included in the University's financial statements.

Notes to the Financial Statements

The notes provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes provide information regarding the accounting policies the Authority has adopted as well as additional details of certain amounts contained in the financial statements.

The notes to the financial statements can be found on pages 15 to 39 of this report.

Financial Analysis

As noted earlier, over time the Authority's net position may serve as a useful indicator of the Authority's financial position. In the case of the Authority, assets and deferred outflows exceeded liabilities by \$954.1 million at the close of the most recent fiscal year.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

A portion of the Authority's net position reflects its investment in capital assets (e.g. buildings, equipment and furnishings) less any related debt used to acquire those assets that is still outstanding for the most recent fiscal year. The Authority uses these capital assets to provide services to students, faculty and administration; consequently, these assets are not available for future spending. Although the Authority's investment in capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, since the capital assets themselves cannot be used to liquidate these liabilities. The Authority's primary sources of funds used to repay the debt are receipts related to the Authority's financial contracts with the University. These contracts generally call for the Authority to bill and collect all revenue from the projects and remit to the Trustee under the Authority's trust agreements (the "Bond Trustee") funds sufficient to cover debt service on its bonds, its costs of operations, and its financial obligations with respect to the projects.

University of Massachusetts Building Authority's net position (in thousands) is as follows:

	<u>June 30, 2016</u>	<u>June 30, 2015</u>	<u>June 30, 2014</u>
Current assets	\$ 86,174	\$ 89,980	\$ 78,300
Non-current assets	<u>3,770,032</u>	<u>3,756,141</u>	<u>3,243,826</u>
Total assets	<u>3,856,206</u>	<u>3,846,121</u>	<u>3,322,126</u>
Deferred outflows of resources	<u>136,910</u>	<u>121,395</u>	<u>112,880</u>
Current liabilities	409,795	477,674	318,417
Non-current liabilities	<u>2,629,255</u>	<u>2,624,454</u>	<u>2,382,357</u>
Total liabilities	<u>3,039,050</u>	<u>3,102,128</u>	<u>2,700,774</u>
Net position:			
Net investment in capital assets	891,768	808,333	681,352
Restricted	59,270	57,655	47,721
Unrestricted (deficit)	<u>3,028</u>	<u>(600)</u>	<u>5,159</u>
Total net position	<u>\$ 954,066</u>	<u>\$ 865,388</u>	<u>\$ 734,232</u>

Current assets decreased in fiscal year 2016 compared to 2015 primarily due to a decrease in intergovernmental receivables of \$7.5 million, partially offset by an increase in prepaid expenses of \$1.0 million and accounts receivables of \$2.5 million. Current assets increased in fiscal year 2015 compared to 2014 primarily due to increases in cash of approximately \$1.2 million and increases in receivables of \$7.8 million.

Non-current assets totaled \$3.77 billion, \$3.76 billion and \$3.24 billion as of June 30, 2016, 2015, and 2014, respectively. The increase in non-current assets of \$13.9 million in fiscal year 2016 compared to fiscal year 2015 is due to additional spending on new and existing projects of \$235.2 million partially offset by a decrease in restricted cash of \$216.1 million and a loan receivable of \$5.4 million from Worcester City Corporation ("WCCC"). Non-current assets increased in fiscal year 2015 from fiscal year 2014 primarily due to additional spending on new and existing projects.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

Deferred outflows of resources totaled \$136.9 million, \$121.4 million, and \$112.9 million at the end of fiscal years 2016, 2015, and 2014, respectively. These amounts relate to the Authority's effective hedging relationship related to its outstanding interest rate swap agreements ("swaps"). In accordance with GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments* ("GASB No. 53"), the Authority is able to defer the related changes in fair value as a deferred outflow at year-end. In addition, the Authority adopted GASB Statement No. 65, *Items Previously Reported as Assets and Liabilities*, effective July 1, 2012.

Current liabilities decreased in fiscal year 2016 compared to 2015 by \$67.9 million primarily due to a decrease of \$72.2 million for the current portion of bonds payable partially offset by a \$3.0 million increase in retainage liability and \$4.0 million in other liabilities.

The decrease in the current portion of bonds payable is primarily due to two liquidity facilities that supported the 2008-1 and 2008-A variable rate bonds that were renewed in fiscal year 2016 but reported as current liabilities in fiscal year 2015. This decrease was partially offset by an increase in current liabilities resulting from the expiration of the liquidity facility that supports the 2011-1 bonds which will occur in June of 2017. While the Authority intends to extend the liquidity facility and redeem the 2011-1 variable rate bonds on their original principal amortization schedule which extends through fiscal year 2035, these bonds must be classified as current liabilities in the current year in accordance with GASB Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*.

Current liabilities increased in fiscal year 2015 compared to 2014 by \$159.3 million primarily due to an increase of \$206.0 million in the current portion of bonds payable which was partially offset by a \$44.0 million net paydown of commercial paper. The increase in the current portion of bonds payable was primarily due to the entire balance of 2008-1 and 2008-A bonds being classified as a current liability as the liquidity facilities supporting these bonds expired during fiscal year 2016.

Non-current liabilities increased in fiscal year 2016 compared to 2015 by \$4.8 million primarily due to an increase in the fair value of interest rate swap agreements of \$19.4 million, partially offset by a decrease in long-term bonds payable of \$22.9 million.

Non-current liabilities increased in fiscal year 2015 compared to 2014 by \$242.1 million primarily due to an increase in long-term debt of \$240.3 million. During 2015, the Authority issued \$558.0 million of new debt and \$81.6 million of new bond premiums. This increase in long-term debt was offset by a \$107.0 million decrease in the bonds payable associated with the partial refunding of the 2009-1 and the 2008-2 bonds, principal payments of \$76.4 million, bond premium amortization of \$9.8 million, and the reclass of \$208.2 million described above.

Net investment in capital assets represents capital assets, net of accumulated depreciation and reduced by outstanding balances for bonds, notes, and other debt, as well as deferred outflows of resources and deferred inflows of resources, if any, that are attributable to the acquisition, construction, or improvement of those assets or related debt.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

Restricted net position represents funds primarily restricted for capital projects and debt service. Capital project restricted net assets are funds primarily provided by debt financing for the completion of University projects. The debt service restricted component of net position represents the funds primarily provided as additional collateral to the bond holders (e.g. debt service reserve funds).

Unrestricted net position represents those funds that are not subject to restrictions, or for which restrictions have expired. In fiscal year 2016 the Authority reported a \$3.0 million surplus in the unrestricted component of net position, a \$3.6 million increase from fiscal year 2015, primarily due to nearly \$2.0 million of loss on disposal of certain assets and a \$2.7 million decrease in operating income in fiscal year 2015.

The Authority's changes in net position (in thousands) are presented in the table below:

	For The Year Ended June 30, 2016	For The Year Ended June 30, 2015	For The Year Ended June 30, 2014
Operating revenues:			
Financing income and fees for services	\$ 208,557	\$ 193,959	\$ 159,417
Interest income and interest subsidies, net	16,726	15,751	15,420
Total operating revenues	<u>225,283</u>	<u>209,710</u>	<u>174,837</u>
Operating expenses:			
Facility operating costs	7,366	5,566	5,554
Interest expense	101,058	91,014	74,773
Depreciation and amortization	108,849	93,237	72,462
General and administrative expenses	3,783	6,754	6,163
Total operating expenses	<u>221,056</u>	<u>196,571</u>	<u>158,952</u>
Net operating income	<u>4,227</u>	<u>13,139</u>	<u>15,885</u>
Total non-operating income (expenses)	<u>(525)</u>	<u>(1,877)</u>	<u>2,995</u>
Total capital contributions	<u>84,976</u>	<u>119,894</u>	<u>133,446</u>
Change in net position	88,678	131,156	152,326
Net position at the beginning of the year	<u>865,388</u>	<u>734,232</u>	<u>581,906</u>
Net position at the end of the year	<u>\$ 954,066</u>	<u>\$ 865,388</u>	<u>\$ 734,232</u>

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

Financing income and fees for services are primarily related to contracts the Authority has with the University. The Authority has entered into various contracts with the University, acting by and through the Trustees, related to the management of certain Authority projects and the payment to the Authority of certain fees and operating costs. The Authority fixes fees, rents, rates and other charges for the use of its projects in amounts sufficient to provide for the debt service and other payments related to the Authority's obligations and for the Authority's operating expenses. These contracts generally call for the Trustees to bill and collect all revenue derived from the projects and remit to the Authority or to the trustee under the Authority's trust agreements funds sufficient to cover debt service on its bonds, its costs of operations, and its financial obligations with respect to the projects the amounts fluctuate based on the debt service requirements of the Authority bonds in any particular year. Revenue increased by \$14.6 million in fiscal year 2016 compared to fiscal year 2015 primarily because the Authority charged the campuses more in debt service than in the prior year for the same reason. Revenue increased by \$34.5 million in fiscal year 2015 compared to fiscal year 2014 primarily because the Authority charged the campuses more in debt service than the prior year.

Interest income and Interest subsidy - United States Government remained relatively flat in fiscal year 2016 versus fiscal year 2015. Interest income increased by \$937 thousand in fiscal year 2016 compared to fiscal year 2015 due to larger daily cash balances kept during the fiscal year 2016 compared to the prior year. Interest income decreased by \$291 thousand in fiscal year 2015 compared to fiscal year 2014 due to lower investments compared to the prior year.

In fiscal year 2016, 2015 and 2014, the Authority recorded revenue associated with the interest rate subsidy provided by the United States Government related to the Authority's issuance of bonds under the Build America Bond ("BAB") program. Under the program, the Government provides a direct 35% subsidy of the interest rate paid to bondholders. The interest paid to bondholders is based on the taxable, rather than the tax-exempt, debt market and the interest received by the bondholders is fully taxable to them.

During fiscal year 2013, the federal government implemented automatic budget cuts imposed through sequestration required pursuant to the Budget Control Act of 2011. As a result, the Authority's November 1st and May 1st original subsidy payments related to the Senior Series 2009-2 Project Revenue Build America Bonds and the Senior Series 2010-2 Project Revenue Build America Bonds were reduced by 6.8% and 7.3% in fiscal years 2016 and 2015, respectively. This reduction accounts for the \$471.0 thousand decrease in Interest Subsidy Revenue in fiscal year 2016 compared to the original 35% subsidy.

Facility operating costs primarily reflect the operating costs of the UMass Club, certain operating costs of the Authority, rental expenses and expenses paid by the Authority out of reserves for maintenance of Authority-owned buildings. Facility operating costs increased in fiscal year 2016 compared to fiscal year 2015 due to an increase in Authority operating costs and utilities. Facility operating costs remained relatively flat in fiscal year 2015 compared to fiscal year 2014.

Interest expense represents interest paid to the holders of Authority issued debt. In fiscal year 2016, interest expense increased by \$10.0 million compared to the prior year. This increase is primarily due to an increase in associated interest expense due to the 2015-1 and 2015-2 debt issuances. These bonds were issued in March of 2015, and therefore accrued interest expense for less than four months in fiscal year 2015, while the interest expense reported for these bonds in fiscal year 2016 represents a full year. In fiscal year 2015, interest expense increased by \$16.2 million compared to fiscal year 2014 primarily due to new 2014-3, 2015-1 and 2015-2 debt issuances. (See Note 5 for more information on fiscal year 2015 and 2014 bond issues).

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

Depreciation and amortization increased by \$15.6 million in fiscal year 2016 compared to fiscal year 2015 and \$20.8 million in fiscal year 2015 versus 2014 as additional new capital assets were placed into service during those years.

General and administrative expenses decreased by \$3.0 million in current fiscal year compared to fiscal year 2015 as the Authority did not issue any new debt or refund bonds, and thus incurred no corresponding bond issuance expenses in fiscal year 2016.

Non-operating income (expense) is \$(0.5) million and \$(1.9) million in fiscal year 2016 and fiscal year 2015, respectively. In fiscal year 2016, the Authority disposed of one parking lot at the Boston campus to allow for further campus expansion. The campus disposed of two parking lots in fiscal 2015. The recorded loss from these disposals was \$0.5 and \$1.9 million in fiscal 2016 and 2015. In fiscal year 2014, the Authority sold two buildings at the Lowell campus with a net book value of \$214,000 for proceeds of \$3.2 million in an effort to consolidate academic and core campus activities on its main campus.

Capital contributions represent certain grants and gifts provided to the Authority for capital construction at the five campuses. In fiscal year 2016 and fiscal year 2015, the University and the state's Division of Capital Asset Management and Maintenance ("DCAMM") contributed \$0.5 million and \$73.0 million worth of construction, respectively, to the Authority for the Integrated Learning Center project at the Amherst campus. In 2016, the Authority received a \$25.0 million grant from the Commonwealth to fund a capital infrastructure project, "Road and Transportation Improvements at Umass Boston", located on the Boston campus. In 2016, the Authority also received \$31.4 million from the University to fund the construction of Tillson electrical substation project at the Amherst campus, University Hall at Boston campus, Charlton College of Business at Dartmouth campus, and McGauvran Dining Renovation on the Lowell campus.

CAPITAL ASSETS OF THE AUTHORITY

The Authority's investment in capital assets as of June 30, 2016 and 2015 amounted to \$3.1 billion and \$2.9 billion, net of accumulated depreciation. This investment in capital assets included land, buildings, improvements, furnishings and equipment. Net capital assets increased by \$235.2 million or 8.1% in fiscal year 2016. This increase was primarily due to capital improvements and construction in progress outpacing depreciation expenses:

- Buildings and building components increased by \$69.5 million, net of accumulated depreciation, in fiscal year 2016. The increase was primarily due to placing in service newly constructed and renovations of existing buildings on the Amherst, Boston, Dartmouth, and Lowell campuses. During fiscal year 2016, improvements decreased by \$6.6 million, net of accumulated depreciation, primarily due to fewer new improvements.
- Construction in progress ("CIP") increased \$149.2 million in fiscal year 2016 as the Authority added new construction costs for the following projects: Mass Life Science Center Laboratories Buildout, Chapel Renovation, Design Building, and South College Academic Facility at the Amherst campus; University Hall and Utility Corridor and Roadway Relocation projects at the Boston campus; Charlton College of Business Expansion and SMAST facility at the Dartmouth campus; North Quad Infrastructure Renewal at the Lowell campus. These CIP additions were partially offset by a number of projects transferred from CIP to depreciable property, namely: the Champions Center, Furcolo Hall Renovations, and Tillson Electrical Substation at the Amherst campus; McGauvran Dining renovations and various smaller projects at the Lowell campus.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Management's Discussion and Analysis
June 30, 2016 and 2015

DEBT OF THE AUTHORITY

The Authority carries debt in the form of bond obligations. This debt was approximately \$2.8 billion and \$2.9 billion at June 30, 2016 and 2015, respectively. The decrease of \$95.1 million in fiscal year 2016 is primarily attributable to the Authority's bond payments and premium/discount amortization.

The Authority did not issue or refund any bonds in fiscal year 2016. Accordingly, no bond issuance expense was incurred in fiscal year 2016.

On March 25, 2015, the Authority issued \$298,795,000 of Senior Series Project Revenue Bonds (the "2015-1 Bonds"). The 2015-1 Bonds included a premium of \$35.7 million. The Authority also issued \$191,825,000 of Refunding Revenue Senior Series 2015-2 Bonds which refunded \$104.5 million of WCCC bonds, \$37,215,000 of the Authority's 2008-1 bonds and \$66,750,000 of the Authority's 2009-1 bonds. The 2015-2 Bonds included a premium of \$34.0 million.

In July 2014, the Authority issued \$67,365,000 of Senior Series 2014-3 bonds. These bond proceeds were used to refund the 2005 Series-D Worcester City Campus Corporation Bonds. The 2014-3 bonds included a premium of \$12.0 million.

The amount of bond obligation guaranteed by the Commonwealth on bonds outstanding series 2004-A, 2008-A, and 2011-2 was \$117.4 million and \$121.6 million at June 30, 2016 and June 30, 2015, respectively. Refer to Note 5 of the financial statements for more information.

As of June 30, 2016, the ratings assigned to the Authority's bonds are as follows: Aa2 by Moody's Investor Services, AA by Fitch Ratings, and AA- by Standard and Poor's Investor Services.

THE UNIVERSITY OF MASSACHUSETTS CLUB

The Authority operates the University of Massachusetts Club (the "Club"). The Club is a private club open to membership for alumni, faculty, staff and friends of the University and is located on the 32nd floor of One Beacon in Boston, Massachusetts. Through July 31, 2015, the Club was managed by UMass Club Management, LLC, a wholly owned subsidiary of ClubCorp USA, a nationally known business club management company. As of August 1, 2015, the Club was managed by the not-for-profit organization University Services, Inc. More information can be found on the Club's web site, www.umassclub.com.

REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of the Authority's finances for all those with an interest in them. Questions concerning any information provided in this report or requests for additional financial information should be addressed to the Chief Financial Officer, University of Massachusetts Building Authority, One Beacon Street, 31st Floor, Boston, Massachusetts 02108. Additional information on the Authority can be found on its web site, www.umassba.net.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Statements of Net Position
June 30, 2016 and 2015

	<u>2016</u>	<u>2015</u>
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents (Notes 2 and 3)	\$ 18,086,094	\$ 17,913,245
Accounts receivable, net of allowance of \$97,365 and \$46,175, respectively	2,768,084	232,314
Intergovernmental receivables		
Massachusetts Life Sciences Center	16,888,231	24,386,222
U.S. Government	2,149,652	2,151,961
University of Massachusetts	40,296,673	40,260,308
Interest receivable	49,826	49,826
WCCC loan receivable - current portion	2,830,000	2,895,000
Prepaid expenses and other current assets	3,105,424	2,091,590
Total current assets	<u>86,173,984</u>	<u>89,980,466</u>
NON-CURRENT ASSETS		
Restricted		
Cash and cash equivalents (Notes 2 and 3)	461,730,701	677,861,158
Investments (Notes 2 and 3)	5,318,056	5,318,056
Capital assets, net of accumulated depreciation (Note 4)	3,127,728,751	2,892,547,529
WCCC loan receivable - non-current portion	173,546,958	178,905,219
Other assets	1,707,232	1,508,585
Total non-current assets	<u>3,770,031,698</u>	<u>3,756,140,547</u>
DEFERRED OUTFLOWS OF RESOURCES		
Fair value of interest rate swap agreements	71,481,000	44,647,852
Loss on debt refunding	65,428,900	76,747,462
Total assets and deferred outflows of resources	<u>3,993,115,582</u>	<u>3,967,516,327</u>
LIABILITIES		
CURRENT LIABILITIES		
Accounts payable	49,605,600	50,880,364
Retainage payable to contractors	13,774,246	10,749,676
Bonds payable, current portion (Note 5)	308,430,000	380,590,000
Commercial paper notes (Note 6)	5,000,000	6,000,000
Accrued bond interest payable	20,617,620	21,167,834
Other liabilities	12,367,439	8,286,605
Total current liabilities	<u>409,794,905</u>	<u>477,674,479</u>
NON-CURRENT LIABILITIES		
Bonds payable, net of current portion, and unamortized bond premium (Note 5)	2,520,421,352	2,543,338,624
Derivative instruments - interest rate swap agreements (Note 5)	90,477,813	71,053,497
Other liabilities	18,355,393	10,061,314
Total non-current liabilities	<u>2,629,254,558</u>	<u>2,624,453,435</u>
Total liabilities	<u>3,039,049,463</u>	<u>3,102,127,914</u>
NET POSITION		
Net investment in capital assets	891,767,403	808,333,475
Restricted for		
Capital projects	3,041,783	2,675,978
Debt service	56,228,630	54,979,218
Unrestricted	3,028,303	(600,258)
Total net position	<u>\$ 954,066,119</u>	<u>\$ 865,388,413</u>

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

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Statements of Revenues, Expenses and Changes in Net Position
For the years ended June 30, 2016 and 2015

	<u>2016</u>	<u>2015</u>
OPERATING REVENUE		
Financing income and fees for services	\$ 208,556,993	\$ 193,958,690
Interest income	3,835,958	2,899,037
Interest subsidy - U.S. Government	<u>12,890,323</u>	<u>12,851,734</u>
Total operating revenues	<u>225,283,274</u>	<u>209,709,461</u>
OPERATING EXPENSES		
Facility operating costs	7,365,684	5,566,444
Interest expense	101,058,029	91,013,906
Depreciation	108,849,312	93,236,856
Insurance	1,247,597	1,247,967
Professional fees	2,382,654	5,367,176
Office, administration and miscellaneous	<u>152,943</u>	<u>138,376</u>
Total operating expenses	<u>221,056,219</u>	<u>196,570,725</u>
Net operating income	<u>4,227,055</u>	<u>13,138,736</u>
NON-OPERATING REVENUES		
Gain (loss) on disposal or sale of assets	<u>(524,748)</u>	<u>(1,876,490)</u>
Total non-operating income	<u>(524,748)</u>	<u>(1,876,490)</u>
CAPITAL CONTRIBUTIONS		
University of Massachusetts (Note 7)	31,452,558	75,787,441
Massachusetts Life Sciences Center	28,009,924	42,185,745
Commonwealth of Massachusetts	<u>25,512,917</u>	<u>1,921,065</u>
Total capital contributions	<u>84,975,399</u>	<u>119,894,251</u>
Change in net position	88,677,706	131,156,497
Net position at beginning of year	<u>865,388,413</u>	<u>734,231,916</u>
Net position at end of year	<u>\$ 954,066,119</u>	<u>\$ 865,388,413</u>

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

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Statements of Cash Flows
For the years ended June 30, 2016 and 2015

	<u>2016</u>	<u>2015</u>
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash received from financing income, fees for services and other income	\$ 207,718,569	\$ 187,610,825
Cash from U.S. Government for BABs interest subsidy	12,892,632	12,842,499
Cash from investments	2,479,227	1,543,064
Payments to bondholders for interest	(125,014,115)	(111,876,320)
Payments to vendors and suppliers	(8,752,026)	(10,784,371)
Payments of salaries and benefits	<u>(3,379,290)</u>	<u>(2,602,669)</u>
Net cash provided by operating activities	<u>85,944,997</u>	<u>76,733,028</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Capital asset expenditures	(312,740,085)	(329,141,458)
Repayment of bond principal	(83,795,000)	(76,405,000)
Repayment of commercial paper obligations	(6,000,000)	(75,000,000)
Bond issuance expenses paid	2,179	(789,188)
Proceeds from commercial papers	5,000,000	31,000,000
Proceeds from capital contributions	91,962,253	39,089,478
Proceeds from bond obligations	3,668,048	298,795,000
Proceeds from bond premium	<u>-</u>	<u>35,705,932</u>
Net cash used in capital and related financing activities	<u>(301,902,605)</u>	<u>(76,745,236)</u>
Net decrease in cash and cash equivalents	(215,957,608)	(12,208)
Cash and cash equivalents - beginning of year	<u>695,774,403</u>	<u>695,786,611</u>
Cash and cash equivalents - end of year	<u>\$ 479,816,795</u>	<u>\$ 695,774,403</u>

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

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Statements of Cash Flows
For the years ended June 30, 2016 and 2015

	<u>2016</u>	<u>2015</u>
Reconciliation of operating income to net cash provided by operating activities		
Net operating income	\$ 4,227,055	\$ 13,138,736
Adjustments to reconcile net operating income to net cash provided by operating activities		
Capitalized interest	(22,105,124)	(23,637,978)
Depreciation and amortization	105,509,764	90,867,976
Effect of non-cash transactions (deferred rent income and expense)	(450,224)	-
Changes in operating assets and liabilities		
(Increase) decrease in		
Prepaid expenses and other current assets	(1,013,833)	(764,556)
Accounts receivable	359,230	3,155,158
Other assets	(198,647)	(1,388,350)
Increase (decrease) in		
Accounts payable - non-construction related	203,355	(296,357)
Accrued bond interest payable	(550,215)	3,008,516
Accounts receivable (University billing)	(36,364)	(7,350,116)
Net cash provided by operating activities	<u>\$ 85,944,997</u>	<u>\$ 76,733,029</u>
Supplemental disclosure of cash flow information		
Non-cash capital and related financing activities		
Capital assets acquired and included in accounts and retainage payable and other liabilities	<u>\$ 73,145,494</u>	<u>\$ 68,332,058</u>
Capital assets transferred from Amherst campus and the Commonwealth of Massachusetts, as part of capital contribution	<u>\$ 513,445</u>	<u>\$ 75,180,427</u>
In fiscal year 2015, the Authority issued Project and Refunding revenue bonds to refund certain debt issued in 2008 and 2009, as described in the Note 5 of the financial statements.	<u>\$ -</u>	<u>\$ 302,388,231</u>

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

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

1. OPERATIONS OF THE AUTHORITY

The University of Massachusetts Building Authority (the “Authority” or “UMBA”) is a body politic and corporate and a public instrumentality of The Commonwealth of Massachusetts (the “Commonwealth”). The Authority was created by Chapter 773 of the Acts of 1960 of the Commonwealth, as amended (the “Enabling Act”). The purpose of the Authority are to provide dormitories, dining commons and other buildings and structures for use by the University of Massachusetts (the “University”), its students, staff and their dependents and other entities associated with the University as requested by authority of the Trustees of the University (the “Trustees”).

The Enabling Act provides that the Authority shall have eleven members, five of whom shall also be trustees of the University. Members of the Authority are appointed by the Governor of the Commonwealth. Non-trustee members serve terms of approximately six years while trustee members serve until they are no longer trustees of the University. Members whose terms have expired continue to be members until reappointed or replaced.

The major functions of the Authority include the issuance of bonds to finance projects requested by the Trustees; the planning and construction or renovations related to those projects; the setting and collection of fees, rents, rates and other charges related to such projects; debt service administration; and maintenance and repair of its projects. In conjunction with its financings, the Authority has entered into contracts with the Commonwealth, acting by and through the Trustees, with respect to its projects that provide for payments for debt service and other costs of the financings as well as the operating costs of the Authority and its projects.

As stated in the Enabling Act, the Authority may sell bonds and notes, in either a public or private sale, at a price and with such terms as it may determine are in the best interest of the Authority, provided that the bonds of each issue mature no later than fifty years from their date and the sale and terms thereof have been approved by the Treasurer and Receiver-General and the Secretary of Administration and Finance of the Commonwealth or their designees.

The Authority is a component unit of the University of Massachusetts which is a component unit of the Commonwealth of Massachusetts and is exempt from federal and state income tax under the doctrine of intergovernmental tax immunity found in the U.S. Constitution. The Authority qualifies as a public charity under Section 170(b)(1)(A)(iv) of the Internal Revenue Code. Accordingly, no provision for income taxes has been recorded in the accompanying financial statements.

The Authority’s financial statements are included in the University’s financial statements as a blended component unit.

The financial statements of the Authority have been prepared in conformity with accounting principles generally accepted in the United States of America (“US GAAP”) as applied to governmental units. The Governmental Accounting Standards Board (“GASB”) is the accepted standard setting body for establishing governmental accounting and financial reporting principles. The Authority’s significant accounting policies are described below.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Basis of Accounting

The Authority's financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Under the economic resources measurement focus, the Authority distinguishes operating revenues and expenses from non-operating revenues and expenses. Operating revenues and expenses result primarily from providing, operating and maintaining Authority facilities for use by the University. The principal sources of operating revenues include financing income, which represents amounts needed for debt service and related expenses received from the University, income on investments held for capital construction and debt service requirements, and fees charged to the University for services. Operating expenses for the Authority include the interest expense on bonds, facility operating costs, depreciation of capital assets, professional fees and other administrative costs. All revenues and expenses not categorized as operating revenues and expenses are reported as non-operating.

Under the accrual basis of accounting, revenues are recorded when earned and expenses are recorded when the liability is incurred, regardless of when the related cash flow takes place.

Use of Estimates

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

Restricted Assets

Certain proceeds of the Authority's bonds, as well as certain resources set aside for their repayment, are classified as restricted assets in the accompanying statements of net position because their use is limited by bond trust agreements.

The following sets forth the restricted cash and cash equivalent and investment balances as of June 30:

	<u>2016</u>	<u>2015</u>
Restricted cash and cash equivalents		
Capital projects fund	\$ 450,049,626	\$ 667,393,130
Debt service fund	<u>11,681,075</u>	<u>10,468,028</u>
Total restricted cash and cash equivalents	<u>\$ 461,730,701</u>	<u>\$ 677,861,158</u>
Restricted investments		
Debt service fund	<u>\$ 5,318,056</u>	<u>\$ 5,318,056</u>

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Capital Assets and Depreciation

Property, Plant and Equipment are stated at cost on the date of acquisition, or at fair market value if contributed. Construction in progress is included as a capital asset. Construction in progress is stated at cost, which includes direct construction costs and other expenditures related to construction including capitalized interest, if any. All construction costs related to projects which are not yet completed are charged to construction in progress until such time as the projects are completed and placed in operation.

Depreciation is computed using the straight-line method over the estimated useful lives of the assets from the date the property is placed in operation. Land is not depreciated. The useful lives applicable to the Authority are as follows:

Buildings	15 to 50 years
Building, leasehold and land improvements	3 to 20 years
Equipment	4 to 10 years
Furnishings	3 to 10 years

Capitalized Interest

The Authority capitalizes interest costs incurred during the construction period of qualifying property assets. The amount of capitalized interest costs consists of all interest costs of the borrowing relating to the qualifying assets less any related interest earned from the date of the borrowing until the assets are ready for their intended use. Interest capitalized during the years ended June 30, 2016 and 2015 totaled \$22,105,124 and \$23,638,000, respectively, net of interest income of \$1,820,967 and \$1,015,280, respectively.

Cash and Cash Equivalents

Cash and cash equivalents include cash balances maintained in checking accounts, overnight repurchase agreements and amounts held in permitted money market mutual funds with an original maturity date of three months or less.

Investments

Investments in marketable securities are stated at fair value.

Investments in repurchase agreements are non-participating interest earning investment contracts and are recorded at cost. These repurchase agreements are secured by cash or investments with a fair market value between 100% and 105% of the repurchase price, depending on the type of asset used as security and the specific repurchase agreement. These repurchase agreements can be redeemed at any time for the repurchase price provided the redemption proceeds are used for a purpose permitted by the respective repurchase agreement.

Realized and unrealized gains (losses) on investments, if any, include the net changes in the fair value of investments.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Net Position

Net position is reported in three categories:

Net investment in capital assets -This category consists of capital assets, net of accumulated depreciation and reduced by outstanding balances for bonds, notes and other debt, as well as deferred outflows of resources that are attributed to the acquisition, construction or improvement of those assets.

Restricted component of net position -This category consists of assets whose use is restricted either through external restrictions imposed by creditors, grantors, contributors and the like, or through restrictions imposed by law through constitutional provisions or enabling legislation. Capital project restricted assets are funds primarily provided by debt financing for the completion of University projects. Debt service restricted assets are funds primarily provided as additional collateral to the bond holders (e.g. debt service reserve funds).

Unrestricted component of net position -This category consists of net assets which do not meet the definition of the two preceding categories, and are available to support the Authority's operations.

Grants and Capital Contributions

Capital contributions are generally grants for capital asset acquisition, facility development and long-term planning studies, and are reported in the accompanying statements of revenues, expenses and changes in net position after non-operating revenues and expenses as capital contributions when such items are capitalized. Non-capital grants are recognized as non-operating revenue. Revenue from these grants and similar items are recognized as respective expenditures are incurred.

Insurance

The Owner-controlled Consolidated Insurance Program ("OCIP") was established to provide insurance coverage for contractors on selected Authority capital projects. This program provides workers' compensation and general liability insurance coverage for most contractors working on projects in the program. The program has a deductible component that is funded by the Authority. The deductible component is limited on both a per-occurrence basis and an aggregate basis for all OCIP-covered projects by stop-loss insurance.

This exposure is partially secured by and paid out of an escrow trust fund set up for this purpose as a requirement of the stop-loss insurer. The total deductible exposure, plus unpaid OCIP-related insurance premiums and expenses committed to the OCIP is addressed by the Authority with an OCIP reserve of \$8,804,531 and \$10,061,315 as of June 30, 2016 and June 30, 2015, respectively, which is presented as Other Liabilities in the accompanying statements of net position.

Post-retirement Benefits

The Commonwealth of Massachusetts is statutorily responsible for the pension benefits for members of the State Employees' Retirement System ("SERS"), including employees of the University. The Authority's staff is employed by the University, and as such, the Authority's employees can participate in SERS, a single employer defined benefit public retirement system, covering substantially all employees of the Commonwealth and certain employees of independent authorities and agencies. The University makes

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

contributions on behalf of the employees through a fringe benefit charge assessed by the Commonwealth. SERS does not issue stand-alone financial statements; however, SERS financial information is contained in the Commonwealth Comprehensive Annual Financial Report and can be obtained by contacting the State Comptroller, One Ashburton Place, 9th floor, Boston, MA 02108.

Revenue Recognition

The Authority's major revenue source is the financing income and fees for services that are primarily related to contracts with the University. The Authority has entered into various contracts with the University, acting by and through the Trustees, related to the management of certain Authority projects and the payment to the Authority of certain fees and operating costs. The Authority fixes fees, rents, rates and other charges for the use of its projects in amounts sufficient to provide for the debt service and other payments related to the Authority's obligations and for the Authority's operating expenses. These contracts generally call for the Trustees to bill and collect all revenue derived from the projects and remit to the Authority or to the trustee under the Authority's trust agreements funds sufficient to cover debt service on its bonds, its costs of operations, and its financial obligations with respect to the projects. Revenue is recognized when earned consistent with the accrual basis of accounting and is included in financing income and fees for services line item on the statement of revenues, expenses and changes in net position.

The Authority records revenue associated with the interest rate subsidy provided by the United States Government related to the Authority's issuance of bonds under the Build America Bond ("BAB") program. Under the program, the Government provides a direct 35% subsidy of the interest rate paid to bondholders. During fiscal year 2013, the federal government implemented automatic budget cuts imposed through sequestration required pursuant to the Budget Control Act of 2011. As a result, in fiscal year 2016, the Authority's November 1, 2015 and May 1, 2016 original subsidy payments related to the Senior Series 2009-2 Project Revenue Build America Bonds and the Senior Series 2010-2 Project Revenue Build America Bonds were reduced by 6.8%. In fiscal year 2015, the Authority's November 1, 2014 and May 1, 2015 original subsidy payments related to these bonds were reduced by 7.3%. This reduction was approximately \$471,030 in fiscal year 2016 and \$505,665 in fiscal year 2015.

Adoption of New Accounting Standards

In February 2015, the GASB issued Statement 72, "Fair Value measurements and Application" ("GASB 72"). The statement is effective for periods beginning after June 15, 2015. This statement addresses the accounting and financial reporting issues related to fair value measurements, as well as requires certain disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. GASB 72 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This statement also provides guidance for determining a fair value measurement for financial reporting purposes, as well as for applying fair value to certain investments and swap counterparties at the measurement date. As disclosed in Note 3 and Note 5, the Authority assessed the impact of GASB No. 72 on its financial statements and has added required disclosures of assets and liabilities reported at fair value in the accompanying financial statements. The determination of fair value as it relates to the interest rate swaps was also impacted by the adoption of GASB 72. As amounts were immaterial, the Authority did not adjust the fair value of this liability as of June 30, 2015. Implementation of GASB No. 72 did not have any impact on the net position of the Authority.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

3. CASH DEPOSITS AND INVESTMENTS

Cash Deposits - Custodial Credit Risk

The Authority holds a majority of its cash and cash equivalents in high quality money market mutual funds that invest in securities that are permitted investments under the Authority's Enabling Act or in money market mutual funds that have been specifically permitted by state legislation.

The Authority's cash and cash equivalents held on deposit consisted of the following as of June 30:

	<u>2016</u>	<u>2015</u>
Cash	\$ 4,577,357	\$ 3,580,191
Permitted money market accounts	<u>475,239,438</u>	<u>692,194,212</u>
Total cash and cash equivalents	<u>\$ 479,816,795</u>	<u>\$ 695,774,403</u>

Custodial credit risk is the risk that, in the event of a bank failure, the Authority will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The Authority does not have a deposit policy for custodial credit risk. As of June 30, 2016 and June 30, 2015, the bank balances of uninsured deposits totaled \$4,077,357 and \$3,261,076, respectively. For purposes of disclosure under GASB Statement No. 40, *Deposit and Investment Risk Disclosures*, money market accounts investing in debt securities are considered investments and therefore, are included in the investment disclosures that follow.

Investments

As of June 30, 2016, the Authority's investments consisted of the following:

	<u>Investment Maturities (in Years)</u>			
	<u>Total</u>	<u>Less than 1</u>	<u>1 to 5</u>	<u>6 to 10</u>
<u>Investment type</u>				
Debt Securities				
Repurchase Agreements	\$ 5,318,056	\$ -	\$ 5,318,056	\$ -
Money Market Accounts	<u>475,239,438</u>	<u>475,239,438</u>	<u>-</u>	<u>-</u>
Total	<u>\$ 480,557,494</u>	<u>\$ 475,239,438</u>	<u>\$ 5,318,056</u>	<u>\$ -</u>

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

As of June 30, 2015, the Authority's investments consisted of the following:

	Investment Maturities (in Years)			
	Total	Less than 1	1 to 5	6 to 10
<u>Investment type</u>				
Debt Securities				
Repurchase Agreements	\$ 5,318,056	\$ -	\$ -	\$ 5,318,056
Money Market Accounts	<u>692,194,212</u>	<u>692,194,212</u>	<u>-</u>	<u>-</u>
Total	<u>\$ 697,512,268</u>	<u>\$ 692,194,212</u>	<u>\$ -</u>	<u>\$ 5,318,056</u>

Because money market funds are highly liquid, they are presented as investments with maturities of less than one year.

Interest Rate Risk

The Authority has a formal investment policy that establishes minimum credit quality of certain instruments, outlines investment procedures, and provides for periodic reporting. Generally, the Authority holds its investments until maturity.

Credit Risk

Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. The risk is measured by the assignment of a rating by a nationally recognized statistical rating organization.

The Enabling Act specifies the permitted investments of the Authority. These permitted investments include direct obligations of or obligations which are unconditionally guaranteed by the United States of America ("Treasuries"), obligations of an agency or organization created pursuant to an act of Congress of the United States as an agency or instrumentality thereof ("Agencies"), time deposits or certificates of deposits fully secured by Treasuries or Agencies, and Treasuries and Agencies subject to repurchase agreements. Other legislation allows the Authority to invest in the Massachusetts Municipal Depository Trust (the "MMDT"), a money market account sponsored by the Treasurer of the Commonwealth and managed by Federated Investors, Inc. Additionally, in accordance with the Authority investment policy, the Authority's Bond Trustee may invest some of the Authority's funds in money market accounts, permitted and collateralized by Treasuries.

No credit risk disclosures are required under GASB No. 40 relating to the Authority's investment in Treasuries. The Authority's investments in repurchase agreements are not rated but are fully collateralized by Treasuries and Agencies. MMDT is unrated.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Investments - Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party. The Authority's Enabling Act does not contain legal or policy requirements that would limit the exposure to custodial credit risk, except that interest-bearing time deposits or certificates of deposit of banking institutions or trust companies must be continuously and fully secured by Treasuries or Agencies.

Custodial credit risk generally applies only to direct investments in marketable securities. Custodial credit risk does not apply to indirect investment in securities through the use of mutual funds or government investment pools, such as MMDT. Direct investments in marketable securities are held by the Authority's Bond Trustee as the Authority's agent. In accordance with the Authority's repurchase agreements, collateral for the agreements is held in segregated accounts with market values between 100% and 105% of the repurchase price, depending on the type of asset used as security and the specific repurchase agreement.

Concentrations of Credit Risk

The Authority does not place a credit limit on the amount it may invest in any one issuer. As of June 30, 2016, the Authority had 98.0% of its investments in MMDT. As of June 30, 2015, the Authority had 98.7% of its investments in MMDT.

Fair Value Measurements

GASB No. 72, "*Fair Value measurements and Application*" sets forth the framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under GASB 72 are described as follows:

Level 1 - Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Authority has the ability to access.

Level 2 - Inputs other than Level 1 that are observable, either directly or indirectly and include:

- quoted prices for similar assets or liabilities in active markets;
- quoted prices for identical or similar assets or liabilities in inactive markets;
- inputs other than quoted prices that are observable for the asset or liability;
- inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value measurement. Unobservable inputs are developed based on the best information available in the circumstances and may include the Authority's own data.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

The following table presents the investments carried at fair value, as of June 30, 2016 and 2015, by the GASB 72 valuation hierarchy defined above:

Fair value measurements at June 30, 2016				
	Level 1	Level 2	Level 3	Total
<u>Investment type</u>				
Debt Securities				
Repurchase Agreements	\$ -	\$ 5,318,056	\$ -	\$ 5,318,056
Money Market Accounts	<u>475,239,438</u>	<u>-</u>	<u>-</u>	<u>475,239,438</u>
Total	<u>\$ 475,239,438</u>	<u>\$ 5,318,056</u>	<u>\$ -</u>	<u>\$ 480,557,494</u>

Fair value measurements at June 30, 2015				
	Level 1	Level 2	Level 3	Total
<u>Investment type</u>				
Debt Securities				
Repurchase Agreements	\$ -	\$ 5,318,056	\$ -	\$ 5,318,056
Money Market Accounts	<u>692,194,212</u>	<u>-</u>	<u>-</u>	<u>692,194,212</u>
Total	<u>\$ 692,194,212</u>	<u>\$ 5,318,056</u>	<u>\$ -</u>	<u>\$ 697,512,268</u>

Fair value for Level 1 is based upon quoted prices in active markets the Authority has the ability to access for identical assets and liabilities. Market price data is generally obtained from exchange or dealer markets. The Authority does not adjust the quoted price for such assets and liabilities.

Fair value for Level 2 is based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the assets. Inputs are obtained from various sources including market participants, dealers, and brokers.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

4. CAPITAL ASSETS

A summary of changes in capital assets follows:

	<u>Balance June 30, 2014</u>	<u>Additions/ (Transfers)</u>	<u>Balance June 30, 2015</u>	<u>Additions/ (Transfers)</u>	<u>Balance June 30, 2016</u>
Land	\$ 24,688,209	\$ 2,726,715	\$ 27,414,924	\$ 9,689,568	\$ 37,104,492
Buildings	1,967,156,003	471,348,244	2,438,504,247	145,917,062	2,584,421,309
Building and land improvements	477,747,622	98,024,020	575,771,642	19,754,083	595,525,725
Equipment and furnishings	36,053,924	4,908,809	40,962,733	17,625,977	58,588,710
Construction in progress	<u>565,330,373</u>	<u>(171,182,936)</u>	<u>394,147,437</u>	<u>149,240,730</u>	<u>543,388,167</u>
Subtotal	3,070,976,131	405,824,852	3,476,800,983	342,227,420	3,819,028,403
Less: accumulated depreciation					
Buildings	(337,595,686)	(60,099,285)	(397,694,971)	(76,402,251)	(474,097,222)
Building and land improvements	(138,851,689)	(23,760,124)	(162,611,813)	(26,387,036)	(188,998,849)
Equipment and furnishings	<u>(32,216,328)</u>	<u>8,269,658</u>	<u>(23,946,670)</u>	<u>(4,256,911)</u>	<u>(28,203,581)</u>
Subtotal	<u>(508,663,703)</u>	<u>(75,589,751)</u>	<u>(584,253,454)</u>	<u>(107,046,198)</u>	<u>(691,299,652)</u>
 Total capital assets, net	 <u>\$ 2,562,312,428</u>	 <u>\$ 330,235,101</u>	 <u>\$ 2,892,547,529</u>	 <u>\$ 235,181,222</u>	 <u>\$ 3,127,728,751</u>

In fiscal year 2016 certain fully depreciated assets were retired and disposed of to allow for further campus expansion as part of the capital plan, resulting in a loss on disposal of \$524,748. In fiscal year 2015, certain fixed assets were retired and one asset was disposed of to allow for further campus expansion as part of the capital plan, resulting in a loss on disposal of \$1,876,490. There were no other retirements or disposals of fixed assets in fiscal years 2016 and 2015.

The Authority has outstanding purchase commitments with contractors for the construction of certain facilities as of June 30, 2016 and 2015 of \$157,332,000 and \$205,666,000, respectively.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

5. BONDS PAYABLE

The following is a summary of bond transactions for the years ended June 30, 2016 and 2015:

	<u>Bonds Payable</u>	<u>Unamortized Original Issue Premiums</u>	<u>Total</u>
Beginning balance - July 1, 2014	\$ 2,412,885,000	\$ 64,807,213	\$ 2,477,692,213
Issuances	557,985,000	81,639,000	639,624,000
Refundings	(103,965,000)	(3,233,742)	(107,198,742)
Payments/amortization	<u>(76,405,000)</u>	<u>(9,783,847)</u>	<u>(86,188,847)</u>
Ending balance - June 30, 2015	<u>\$ 2,790,500,000</u>	<u>\$ 133,428,624</u>	2,923,928,624
Less: Due within one year			<u>(380,590,000)</u>
Non-current balance			<u>\$ 2,543,338,624</u>
Beginning balance - July 1, 2015	\$ 2,790,500,000	\$ 133,428,624	\$ 2,923,928,624
Payments/amortization	<u>(83,795,000)</u>	<u>(11,282,272)</u>	<u>(95,077,272)</u>
Ending balance - June 30, 2016	<u>\$ 2,706,705,000</u>	<u>\$ 122,146,352</u>	2,828,851,352
Less: Due within one year			<u>(308,430,000)</u>
Non-current balance			<u>\$ 2,520,421,352</u>

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Aggregate annual maturities of principal and interest on long-term debt as of June 30, 2016 are as follows:

Year Ending June 30,	Principal	Interest*	Total
2017	\$ 85,775,000	\$ 109,151,359	\$ 194,926,359
2018	89,325,000	106,547,666	195,872,666
2019	94,065,000	103,634,098	197,699,098
2020	97,280,000	100,221,610	197,501,610
2021	100,980,000	96,117,847	197,097,847
2022-2026	472,760,000	426,658,232	899,418,232
2027-2031	463,465,000	335,314,102	798,779,102
2032-2036	456,815,000	244,697,067	701,512,067
2037-2041	545,790,000	127,121,423	672,911,423
2042-2046	300,450,000	27,901,448	328,351,448
Total	<u>\$ 2,706,705,000</u>	<u>\$ 1,677,364,852</u>	<u>\$ 4,384,069,852</u>

* These interest payments are presented net of the interest rate subsidy provided by the United States Government related to the Authority's issuance of bonds under the Build America Bond ("BAB") program. Under the program, the Government provides a direct subsidy of the interest rate paid to bondholders up to 35%. As a result, the Authority's November 1, 2015, and May 1, 2016 subsidy payments related to the Senior Series 2009-2 Project Revenue Build America Bonds and the Senior Series 2010-2 Project Revenue Build America Bonds were 32.62%

The 2011-1 variable rate bonds have an outstanding principal balance of \$128,245,000 and are classified as a current debt obligation as a result of the supporting liquidity facility expiring in June 2017. The Authority expects to redeem these variable rate bonds on their original principal amortization schedule. The 2011-2 window bonds with a principal outstanding balance of \$97,265,000 have no supporting liquidity facility and therefore are classified as a current debt obligation. Consistent with prior years, the Authority expects to redeem this bond based on its original amortization schedule and based on annual maturities on that schedule.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

The following is a summary of bonds outstanding for the years ended June 30, 2016 and 2015 (bond amounts in thousands):

Bond Description	Outstanding June 30,		Interest Rate	Maturity Year	Amount Issued	Insured	Commonwealth Guaranteed (Note 8)	Callable	Call Date Beginning
	2016	2015							
Project Refunding Bonds, Senior Series 2004-1	\$ 1,515	\$ 8,300	5.250 %	2016	\$ 183,965	AMBAC	No	At Par	Nov-14
Project Revenue Bonds, Senior Series 2004-A	-	2,340	4.20% to 4.50%	2015	96,025	MBIA	Yes	At Par	Nov-14
Refunding Revenue Bonds, Senior Series 2005-1	-	2,805	5.00 %	2016	25,595	AMBAC	No	At Par	May-15
Refunding Revenue Bonds, Senior Series 2005-2	-	16,005	5.000 %	2025	212,500	AMBAC	No	At Par	Nov-15
Taxable Refunding Revenue Project Revenue Bonds, Senior Series 2008-1	179,425	187,125	Variable	2038	232,545	No	No	At Par	Anytime
Project Revenue Bonds, Senior Series 2008-2	63,025	65,835	4.00% to 5.00%	2038	120,560	FSA (Partial)	No	At Par	May-18
Project Revenue Bonds, Senior Series 2008-A	20,105	21,035	Variable	2038	26,580	No	Yes	At Par	Anytime
Project Revenue Bonds, Senior Series 2009-1	108,365	120,575	3.00% to 5.00%	2039	247,810	No	No	At Par	May-19

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Bond Description	Outstanding June 30,		Interest Rate	Maturity Year	Amount Issued	Insured	Guaranteed (Note 8)	Callable	Call Date Beginning
	2016	2015							
Project Revenue Bonds, Senior Series 2009-2 (Federally Taxable - Build America Bonds - Direct Pay to Issuer)	\$ 271,855	\$ 271,855	6.423% to 6.573%	2039	\$ 271,855	No	No	At Par	May-18
Project Revenue Bonds, Senior Series 2009-3 (Federally Taxable)	26,235	26,755	5.823% to 6.173%	2039	28,570	No	No	*	Anytime
Project Revenue Bonds, Senior Series 2010-1	72,310	84,775	5.000 %	2020	118,985	No	No	No	-
Project Revenue Bonds, Senior Series 2010-2 (Federally Taxable - Build America Bonds - Direct Pay to Issuer)	430,320	430,320	3.80% to 5.45%	2040	430,320	No	No	*	Anytime
Project Revenue Bonds, Senior Series 2010-3 (Federally Taxable)	2,785	2,835	5.75 %	2040	3,005	No	No	*	Anytime
Refunding Revenue Bonds, Senior Series 2011-1	128,245	129,690	Variable	2034	135,040	No	No	At Par	Anytime
Refunding Revenue Bonds, Senior Series 2011-2	97,265	98,220	Variable	2034	101,700	No	Yes	At Par	Anytime

* These series of bonds are callable at the Make-Whole Redemption Price which equals the greater of the outstanding principal balance or the present value of the scheduled future principal and interest payments, which payments are discounted at the Treasury Rate plus 25 basis points (2009 Series Bonds) or 30 basis points (2010 Series Bonds).

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Bond Description	Outstanding June 30,		Interest Rate	Maturity Year	Amount Issued	Insured	Commonwealth Guaranteed (Note 8)	Callable	Call Date Beginning
	2016	2015							
Project Revenue Bonds, Senior Series 2013-1	\$ 203,420	\$ 208,060	2.00% to 5.00%	2043	\$ 212,585	No	No	At Par	Nov-22
Project Revenue bonds, Senior Series 2013-2 (Federally Taxable)	67,335	69,570	0.43% to 2.686%	2043	71,970	No	No	At Par	Nov-23
Project and Refunding Revenue bonds, Senior Series 2013-3	24,640	24,640	4.0%-5.0%	2043	24,640	No	No	At Par	May-23
Project Revenue bonds, Senior Series 2014-1	293,465	293,890	3%- 5.0%	2044	293,890	No	No	At Par	Nov-24
Project Revenue bonds, Senior Series 2014-2	11,330	14,085	.44% - 2.1%	2019	14,085	No	No	*	Anytime
Refunding Revenue bonds, Senior Series 2014-4	149,975	153,800	.20% - 3.381%	2025	157,855	No	No	*	Anytime
Refunding Revenue Bonds, Senior Series 2014-3	64,470	67,365	2.00% to 5.00%	2029	67,635	No	No	At Par	Nov-24
Project Revenue Bonds, Senior Series 2015-1	298,795	298,795	4.00% to 5.00%	2036	298,795	No	No	At Par	Nov-25
Refunding Revenue Bonds Senior Series 2015-2	<u>191,825</u>	<u>191,825</u>	3.00% to 5.00%	2036	191,825	No	No	At Par	Nov-25
Total	<u>\$ 2,706,705</u>	<u>\$ 2,790,500</u>							

* These series of bonds are callable at the Make-Whole Redemption Price which equals the greater of the outstanding principal balance or the present value of the scheduled future principal and interest payments, which payments are discounted at the Treasury Rate (2014-4 Series Bonds), or at Treasury Rate plus 25 basis points (2009 Series Bonds) or 30 basis points (2010 Series Bonds) or 10 basis points (2014-2 Series Bonds).

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Variable Rate Bonds

On April 15, 2016, the Authority entered into a standby purchase agreement with Barclays Bank PLC (“Barclays”) which requires Barclays to purchase bonds that are tendered and not remarketed. Under the terms of the Barclays standby bond purchase agreement, the Authority is required to pay Barclays in quarterly installments a facility fee in the amount of 29 basis points (or higher, under certain circumstances) of the commitment amount. In fiscal year 2016 the Authority incurred fees in connection with the Barclays agreement in the amount of \$123,205. The agreement expires on April 22, 2019 and may be extended if a mutual interest exists between the Authority and Barclays. Previously, the 2008-1 bonds were supported with a standby purchase agreement with J.P. Morgan Chase Bank, N.A. (“J.P. Morgan”). Fees incurred by the Authority in connection with J.P. Morgan totaled \$404,964 and \$523,400 for the year ended June 30, 2016 and June 30, 2015, respectively.

The 2008-A bonds are supported by a standby bond purchase agreement with Barclays which requires Barclays to purchase bonds that are tendered and not remarketed. Under the terms of the Barclays standby bond purchase agreement, the Authority was required to pay Barclays in quarterly installments a facility fee in the amount of 32.5 basis points (or higher, under certain circumstances) of the commitment amount. The agreement expired in April 2016. The Authority and Barclays executed a first amendment to the agreement and extended the agreement until April 15, 2019. Under the first amendment to the standby purchase agreement, the Authority is required to pay Barclays in quarterly installments a facility fee in the amount of 27.5 basis points (or higher, under certain circumstances) of the initial commitment and may be extended if a mutual interest exists between both the Authority and Barclays. Fees incurred by the Authority in connection with the Barclays agreement totaled \$84,230 and \$87,072 for the year ended June 30, 2016 and June 30, 2015, respectively.

The 2011-1 bonds are supported by a standby bond purchase agreement with Wells Fargo Bank, N.A. (“Wells”) which requires Wells to purchase bonds tendered and not remarketed in an amount not to exceed the principal on the bonds plus accrued interest up to 185 days at an annual interest rate not to exceed 12 percent. Under the agreement, the Authority was required to pay Wells in quarterly installments a facility fee in the amount of 40 basis points (or higher, under certain circumstances) of the initial commitment. The initial commitment under the agreement was set at \$143,253,392 and was subject to adjustment from time to time in accordance with the provisions of the agreement. The standby bond purchase agreement expired on June 9, 2014. The Authority and Wells executed a first amendment to the standby bond purchase agreement to extend the agreement until June 9, 2017. Under the first amendment to the standby purchase agreement, the Authority is required to pay Wells in quarterly installments a facility fee in the amount of 25 basis points (or higher, under certain circumstances) of the initial commitment. The initial commitment under the first amendment to the standby bond purchase agreement was set at \$139,063,145 and is subject to adjustment from time to time in accordance with the provisions of the agreement. Fees incurred by the Authority in connection with the Wells agreement totaled \$349,700 and \$350,000 for the years ended June 30, 2016 and 2015, respectively.

Window Bonds

In fiscal year 2011, the Authority issued its 2011-2 bonds in a variable rate Window Bond mode. As with the Authority’s other variable rate bonds, the Window Bondholders can tender the bonds at any time. However, unlike the Authority’s other variable rate bonds, where the bondholders will receive payment on any tendered bonds 7 days from the tender, Window Bondholders are not required to receive funds for the

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

tender until after a 30 day remarketing period and an additional 180 day funding window period. Due to this 210 day funding period, the Authority is not required to obtain any type of liquidity support for the 2011-2 bonds and the bonds are considered supported with self-liquidity. Window Bondholders receive an interest rate on the Window Bonds at a fixed spread over the Securities Industry and Financial Markets Association Municipal Swap Index™ (“SIFMA”). The initial spread to the SIFMA index is 9 basis points.

Bond Refundings

There was no refunding of bonds in fiscal year 2016.

In fiscal year 2015, the Authority also issued \$191,825,000 of Refunding Revenue Senior Series 2015-2 Bonds which advance refunded \$104.5 million of the WCCC bonds series, \$37,215,000 of the Authority’s 2008-2 bonds and \$66,750,000 of the Authority’s 2009-1 bonds. The Authority deposited into trust accounts funds sufficient to provide for all future debt service payments on the refunded bonds until the bonds are called.

These advanced refunded bonds are considered defeased and, accordingly, the liability for the bonds payable and the assets held to repay the debt are not recorded in the Authority’s financial statements.

In connection with the Authority’s refundings, the Authority recorded a difference between the reacquisition price and the net carrying amount of the refunded debt of \$95,436,000. This balance is being reported as a component of deferred outflows- loss on debt refunding, and will be amortized as an increase in interest expense over the remaining term of the original life of the refunded bonds. These refundings reduced the Authority’s debt service payments in future years by \$73,803,706 and resulted in an economic gain (the present value of the savings) of \$56,237,836.

Bond Premium and Issuance Expenses

There were no new bond issues in fiscal year 2016, thus no bond premiums were recorded in the current year. In fiscal year 2015, the Authority received premiums at issuance totaling \$190,623,334. The Authority amortizes the premiums received as a reduction in interest expense over the life of the respective bond issue.

In connection with the Authority’s bond issues, the Authority incurred certain issuance costs associated with the bond offerings. In fiscal year 2015, these costs amounted \$3,524,027 and were expensed in accordance with the provisions of GASB Statement No. 65, *Items Previously Reported as Assets and Liabilities*.

Interest Rate Swaps

The Authority uses derivative instruments to manage the impact of interest rate changes on its cash flows and net position by mitigating its exposure to certain market risks associated with operations, and does not use derivative instruments for trading or speculative purposes.

The Authority’s contracts are evaluated pursuant to GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments* (“GASB No. 53”) to determine whether they meet the definition of derivative instruments, and if so, whether they effectively hedge the expected cash flows associated with interest rate risk exposures. The Authority applies hedge accounting for derivative instruments that are

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

deemed effective hedges and under GASB No. 53 are referred to as hedging derivative instruments. Under hedge accounting, changes in the fair value of a hedging derivative instrument are reported as a deferred inflow or deferred outflow in the statement of net position until the contract is settled or terminated.

All settlement payments or receipts for hedging derivative instruments are recorded as interest expense in the period settled.

The Authority's hedging derivative instruments at June 30 were as follows:

	Derivative Instruments - Liability		Derivative Instruments - Liability		Financial Statement Classification for Changes in Liability
	June 30, 2015	Net Change in Liability	June 30, 2016	Type of Hedge	
Series 2008-1 Swap	\$ (29,348,996)	\$ (8,878,207)	\$ (38,227,203)	Cash Flow	Non-current liability
Series 2008-A Swap	(3,366,797)	(970,865)	(4,337,662)	Cash Flow	Non-current liability
Series 2006-1 Swap	(38,337,704)	(9,575,244)	(47,912,948)	Cash Flow	Non-current liability
Total	<u>\$ (71,053,497)</u>	<u>\$ (19,424,316)</u>	<u>\$ (90,477,813)</u>		

The terms of the Authority's financial derivative instruments that were outstanding at June 30, 2016 are summarized in the table below:

	Type	Effective Date	Termination Date	Rate Authority Pays	Authority Receives	Original Notional Value
Series 2008-1 Swap	Synthetic Fixed	May 1, 2008	May 1, 2038	3.388 %	70% of 1-Month LIBOR	\$ 232,545,000
Series 2008-A Swap	Synthetic Fixed	Nov 13, 2008	May 1, 2038	3.378 %	70% of 1-Month LIBOR	\$ 26,580,000
Series 2006-1 Swap	Synthetic Fixed	Apr. 20, 2006	Nov. 1, 2034	3.482 %	60% of 3-Month LIBOR + .18%	\$ 243,830,000

Fair Values - As discussed in the Note 3, the Authority implemented GASB 72 in fiscal year 2016. GASB 72 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between swap counterparties at the measurement date, which includes the non-performance risk. The Authority engaged an independent party to perform the valuations. The expected swap cash flows are calculated using the zero-coupon discounting method which takes into consideration the prevailing interest rate environment, the specific terms and conditions of a given transaction, and assumes that the current forward rates implied by the yield curve are the market's best estimate of future spot interest rates. The income approach is then used to obtain the fair value of the swaps, where future amounts (the expected swap cash flows) are converted to a single current (discounted) amount, using a rate of return that takes into account the relative risk of non-performance associated with the cash flows, and time value of money. Where applicable under the income approach, the option pricing model technique, such as the Black-Derman-Toy model, or other appropriate option pricing model is used. As the interest

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

rate swaps are valued using the LIBOR swap rate observed at commonly quoted intervals for the full term of the swaps, the measurement results in the swap fair values being categorized as Level 2.

As of June 30, 2016 and 2015, the Authority’s swaps had a negative fair value of \$90,477,813 and \$71,053,497, respectively, and as such are presented as noncurrent liabilities.

Credit risk - As of June 30, 2016, the Authority was not exposed to credit risk on the swaps as the fair value was negative. Since changes in interest rates affect the fair values of swap agreements, it is possible that the swap agreements with negative fair values become positive which would expose the Authority to credit risk. To mitigate the potential for credit risk, when a counterparty has a positive fair value and if the counterparty’s credit quality falls below A3/A/A, the fair value of the swap will be fully collateralized by the counterparty with U.S. Government Securities or U. S. Government Agency Securities. Collateral posted by the counterparty will be held by a third-party custodian.

The credit ratings for the Authority’s counterparties at June 30, 2016 are as follows:

	Credit Ratings		
	Moody’s	S&P	Fitch
UBS AG	A1	A	A
Deutsche Bank AG	Baa2	BBB+	A-
Citibank NA	A1	A	A+

Basis risk - The Authority is exposed to basis risk on its pay-fixed interest rate swaps because the variable-rate payment received by the Authority (a percent of LIBOR) on these hedging derivative instruments is based on indexes other than the actual interest rates the Authority pays on its hedged variable rate debt. Should the relationship between LIBOR and the actual variable rate interest payments on the bonds converge, the expected cost savings may not materialize. The terms of the related hedging fixed rate swap transactions are summarized in the chart at the top of this page.

Termination risk - The Authority’s swaps are governed under the International Swap Dealers Association Master Agreement (the “Master Agreement”), which includes standard termination events, such as failure to pay and bankruptcy. Additionally, the Master Agreement was amended so that the swap may be terminated by the Authority if the counterparty’s credit quality rating falls below certain levels or the counterparty fails to have a rating. Further, the swap may be terminated by the counterparties if the long-term, unsecured, unenhanced senior debt rating of any bonds issued by the Authority is withdrawn, suspended or falls below certain levels or the Authority fails to have a rating. The Authority or the counterparties may terminate the swaps if the other party fails to perform under the terms of the contract. The Authority may also terminate the swaps at its option. If the swap is terminated, the variable-rate bonds would no longer carry a synthetic fixed interest rate and the Authority’s interest payment will be based solely upon the rate required by the related bonds as issued. When a termination event occurs, a mark-to-market (or “fair market value”) calculation is performed to determine whether the Authority is owed or must pay cash to close out the swap position. A negative fair value means the Authority would incur a loss and need to make a termination payment to settle the swap position. A positive fair value means the Authority would realize a gain and receive a termination payment in settlement of the swap position.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

Contingencies - All of the Authority's swaps include provisions that require the Authority to post collateral in the event its credit rating falls below certain levels. In the event the Authority is rated A2 by Moody's Investors Service or A by Standard & Poor's, the Authority would need to post collateral equal to amounts above the fair value of its swaps in liability positions above \$10,000,000. In the event the Authority is not rated or rated below A3 by Moody's Investors Service or below A- by Standard & Poor's, the Authority must post collateral in the amount of the fair value of the swaps in liability positions. The collateral posted is to be in the form of cash obligations guaranteed by the U.S. Treasury, or negotiable debt obligations issued by the Federal Home Loan Mortgage Association or the Federal National Mortgage Association. If the Authority does not post collateral, the derivative instrument may be terminated by the counterparty. The Authority's credit rating is Aa2 from Moody's Investors Service, AA from Fitch Ratings, and AA- from Standard and Poor's at June 30, 2015; therefore, no collateral was required to be posted.

Termination of hedge accounting - In June of 2011, the Authority undertook an advance refunding of the 2008-3 and 2008-4 variable rate bonds hedged by the Series 2006-1 Swap. As part of the refunding, the Series 2006-1 swap was re-assigned to a new underlying notional (the 2011-1 and 2011-2 Bonds) with identical terms. This refunding and reassignment effectively terminated the original hedge. At June 30, 2011, the Series 2006-1 Swap was considered a hedging derivative instrument. In accordance with GASB No. 53, at the time of a termination event related to an advance refunding of the hedged debt, the balance of the amounts in deferred outflows is to be included in the net carrying amount of the refunded debt for the purposes of calculating the deferred loss on refunding. The balance of the deferred outflows that was included in the net carrying amount of the refunded debt at the time of the refunding was \$22,200,000. The change in fair value of the Series 2006-1 Swap from the refunding date to June 30, 2016 is reported as a deferred outflow as the swap was determined to be effective at June 30, 2016.

Swap payments and associated debt. Using rates as of June 30, 2016, the debt service requirements of the variable-rate debt and net swap payments, assuming current interest rates remain the same for their term, are as follows:

	<u>Principal</u>	<u>Interest</u>	<u>Interest Rate Swaps, Net</u>	<u>Total</u>
Fiscal Year Ending June 30,				
2017	\$ 11,625,000	\$ 387,382	\$ 12,600,726	\$ 24,613,108
2018	11,770,000	378,731	12,269,692	24,418,423
2019	12,215,000	369,358	11,912,155	24,496,513
2020	12,720,000	359,212	11,522,334	24,601,546
2021	17,955,000	226,171	5,987,375	24,168,546
2022-2026	151,915,000	1,221,046	39,465,694	192,601,740
2027-2031	138,310,000	570,726	19,335,957	158,216,683
2032-2036	54,235,000	109,437	3,687,250	58,031,687
2037-2040	1,620,000	13,188	503,970	2,137,158
	<u>\$ 412,365,000</u>	<u>\$ 3,635,251</u>	<u>\$ 117,285,153</u>	<u>\$ 533,285,404</u>
Total				

As actual rates vary, variable-rate bond interest payments and net swap payments will vary.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

6. COMMERCIAL PAPER

On May 3, 2016, the Authority issued Commercial Paper Notes, Series 2013-A in the amount of \$5,000,000. The maximum aggregate principal amount of commercial paper which may be outstanding at one time is \$200,000,000. The \$125,000,000 Commercial Paper Notes, Series 2013-A, were secured by an irrevocable letter of credit (“LOC”) provided by State Street Bank and Trust Company (“State Street”) which expired on August 12, 2016. The letter of credit was replaced with a standby liquidity facility agreement that expires in August 12, 2019. The remaining \$75,000,000 Commercial Paper Notes, Series 2013-B are secured by a standby liquidity facility agreement provided by U.S. Bank National Association, which was extended in fiscal year 2016 and now expires in August 12, 2019.

The following is a summary of commercial paper issues for the year ended June 30, 2016:

	<u>Balance</u> <u>June 30, 2015</u>	<u>Issues</u>	<u>Repayments</u>	<u>Balance</u> <u>June 30, 2016</u>
Commercial paper series 2013-A tax exempt	\$ -	\$ 5,000,000	\$ -	\$ 5,000,000
Commercial paper series 2013-B tax exempt	-	-	-	-
Commercial paper series 2013-A taxable	<u>6,000,000</u>	<u>-</u>	<u>(6,000,000)</u>	<u>-</u>
	<u>\$ 6,000,000</u>	<u>\$ 5,000,000</u>	<u>\$ (6,000,000)</u>	<u>\$ 5,000,000</u>

The Authority incurred fees of \$400,470 and \$434,500 for fiscal years 2016 and 2015, respectively, associated with the State Street LOC. Fees in connection with the U.S. Bank National Association Standby Liquidity Facility Agreement amounted to \$236,940 and \$260,100, respectively, for fiscal year 2016 and fiscal year 2015.

7. GRANTS FROM THE UNIVERSITY OF MASSACHUSETTS AND THE COMMONWEALTH OF MASSACHUSETTS

During the year ended June 30, 2016, the Authority received capital contributions from the University in the amount of \$31,452,558 to fund various campus projects, including the University Hall project at the Boston campus and McGauvran Dining Hall renovation at the Lowell campus. In fiscal year 2015, the Authority received \$75,787,441 primarily to fund projects on the Amherst campus and various other projects. The Authority expended funds in the respective fiscal years for these purposes.

During the year ended June 30, 2016, the Authority received a \$24,999,472 grant from the Commonwealth to fund a capital infrastructure project, “Road and Transportation Improvements at Umass Boston”, located on the Boston campus. The Authority also recorded \$513,445 of construction costs incurred by the Commonwealth Capital Asset Management Division in connection with an on-going construction project at the Amherst campus.

As per the Authority’s policy, these grants are shown in the statements of revenues, expenses and changes in net position as a capital contribution.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

8. GUARANTY OF THE COMMONWEALTH OF MASSACHUSETTS

Section 10 of the Enabling Act authorizes the Commonwealth, acting by and through the Trustees, to enter into contracts with the Authority for state financial assistance in the form of a guaranty by the Commonwealth of the payment of the principal and interest as they become due and payable up to a maximum of \$200,000,000 principal amount of outstanding bonds and notes of the Authority. The full faith and credit of the Commonwealth are pledged for the payment of the guaranty. As is generally the case with other full faith and credit obligations of the Commonwealth, funds with which to honor such guaranty would be provided by appropriation. The amount of bond obligation guaranteed by the Commonwealth was \$117.4 million and \$121.6 million at June 30, 2016 and June 30, 2015, respectively.

9. COMMITMENTS AND CONTINGENCIES

The Authority has executed long-term leases with the Commonwealth, acting by and through the Trustees, covering the land on which facilities owned by the Authority are located on the University's campuses. These leases call for nominal annual payments to the Commonwealth. Certain of these leases renew automatically for subsequent five or ten year periods unless the Authority notifies the University that it does not wish to renew. Other leases require the Authority to notify the University of its desire to renew. As of June 30, 2016, all leases with the Commonwealth were in good standing and any leases requiring action by the Authority during the year to facilitate their renewals were properly renewed.

As provided in the Enabling Act, each of the above-referenced leases also terminates when the Authority no longer has any bonds outstanding, at which time all Authority property becomes the property of the Commonwealth.

The Authority entered into a sublease agreement, as lessee, dated December 14, 2004 with SSB Realty, LLC, as lessor (the "Lessor"), for space at 225 Franklin Street, Boston, Massachusetts to be used primarily by the University, the Authority, The University of Massachusetts Foundation, Inc. and The University of Massachusetts Club. The agreement requires the Authority to pay a base rent plus a proportionate share of any increase over the base year of the Lessor's costs and taxes. The lease began April 1, 2005 and ended December 15, 2015 and included an initial three month period of no rental payments. In July 2007, SSB Realty, LLC notified the Authority that the lease with the Authority had been assigned to Equity Office Management, LLC ("Equity") and that Equity had assumed all rights under the lease. In September 2014, Oxford Management took over the Equity lease and assumed all rights under the lease.

On April 1, 2014, the Authority entered into a lease, as lessee, with Massachusetts Mutual Life Insurance Company, as lessor, for space at Tower Square, 1500 Main Street, Springfield, Massachusetts to be used by the University primarily as classroom space for its Springfield Satellite campus. The lease began August 1, 2014 and ends July 31, 2019.

On July 17, 2014, the Authority entered into a lease, as lessee, with One Beacon Street Limited Partnership, as lessor, for space at One Beacon Street, Boston, Massachusetts to be used primarily as office space by the Authority, the UMASS Club and the University. The lease began on July 15, 2015 and ends December 31, 2030. The lease commencement date was November 1, 2015 and included an initial four months period of no rental payments.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

For the years ended June 30, 2016 and 2015, lease operating costs were \$2,428,473 and \$2,035,992, respectively, which are included in facility operating costs in the accompanying statements of revenues, expenses and changes in net position.

Approximate future payments (excluding Lessor's costs and taxes and including the base rent escalation of \$2 per square foot for every other year) under the lease agreements are as follows:

Year Ending June 30,

2017	\$ 2,330,069
2018	2,371,625
2019	2,413,181
2020	2,165,315
2021	2,180,561
2022 and thereafter	<u>22,793,125</u>
Total	<u>\$ 34,253,876</u>

The Authority is a defendant in a lawsuit and is subject to various contractual matters; however, Authority management is of the opinion that the ultimate outcome of all litigation or potential contractual obligations will not have a material effect on the financial position, financial results or cash flows of the Authority.

10. THE UNIVERSITY OF MASSACHUSETTS CLUB

Through July 31, 2015, the University of Massachusetts Club (the "Club") was managed by UMass Club Management, LLC, a wholly owned subsidiary of ClubCorp USA. The Authority provided operating support for the Club of approximately \$102,000 in fiscal year 2016. On August 1, 2015, management of the Club was transitioned to the not-for-profit organization University Services, Inc. The Authority did not provide additional operating support in fiscal year 2016 once University Services, Inc. took over management of the Club.

The Authority provided \$187,700 in operating support to ClubCorp USA in fiscal 2015.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

11. RELATED PARTY TRANSACTIONS

The following table details the amounts due to the various campuses of the University at June 30, which were recorded as part of accounts payable and other liabilities in the statements of net position:

	<u>2016</u>	<u>2015</u>
Campus		
Amherst Campus	\$ 4,774,665	\$ 3,044,286
Boston Campus	321,393	759,511
Dartmouth Campus	828,871	1,169,409
Lowell Campus	4,031,547	6,302,897
Worcester Campus	<u>-</u>	<u>448,267</u>
Total	<u>\$ 9,956,476</u>	<u>\$ 11,724,370</u>

As disclosed in the Note 5, in July 2014 and March 2015, the Authority issued debt to refund certain portions of outstanding debt of Worcester City Campus Corporation (“WCCC”). Notes payables from WCCC are presented within bonds payable balances with offsetting loan receivable from WCCC. As of June 30, 2016, the current and non-current balance of outstanding WCCC loan receivable amounted to \$2,830,000 and \$173,546,958, respectively.

12. WORKING CAPITAL OF THE AUTHORITY

As of June 30, 2016 and 2015, the Authority had a working capital deficiency of \$323,620,921 and \$387,694,013, respectively. However, as stated in the various contracts between the Authority and the University, the University is required to provide necessary funding to the Authority to meet its obligations through June 30, 2016 and beyond.

13. SUBSEQUENT EVENTS

On November 8, 2016, the Authority entered into an agreement whereby the Authority sub-leased property on the University of Massachusetts Boston campus to Provident Commonwealth Educational Resources Inc., a Massachusetts not-for-profit corporation. The land is leased to the Authority by the Commonwealth. Provident Commonwealth Educational Resources Inc. will engage a contractor to construct a 1,082-bed student housing facility on the site. The Authority will sub-lease the property to Provident Commonwealth Educational Resources Inc. for a term of approximately 40 years. Commencing approximately one year following the completion of the project (estimated completion is August 2018), the annual rental amount payable to the Authority under the ground lease will \$1.025 million.

Pursuant to the Dining Facility Sublease dated November 8, 2016 between Provident Commonwealth Educational Resources Inc., as sub-lessor and the Building Authority, as sub-lessee, the Provident Commonwealth Educational Resources Inc. shall lease the dining facility, located within the residential hall, to the Authority and the Authority shall operate or cause to be operated the Dining Facility.

UNIVERSITY OF MASSACHUSETTS BUILDING AUTHORITY
(A Component Unit of the University of Massachusetts)
Notes to Financial Statements
June 30, 2016 and 2015

For purposes of determining the effects of subsequent events on these financial statements, management has evaluated events subsequent to June 30, 2016 and through December 15, 2016, the date on which the financial statements were available to be issued and, determined that there were no other matters requiring recognition or disclosure to the accompanying financial statements.

[Intentionally Left Blank]

FINANCIAL STATEMENTS OF THE UNIVERSITY

[Intentionally Left Blank]

2016

Annual Financial

Report



The University of Massachusetts
Amherst • Boston • Dartmouth • Lowell • Worcester • UMassOnline

University Administration

As of December 2016

Board of Trustees:

Robert Manning (Chair), Boston, MA
Maria D. Furman (Vice Chair), Wellesley, MA
James Buonomo, Shrewsbury, MA
Mary L. Burns, Lowell, MA
Edward W. Collins, Jr., Springfield, MA
Robert Epstein, Norton, MA
David G. Fubini, Brookline, MA
Philip W. Johnston, Marshfield, MA
Michael O'Brien, Southborough, MA
Kerri Osterhaus-Houle, M.D., Hudson, MA
Imari K. Paris Jeffries, Boston, MA
R. Norman Peters, J.D., Paxton, MA
James A. Peyser, Secretary of Education, Commonwealth of MA, Boston MA
Elizabeth D. Scheibel J.D., South Hadley, MA
Henry M. Thomas III, J.D., Springfield, MA
Charles Wu, Newton, MA

Pantea Fatemi Ardestani (UMass Boston Student Trustee), Mission Viejo, CA
(Non-Voting Student)
Kevin Delaney (UMass Dartmouth Student Trustee), Walpole, MA
(Voting Student)
Joshua Odam (UMass Amherst Student Trustee), Brooklyn, NY
(Non-Voting Student)
Melinda Reed, UMass Lowell Student Trustee), Lowell, MA
(Voting Student)
Philip A. Feinberg (UMass Worcester Student Trustee), Ardsley, NY
(Non-Voting Student)

Officers of the University:

Martin T. Meehan J.D., President
Kumble R. Subbaswamy, Ph.D., Chancellor, UMass Amherst
J. Keith Motley, Ph.D., Chancellor, UMass Boston
Peyton R. Helm, Ph.D., Interim Chancellor, UMass Dartmouth
Jacqueline Moloney, Ed.D., Chancellor, UMass Lowell
Michael F. Collins, M.D., Chancellor, UMass Worcester
and Senior Vice President for Health Sciences
James R. Julian, J.D., Executive Vice President
Christine M. Wilda, Senior Vice President for Administration and Finance & Treasurer
Marcellette G. Williams, Ph.D., Senior Vice President for Academic Affairs and International Relations
Zunilka Barrett, Secretary to the Board of Trustees



November 30, 2016

To the Board of Trustees
and President Martin T. Meehan J.D.

We are pleased to submit the annual Financial Report of the University of Massachusetts for the year ended June 30, 2016. The enclosed financial statements incorporate all financial activity of the University and its five campuses. This statement has been audited by an independent certified public accountant and is fully represented in the financial report of the Commonwealth of Massachusetts. Detailed information about each campus is provided as supplemental information.

The financial information presented in the Financial Report is designed to aid a wide variety of readers to assess the effectiveness of the University's management of its resources in meeting its primary mission of instruction, research, and public service. This report is intended to form a comprehensive and permanent record of the finances of the University of Massachusetts, and it is submitted as the public accounting of the University's financial affairs for the fiscal year ended June 30, 2016 including comparative information as of June 30, 2015.

The University's net assets increased \$132.8 million from \$2.67 billion in fiscal year 2015 to \$2.80 billion in fiscal year 2016. This increase is primarily attributed to investments in infrastructure, increased public service activities and increased State Appropriations.

Each year, the Board of Trustees reviews a five-year projection for key financial indicators that are likely to determine the success of the University over the long term. For the key indicators of operating margin, primary reserve, and debt service to operations, for FY2016, the University was on target with meeting projections. Overall, the University continues to make strategic investments that support the achievement of its long-term financial objectives of growth and stability.

Respectfully submitted,

A handwritten signature in black ink that reads "Christine M. Wilda".

Christine M. Wilda
Senior Vice President for Administration and
Finance & Treasurer

A handwritten signature in black ink that reads "Sarah B. Mongeau".

Sarah B. Mongeau
University Controller

**University of Massachusetts
2016 Annual Financial Report
Table of Contents**

	<u>Page</u>
Report of Independent Certified Public Accountants	1
Management's Discussion and Analysis (unaudited)	3
Consolidated Statements of Net Position as of June 30, 2016 and 2015	14
Consolidated Statements of Revenues, Expenses, and Changes in Net Position for the Years Ended June 30, 2016 and 2015	15
Consolidated Statements of Cash Flows for the Years Ended June 30, 2016 and 2015	16
Notes to Consolidated Financial Statements	17
Required Supplementary Information	46
Supplemental Financial Information	48



Grant Thornton LLP
75 State Street, 13th Floor
Boston, MA 02109
T 617.723.7900
F 617.723.3640
www.GrantThornton.com
linkd.in/GrantThorntonUS
twitter.com/GrantThorntonUS

REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

Board of Trustees of the
University of Massachusetts

Report on the financial statements

We have audited the accompanying financial statements of the business-type activities and the aggregate discretely presented component units of the University of Massachusetts (the “University”), an enterprise fund of the Commonwealth of Massachusetts as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the University’s basic financial statements as listed in the table of contents.

Management’s responsibility for the financial statements

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

Auditor’s responsibility

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

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

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

Opinions

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the aggregate discretely presented component units of the University of Massachusetts as of June 30, 2016 and 2015, and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other matters

Required supplementary information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 3 through 12 and the Schedule of the University's Proportionate Share of the Net Pension Liability and the University's Contributions for the Massachusetts State Employees' Retirement System on page 46, be presented to supplement the basic financial statements. Such information, although not a required part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. This required supplementary information is the responsibility of management. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America. These limited procedures consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other reporting required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report, dated December 15, 2016, on our consideration of the University's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control over financial reporting and compliance.



Boston, Massachusetts
December 15, 2016

**University of Massachusetts
Management's Discussion and Analysis (unaudited)
June 30, 2016**

Introduction

This unaudited section of the University of Massachusetts (the "University") Annual Financial Report presents our discussion and analysis of the financial position and performance of the University and its component units during the fiscal year ended June 30, 2016 with comparative information as of June 30, 2015 and June 30, 2014. This discussion and analysis has been prepared by management along with the accompanying financial statements and related footnote disclosures and should be read in conjunction with, and is qualified in its entirety by, the financial statements and footnotes. The accompanying financial statements, footnotes and this discussion are the responsibility of management.

The University of Massachusetts is a state coeducational institution for higher education with separate campuses at Amherst, Boston, Dartmouth, Lowell and Worcester all located in the Commonwealth of Massachusetts (the "Commonwealth"). The University was established in 1863 in Amherst, under the provisions of the 1862 Morrill Land Grant Acts, as the Massachusetts Agricultural College. It became known as the Massachusetts State College in 1932 and in 1947 became the University of Massachusetts. The Boston campus was opened in 1965 and the Worcester campus, Medical School, was opened in 1970. The Lowell and Dartmouth campuses (previously the University of Lowell and Southeastern Massachusetts University, respectively) were made a part of the University by a legislative act of the Commonwealth, effective September 1, 1991.

The University's mission is to provide an affordable and accessible education of high quality and to conduct programs of research and public service that advance knowledge and improve the lives of the people of the Commonwealth, the nation and the world. In the fall of 2015, the University enrolled 63,333 full-time equivalent ("FTE") students. The University is committed to providing, without discrimination, diverse program offerings to meet the needs of the whole of the state's population. The University's five campuses are geographically dispersed throughout Massachusetts and possess unique and complementary missions.

Financial Highlights

The University's combined net position increased \$132.75 million from \$2.67 billion in fiscal year 2015 to \$2.80 billion in fiscal year 2016. Net position at June 30, 2014 was \$2.82 billion.

From fiscal year 2015 to fiscal year 2016, the Net Pension Liability increased from \$237.1 million to \$408.4 million. This increase is primarily attributed to changes in the assumptions used to calculate the pension obligations (interest rate of return decreased from 8.0% to 7.5%, impact of an Early Retirement Incentive plan created in May 2015 and changes to mortality rate tables) coupled with decreases in the projected and actual earnings on pension plan investments.

From fiscal year 2015 to fiscal year 2016 the University's operating revenue increased by \$290.7 million and operating expenditures increased \$358.5 million. The increases in operating revenues are primarily attributed to increases in student fees, increased enrollment and increased public service activities. The increases in operating expenditures are primarily attributed to increased salaries and fringe benefit rates and increased public service activities.

From fiscal year 2015 to fiscal year 2016, the University's net non-operating revenues/(expenses) increased \$58.6 million. This increase was primarily attributed to increased State Appropriations (see State Appropriations).

Using the Annual Financial Report

One of the most important questions asked about University finances is whether the University as a whole is better off or worse off as a result of the year's activities. The key to understanding this question lies within the Statement of Net Position, Statement of Revenues, Expenses and Changes in Net Position and the Statement of Cash Flows. These statements present financial information in a form similar to that used by private sector companies. The University's net position (the difference between assets and liabilities) is one indicator of the University's financial health. Over time, increases or decreases in net position is one indicator of the improvement or erosion of an institution's financial health when considered with non-financial facts such as enrollment levels, operating expenses, and the condition of the facilities.

The Statement of Net Position includes all assets and liabilities, as well as deferred inflows and outflows of resources of the University. It is prepared under the accrual basis of accounting, whereby revenues and assets are recognized when the services are provided and expenses and liabilities are recognized when services are incurred, regardless of when cash is exchanged. Net Position is further broken down into three categories: invested in capital assets-net of related debt, restricted and unrestricted. Amounts reported in invested in capital assets-net of related debt represent the historical cost of property and equipment, reduced by the balance of related debt outstanding and depreciation expense charged over the years. Net Position is reported as restricted when constraints are imposed by third parties, such as donors or enabling legislation. Restricted net position is either non-expendable, as in the case of endowment gifts to be held in perpetuity, or expendable, as in the case of funds to be spent on scholarships and research. All other assets are unrestricted; however, they may be committed for use under contract or designation by the Board of Trustees.

The Statement of Revenues, Expenses and Changes in Net Position presents the revenues earned or received and expenses incurred during the year. Activities are reported as either operating or non-operating. Operating revenues and expenses include tuition and fees, grant and contract activity, auxiliary enterprises and activity for the general operations of the institution not including appropriations from state and federal sources. Non-operating revenues and expenses include appropriations, capital grants and contracts, endowment, gifts, investment income, and non-operating federal grants (Pell Grants). With a public University's dependency on support from the state, Pell grants, and gifts, it is common for institutions to have operating expenses

exceed operating revenues. That is because the prescribed financial reporting model classifies state appropriations, Pell grants, and gifts as non-operating revenues. The utilization of long-lived assets, referred to as capital assets, is reflected in the financial statements as depreciation expense, which amortizes the cost of a capital asset over its expected useful life.

Another important factor to consider when evaluating financial viability is the University's ability to meet financial obligations as they mature. The statement of cash flows presents information related to cash inflows and outflows summarized by operating, capital and non-capital, financing and investing activities.

The footnotes provide additional information that is essential to understanding the information provided in the external financial statements.

Reporting Entity

The financial statements report information about the University as a whole using accounting methods similar to those used by private-sector companies. The financial statements of the University are separated between University (including its blended component units) and its discretely presented Component Unit activities. The University's discretely presented Component Units (or Related Organizations) are the University of Massachusetts Foundation, Inc., and the University of Massachusetts Dartmouth Foundation, Inc.

Condensed Financial Information

University of Massachusetts				
Condensed Statement of Net Position				
As of June 30, 2016, 2015, and 2014				
(in thousands of dollars)				
	University June 30, 2016	University June 30, 2015	FY15-16 Change	University June 30, 2014
ASSETS				
Current Assets	\$ 677,927	\$ 692,679	\$ (14,752)	\$ 592,750
Noncurrent Assets				
Investment in Plant Net of Accumulated Depreciation	4,615,776	4,333,761	282,015	4,064,786
All Other Noncurrent Assets	1,294,028	1,501,421	(207,393)	1,543,391
Total Assets	6,587,731	6,527,861	59,870	6,200,927
DEFERRED OUTFLOWS OF RESOURCES	293,432	178,410	115,022	123,567
LIABILITIES				
Current Liabilities	774,837	856,460	(81,623)	674,330
Noncurrent Liabilities	3,294,183	3,133,710	160,473	2,831,869
Total Liabilities	4,069,020	3,990,170	78,850	3,506,199
DEFERRED INFLOWS OF RESOURCES	12,050	48,753	(36,703)	-
NET POSITION				
Invested in Capital Assets Net of Related Debt	2,013,966	1,887,941	126,025	1,800,767
Restricted				
Nonexpendable	18,384	18,378	6	17,387
Expendable	218,272	169,591	48,681	174,530
Unrestricted	549,471	591,438	(41,967)	825,611
Total Net Position	\$ 2,800,093	\$ 2,667,348	\$ 132,745	\$ 2,818,295

At June 30, 2016, total University net position was \$2.8 billion, an increase of \$132.7 million over the \$2.67 billion in net position for fiscal year 2015. The University's largest asset continues to be its net investment in its physical plant of \$4.62 billion at June 30, 2016, \$4.33 billion at June 30, 2015 and \$4.06 billion in fiscal year 2014.

University liabilities totaled \$4.07 billion at June 30, 2016, an increase of \$78.8 million over fiscal year 2015. Long-term liabilities represent 81.0% of the total liabilities which primarily consist of bonds payable amounting to \$2.65 billion and Net Pension Liability of \$408.4 million at June 30, 2016.

The University's current assets as of June 30, 2016 of \$677.9 million were below the current liabilities of \$774.8 million, and as a result the current ratio was 0.87 dollars in assets to every one dollar in liabilities. Current assets of \$692.7 million at June 30, 2015 were below the current liabilities of \$856.5 million, resulting in a current ratio of 0.81.

The unrestricted and restricted expendable net position totaled \$767.7 million in fiscal year 2016, which represents 24% of total operating expenditures of \$3.14 billion for fiscal year 2016. The unrestricted and restricted expendable net position totaled \$761.0 million in fiscal year 2015, which represents 27% of total operating expenditures of \$2.78 billion. The unrestricted and

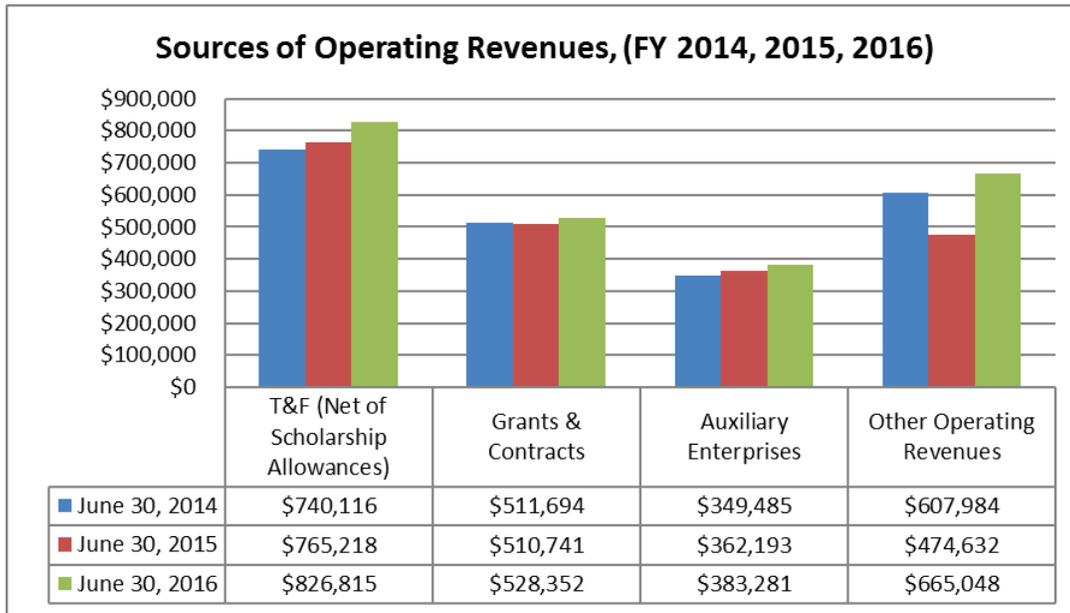
restricted expendable net position totaled \$1.00 billion in fiscal year 2014, which represents 36% of total operating expenditures of \$2.81 billion.

University of Massachusetts				
Condensed Statement of Net Position for Related Organizations				
As of June 30, 2016, 2015, and 2014				
(in thousands of dollars)				
	University Related Organizations June 30, 2016	University Related Organizations June 30, 2015	FY15-16 Change	University Related Organizations June 30, 2014
ASSETS				
Current Assets	\$ 619	\$ 1,373	\$ (754)	\$ 1,678
Noncurrent Assets				
Investment in Plant Net of Accumulated Depreciation	8,090	8,293	(203)	8,478
All Other Noncurrent Assets	473,954	478,645	(4,691)	454,646
Total Assets	482,663	488,311	(5,648)	464,802
LIABILITIES				
Current Liabilities	29,194	31,421	(2,227)	15,525
Noncurrent Liabilities	3,502	3,505	(3)	3,483
Total Liabilities	32,696	34,926	(2,230)	19,008
NET POSITION				
Invested in Capital Assets Net of Related Debt	8,090	8,293	(203)	8,477
Restricted				
Nonexpendable	374,566	330,301	44,265	309,718
Expendable	46,275	90,413	(44,138)	101,195
Unrestricted	21,035	24,378	(3,343)	26,404
Total Net Position	\$ 449,966	\$ 453,385	\$ (3,419)	\$ 445,794

University of Massachusetts				
Condensed Statement of Revenues, Expenses, and Changes in Net Position				
For the Year Ended June 30, 2016, 2015 and 2014				
(in thousands of dollars)				
	University June 30, 2016	University June 30, 2015	FY15-16 Change	University June 30, 2014
Operating Revenues				
Tuition and Fees (net of scholarship allowances)	\$ 826,815	\$ 765,218	\$ 61,597	\$ 740,116
Grants and Contracts	528,352	510,741	17,611	511,694
Auxiliary Enterprises	383,281	362,193	21,088	349,485
Other Operating Revenues	665,048	474,632	190,416	607,984
Total Operating Revenues	2,403,496	2,112,784	290,712	2,209,279
Operating Expenses	3,140,753	2,782,297	358,456	2,809,900
Operating Loss	(737,257)	(669,513)	(67,744)	(600,621)
Nonoperating Revenues / (Expenses)				
Federal Appropriations	6,827	6,619	208	7,020
State Appropriations	669,748	621,200	48,548	570,618
Interest on Indebtedness	(105,276)	(100,332)	(4,944)	(89,496)
Other Nonoperating Income	90,443	74,892	15,551	133,386
Nonoperating Federal Grants	75,743	76,539	(796)	74,279
Net Nonoperating Revenues	737,485	678,918	58,567	695,807
Income Before Other Revenues, Expenses, Gains and Losses	228	9,405	(9,177)	95,186
Capital Appropriations, Grants and Other Sources	172,557	118,405	54,152	134,369
Disposal of Plant Facilities	(10,462)	(12,120)	1,658	(6,198)
Other Additions / (Deductions)	(29,578)	(27,731)	(1,847)	(19,418)
Total Other Revenues, Expenses, Gains, and Losses	132,517	78,554	53,963	108,753
Total Increase in Net Position	132,745	87,959	44,786	203,939
Net Position				
Net Position at the Beginning of the Year	2,667,348	2,818,295	(150,947)	2,614,356
<i>Cumulative effect of change in accounting principle **</i>	-	(238,849)	(238,849)	-
<i>Net Position at the Beginning of the Year, adjusted</i>	2,667,348	2,579,389	87,959	2,614,356
Net Position at the End of the Year	\$ 2,800,093	\$ 2,667,348	\$ (106,161)	\$ 2,818,295

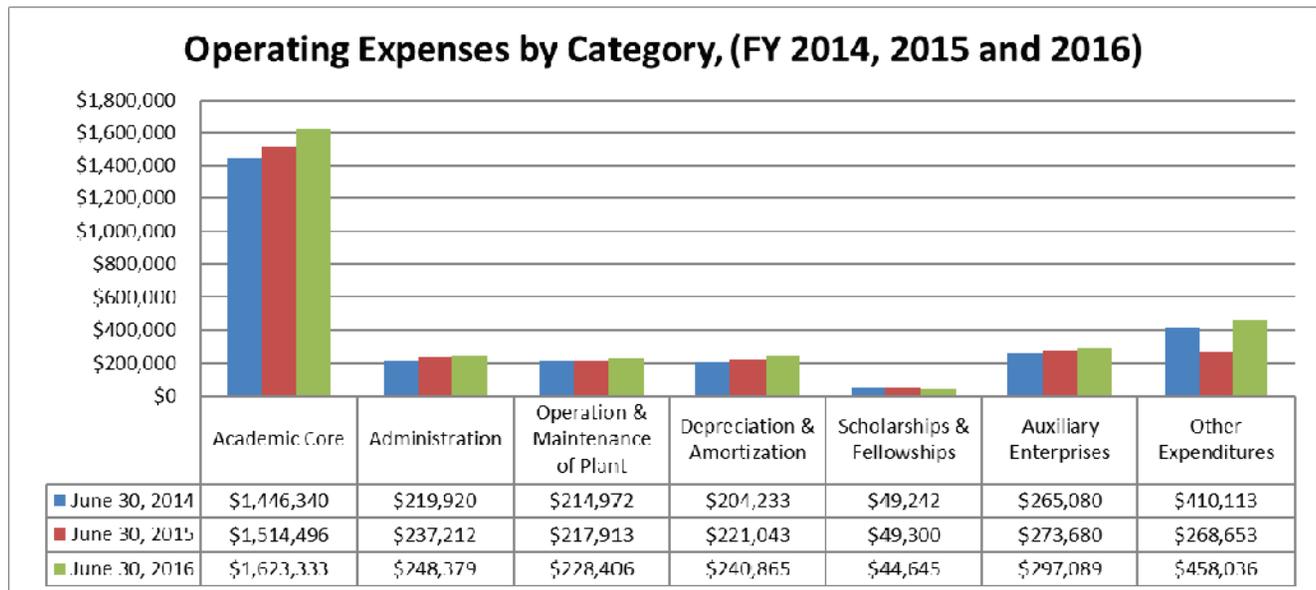
** Adoption of GASB 68 for the year ended 6/30/2015

University of Massachusetts				
Condensed Statement of Revenues, Expenses, and Changes in Net Position for University Related Organizations				
For the Years Ended June 30, 2016, 2015 and 2014				
(in thousands of dollars)				
	University Related Organizations June 30, 2016	University Related Organizations June 30, 2015	FY15-16 Change	University Related Organizations June 30, 2014
Operating Expenses	\$ 17,068	\$ 16,709	\$ 359	\$ 11,443
Operating Loss	(17,068)	(16,709)	359	(11,443)
Nonoperating Revenues / (Expenses)				
Other Nonoperating Income	20,351	18,480	1,871	54,982
Net Nonoperating Revenues	20,351	18,480	1,871	54,982
Income Before Other Revenues, Expenses, Gains and Losses	3,283	1,771	1,512	43,539
Additions to Permanent Endowments	25,864	21,618	4,246	17,566
Other Additions / Deductions	(32,566)	(15,798)	(16,768)	(1,523)
Total Other Revenues, Expenses, Gains, and Losses	(6,702)	5,820	(12,522)	16,043
Total Increase in Net Position	(3,419)	7,591	(11,010)	59,582
Net Position				
Net Position at the Beginning of the Year	453,385	445,794	7,591	386,212
Net Position at the End of the Year	\$ 449,966	\$ 453,385	\$ (3,419)	\$ 445,794



Total operating revenues for fiscal year 2016 were \$2.40 billion. This represents a \$290.7 million increase from the \$2.11 billion in operating revenues in fiscal year 2015. The most significant sources of operating revenue for the University are tuition and fees, grants and contracts, auxiliary services and public service activities at the Worcester Medical School campus categorized in the chart above as “Other Operating Revenues”. While not classified on the financial statements as operating revenue, state appropriations serve as a primary source for funding the core mission of the University. State appropriation revenue, described in detail in a section below, is used almost exclusively to fund payroll for University employees.

In fiscal year 2016, operating expenditures, including depreciation and amortization, totaled \$3.14 billion. Of this total, \$1.62 billion or 52% was used to support the academic core activities of the University, including \$434.2 million in research. In fiscal year 2015 operating expenditures, including depreciation and amortization totaled \$2.78 billion. The chart below displays fiscal years 2016, 2015 and 2014 operating spend.



Public Service Activities

Other operating revenues includes Public Service Activities and consists largely of sales and services provided to third parties by the UMass Medical School campus through its Commonwealth Medicine (“CWM”) programs, which provide public consulting and services in health care financing, administration and policy to federal, state and local agencies and not-for-profit health and policy organizations. Included in this category of activities are CWM revenues of \$283.8 million and \$268.7 million for the years ended June 30, 2016 and 2015, respectively. Included in expenditures are CWM expenditures of \$244.1 million and \$227.7 million for the years ended June 30, 2016 and 2015, respectively.

In addition to CWM activities, Public Service Activities also includes payments received by the Medical School for educational services it provides to its clinical affiliate UMass Memorial Health Care, Inc. ("UMass Memorial") as required by the enabling legislation enacted by the Commonwealth in 1997. Educational services revenues included in public service revenues were \$209.9 million and \$43.8 million for the years ended June 30, 2016 and 2015, respectively. Finally, Public Service Activity expenditures also include payments made to the Commonwealth of Massachusetts of \$166.0 million for the year ended June 30, 2016, pursuant to requirements of legislation enacted by the State Legislature of Massachusetts.

State Appropriations

In fiscal year 2016, state appropriations represent approximately 21% of all operating and non-operating revenues. The level of state support is a key factor influencing the University's overall financial condition. Although the state appropriation is unrestricted revenue, nearly 100% of the state appropriation supports payroll and benefits for University employees.

The net state appropriation for the University increased by \$48.55 million from fiscal year 2015, with the increase attributable to a higher level of State Appropriation and related fringe benefit support.

During the year ended June 30, 2016, the University reported \$30.6 million of tuition revenues remitted to the State Treasurer's Office for the general fund of the Commonwealth of Massachusetts. Through fiscal year 2016, the University is required to remit tuition revenue received to the Commonwealth. Therefore, the University collects student tuition on behalf of the Commonwealth and remits it to the Commonwealth's General Fund. The amount of tuition remitted to the Commonwealth was \$31.1 million in fiscal year 2015 and \$34.3 million in fiscal year 2014. There is no direct connection between the amount of tuition revenues collected by the University and the amount of state funds appropriated in any given year.

The amount of tuition retained by the University during 2016, 2015, and 2014 for out-of-state students was \$85.1 million, \$82.0 million, and \$75.8 million, respectively. Beginning in fiscal year 2017, the University has been granted the Legislative authority to retain all tuition in-state and out-of-state.

The following table details the Commonwealth operating appropriations received by the University for fiscal years ending June 30, 2016, 2015 and 2014:

	FY2016	FY2015	FY2014
Gross Commonwealth Appropriations	\$ 546,952	\$ 516,794	\$ 486,656
Plus: Fringe Benefits*	178,032	159,403	141,881
	724,984	676,197	628,537
Less: Mandatory Waivers	(24,653)	(23,942)	(23,594)
Less: Tuition Remitted	(30,583)	(31,055)	(34,325)
Net Commonwealth Support	\$ 669,748	\$ 621,200	\$ 570,618

**The Commonwealth pays the fringe benefits for University employees paid from Commonwealth operating appropriations. Therefore, such fringe benefit support is added to the "State Appropriations" financial statement line item as presented in the above table. The University pays the Commonwealth for the fringe benefit cost of the employees paid from funding sources other than Commonwealth operating appropriations.*

Capital Appropriations from the Commonwealth

The University faces a financial challenge to maintain and upgrade its capital assets including its infrastructure, buildings and grounds. In order to have a successful capital program, the University must rely on a combination of revenue sources to fund its investment. In fiscal year 2016, there was \$121.3 million of capital support provided to the University through appropriations and grants from the Commonwealth. This funding is attributed to the Commonwealth's Division of Capital Asset Management ("DCAM") which funded several large capital projects in fiscal year 2016 through the State's Higher Education Bond Bill and Life Sciences Bond Bill, which were passed in 2008 and have projects funded on each of the campuses. The completion of major construction projects managed by DCAM are underway at all five of the University's campuses and current bond support continues for key projects in the plan.

Grant and Contract Revenue

Collectively, the University's Amherst Campus and Medical School in Worcester account for approximately 76% of University grant and contract activity. The Boston, Dartmouth, and Lowell campuses continue to have significant sponsored research activity.

The following table details the University's grant and contract revenues (in thousands) for the fiscal years ended June 30, 2016, 2015 and 2014:

	FY2016	FY2015	FY2014
Federal Grants and Contracts	\$ 329,403	\$ 313,754	\$ 322,047
State Grants and Contracts	75,306	70,871	74,996
Local Grants and Contracts	2,445	1,717	2,223
Private Grants and Contracts	121,198	124,399	112,428
Total Grants and Contracts	\$ 528,352	\$ 510,741	\$ 511,694

Discretely Presented Component Units

University of Massachusetts Foundation, Inc.

The combined University and Foundation endowment has decreased to approximately \$734.2 million at June 30, 2016 from \$768.4 million at June 30, 2015 and from \$757.5 million at June 30, 2014.

The Foundation utilizes the pooled investment concept whereby all invested funds are in one investment pool, except for investments of certain funds that are otherwise restricted. Pooled investment funds will receive an annual distribution of 4% of the endowment fund's average market value for the preceding twelve quarters on a one-year lag. Only quarters with funds on deposit shall be included in the average. In addition, a prudence rule will be utilized to limit spending from a particular endowment fund to no lower than 93% of its book value. The Foundation distributed \$27.3 million (4%) and \$24.6 million (4%) in fiscal year 2016 and 2015, respectively.

The total investment loss of the Foundation for fiscal year 2016 was \$39.1 million as compared to 2015, which, including realized and unrealized investment activity, was a net loss of approximately \$5.7 million. This is consistent with investment return performance at other institutions.

University of Massachusetts Dartmouth Foundation, Inc.

Total marketable securities for the Dartmouth Foundation were \$52.7 million at June 30, 2016 down from \$54.8 million at June 30, 2015, which are held by the University of Massachusetts Foundation, Inc. The Dartmouth Foundation total investment loss for fiscal year 2016, including realized and unrealized investment activity, was a net loss of \$1.9 million as compared to a net gain of \$4 million in 2015.

Tuition and Fees

For academic years 2013-2014 and 2014-2015, the Board of Trustees voted to freeze the mandatory curriculum fee for in state undergraduate students based on the increase to the State appropriation. For academic year 2015-2016, tuition was raised on average 7.2% which included a new mandatory technology fee at each of the campuses. For academic year 2016-2017, tuition was raised an average 5.6% for in-state undergraduate students. Affordability will continue to be a priority of the University and increases in fees will be considered in conjunction with State support on an annual basis.

Enrollment

Admission to the University is open to residents of the Commonwealth and non-residents on a competitive basis. In the fall 2015 semester, Massachusetts residents accounted for approximately 81.4% and 52.5% of the University's total undergraduate and graduate enrollment, respectively. Total enrollment in the fall of 2015 was 63,333 FTE (73,744 headcount students). Enrollments at the University have shown significant increases over the last five years (58,564 FTE in fall 2010). The 8% enrollment growth is consistent with the University's efforts to increase its reach across the Commonwealth and to recruit non-resident students and is reflective of the quality education provided by the University of Massachusetts.

Degrees Awarded

The University awards four levels of degrees, as follows: associate, bachelors, masters and doctoral/professional degrees. A total of 17,851 degrees were awarded in the 2014-2015 academic year reflecting a 3.9% increase from the previous year. Of these awards, 66.5% were at the undergraduate level and 21.9% were at the graduate level. The remaining were associates degrees and undergraduate certificates.

Bonds Payable

As of June 30, 2016, the University had outstanding bonds of approximately \$2.98 billion representing \$2.83 billion of University of Massachusetts Building Authority bonds (the "Building Authority Bonds"), \$56.5 million of University of Massachusetts bonds financed through the Massachusetts Health and Educational Facilities Authority which has been merged into MassDevelopment (the "UMass HEFA Bonds"), and \$93.2 million of bonds financed through the Worcester City Campus Corporation (the "WCCC Bonds"). Bonds payable is the University's largest liability at June 30, 2016. The Building Authority's active projects include residence hall construction and renovation, renovation of general education buildings, replacement of core infrastructure, and construction of academic, laboratory, and research facilities. The proceeds from the UMass HEFA Bonds were used to create a revolving loan program and to fund the construction of two new campus centers at the Boston and Lowell campuses (funded jointly with the Commonwealth).

On July 3, 2014, the Building Authority issued \$67.4 million of Refunding Revenue Bonds, Senior Series 2014-3 (the “2014-3 Bonds”). The 2014-3 Bonds included a premium of \$12.0 million. The 2014-3 Bonds are tax-exempt and mature at various dates through 2029. The interest on the bonds is payable semi-annually each November 1st and May 1st and the interest rates on the bonds range from 2.0% to 5.0%. The 2014-3 Bonds were issued to refinance a portion of the Massachusetts Health and Educational Facilities Authority’s Revenue Bonds, Worcester City Campus Corporation Issue (University of Massachusetts Project), Series D (2005).

On March 25, 2015, the Building Authority issued \$298.8 million of Project Revenue Bonds, Senior Series 2015-1 (the “2015-1 Bonds”) and \$191.8 million of Refunding Revenue Bonds, Senior Series 2015-2 (the “2015-2 Bonds”). The 2015-1 Bonds included a premium of \$35.7 million. The 2015-1 Bonds are tax-exempt and mature at various dates through 2045. The interest on the 2015-1 Bonds is payable semi-annually each November 1st and May 1st and the interest rates on the 2015-1 Bonds range from 4.0% to 5.0%. The 2015-2 Bonds included a premium of \$34.0 million. The 2015-2 Bonds are tax-exempt and mature at various dates through 2036. The interest on the 2015-2 Bonds is payable semi-annually each November 1st and May 1st and the interest rates on the 2015-2 Bonds range from 3.0% to 5.0%. The 2015-2 Bonds were issued to refinance a portion of the Massachusetts Health and Educational Facilities Authority’s Revenue Bonds, Worcester City Campus Corporation Issue (University of Massachusetts Project), Series E & F (2007).

University Rating

The University is relying on a carefully planned and executed debt strategy to support master and strategic planning at the campuses and for the University as a whole. Bonds issued by the University of Massachusetts and the University of Massachusetts Building Authority are rated AA, Aa2 and AA- as rated by Fitch, Moody’s and Standard & Poor’s rating agencies, respectively.

Limitations on Additional Indebtedness

The University may, without limit, issue additional indebtedness or request the Building Authority to issue additional indebtedness on behalf of the University so long as such indebtedness is payable from all available funds of the University. However, the University may request that the Building Authority issue additional indebtedness not payable from all available funds of the University provided that the additional indebtedness is secured by certain pledged revenues and the maximum annual debt service on all revenue indebtedness does not exceed 8% of the University’s available revenues.

The Building Authority is authorized by its enabling act to issue bonds with the unconditional guarantee of the Commonwealth of Massachusetts for the punctual payment of the interest and principal payments on the guaranteed bonds. The full faith and credit of the Commonwealth are pledged for the performance of its guarantee. The enabling act, as amended, presently limits to \$200 million the total principal amount of notes and bonds of the Building Authority that may be Commonwealth guaranteed and outstanding at any one time. The amount of bond obligations guaranteed by the Commonwealth at June 30, 2016 and 2015 was \$117.4 million and \$121.6 million, respectively.

Capital Plan

In September 2016, the University’s Trustees approved a five-year (fiscal years 2017-2021) update to its capital plan with \$2.30 billion of projects approved to continue or commence over the next 24 months. The University generally has funded its capital plans through a combination of funding received from University operations, bonds issued by the University of Massachusetts Building Authority and MassDevelopment, Commonwealth appropriations, and private fundraising. The execution of certain projects from the University’s capital plan is due to funding from the Commonwealth through the Higher Education and Life Sciences Bond Bills.

Campus	Total Approved Capital Projects (in millions and as of September 2016)
Amherst	\$739,650
Boston	\$889,150
Dartmouth	\$94,746
Lowell	\$357,000
Worcester	\$216,314
TOTAL	\$2,296,860
# of Projects	78

The University’s five-year capital plan for fiscal years 2017-2021 includes major projects that were previously approved by the University Trustees in prior-year capital plans. In recent years, the University enhanced its policy regarding the approval of capital projects to ensure a clear process and to provide for multiple reviews during the process so that the President’s Office, Building Authority and the Board of Trustees (the Board) are actively involved. Since the capital program requires significant investment, the President’s office and the Board wanted to ensure that the proper steps were in place for reviewing and approving projects so that the University continues to live within its current capital and debt policies.

Factors Impacting Future Periods

There are a number of issues of University-wide importance that directly impact the financial operations of the University. Many of these issues, such as improving academic quality, realizing strong financial results, investing in capital assets, expanding fundraising capacity, operating more efficiently, being the most effective University for students and the Commonwealth given the available resources, and measuring performance are ongoing activities of continuous importance to the Board of Trustees and

University leadership that impact the financial and budget planning each year. The level of state support, the impact of collectively bargained wage increases, and the ability of student-fee supported activities to meet inflationary pressures determine the limits of program expansion, new initiatives and strategic investments, as well as the ability of the University to meet its core mission and ongoing operational needs.

In spite of investing more than \$3.5 billion on capital improvements over the last decade, the University's FY17-22 capital plan projects spending another \$2.2 billion over the next five years. The commitment of operating funds for servicing debt and/or funding capital expenditures has an ongoing impact on the overall financial position of the University. In order to support the University's capital plan, the University of Massachusetts Building Authority will be issuing new bonds for renovations, new construction, and deferred maintenance projects at the Amherst, Boston, Dartmouth, Lowell, and Worcester campuses in support of the capital plan.

The University, as well as Legislative and Executive Leadership in the Commonwealth, understand that despite the significant level of capital activity being financed through University debt, a much higher level of state support needs to be dedicated to higher education facilities. As such, the Massachusetts Legislature passed a higher education bond bill in August 2008. The Higher Education Improvement Act authorized \$2.2 billion for capital improvement spending over the next ten years at community colleges, state universities, and the University. More than \$1 billion of these funds are directed to University projects exclusively. Although the financial challenges faced by the Commonwealth have slowed down the pace of this funding, the University continues to work to ensure that critical needs are met.

In addition, a major state effort to assist the Commonwealth in increasing its competitive position in the Life Sciences Industry was signed into law by the Governor on June 16, 2008. The \$1 billion Life Sciences Industry Investment Act authorized \$500 million of capital funding over ten years. It is anticipated that some portion of this funding, possibly as much as \$242 million, will be used to support facility improvements at the University. \$90 million has already been dedicated to partially fund the Sherman Center at the University's Medical School in Worcester. Additionally, \$95 million has been provided for a research facility at the Amherst Campus and significant capital investments in collaborative facilities and programs involving the Boston, Dartmouth, and Lowell campuses.

In addition to capital funding, the life sciences initiative provides a number of opportunities for the University to participate in the planning and program implementation of this important economic development effort.

The University is working with UMBA on a Public-Private Partnership with Capstone Development Partners, LLC, for the development and management of the first residential facility to be located on the University's Boston campus. The \$115.6M project will include living-learning space, approximately 1,082-beds, and 263,000 gross square feet. The project will also contain a 1st floor commons that includes a University-wide dining facility, which will be separately funded by the University. The project is expected to be completed for use in the Fall 2018 semester.

Research funding for the University of Massachusetts was strong despite Federal sequestration of funds. For the University, research expenditures were \$628.8 million in fiscal year 2015 and \$603 million in fiscal year 2014. Most research at the University is externally funded, with the federal government providing a majority of the funding through the National Institutes of Health, the National Science Foundation, and other sources. Among Massachusetts colleges and universities, UMass ranks third in research and development expenditures, behind only MIT and Harvard. The University, as well as most major public research universities across the United States, is closely monitoring the potential reduction in federal funding for research and development programs.

In recent years the online learning consortium of the University, UMassOnline, has shown significant growth in enrollments, course offerings and revenue generation benefiting the campuses and raising the profile of the University throughout this important sector of the higher education market. UMassOnline provides marketing and technology support for UMass' online offerings that enable students, professionals, and lifelong learners to take courses anywhere, anytime. With over 150 undergraduate and graduate degree, certificate and professional development programs and more than 1,500 courses available from University faculty, UMassOnline is one of the largest accredited online programs available.

For fiscal year 2016, UMassOnline and the Continuing Education units at the five campuses collaboratively generated tuition revenue in excess of \$96 million and supported 70,864 course enrollments, an increase of 7.2% for revenue and an increase of 6.1% for course enrollments as compared to fiscal year 2015.

The fiscal year 2015 budget approved in July 2014 provided for a base state appropriation of \$519.0 million. This investment, along with the additional fringe support, allowed the University to freeze the mandatory curriculum fee for the second consecutive year for in state undergraduate students. However, the State did not fund the first year of collective bargaining contracts to date that cost approximately \$13.1 million in State support. Although \$2.2 million of the collective bargaining costs were received in fiscal year 2015, the University did not receive the remaining \$10.9 million until the next fiscal year. Additionally, the University was issued a 9C budget reduction in February 2015 totaling \$7.8 million which was absorbed into operations.

The fiscal year 2016 budget approved in July 2015 totaled \$531.8 million. The additional \$10.6 million provided for a portion of the fiscal year 2016 collective bargaining agreement costs however did not support the full costs or the amount not funded in fiscal year 2015. In late fiscal year 2016 supplemental funding totaling \$10.9 million was provided to support the outstanding fiscal year 2015 collective bargaining costs. Unfortunately, this was not carried into the University's base funding for fiscal year 2017.

In July 2016 the State approved the FY17 budget for the University totaling \$508.3 million. While this is a reduction of \$3.5

million below the FY16 total available spending it appears much larger as the State also adjusted the appropriation to account for the University retaining all tuition in FY17. Last year, the State passed legislation to allow the University to retain all tuition. While the University was granted the ability to retain out of State Tuition in FY12, in state tuition continued to be remitted to the State annually. The FY17 budget is the first year that all tuition will be retained by the University resulting in an approximately \$31 million reduction in State appropriation to make the change have a net zero impact on both the State and University.

Contacting the University

This financial report is designed to provide the University, the Commonwealth, the public and other interested parties with an overview of the financial results of the University and an explanation of the University's financial condition. If you have any questions about this report or require additional information, you can contact the University by calling the University Controller, Sarah Mongeau, at (774) 455-7520 or by email at smongeau@umassp.edu.

This page is intentionally left blank

University of Massachusetts
Consolidated Statements of Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)

	University June 30, 2016	University Related Organizations June 30, 2016	University June 30, 2015	University Related Organizations June 30, 2015
ASSETS				
Current Assets				
Cash and Cash Equivalents	\$101,207		\$89,965	
Cash Held By State Treasurer	8,888		27,597	
Accounts, Grants and Loans Receivable, net	244,178		249,517	
Pledges Receivable, net	7,464	\$371	10,620	\$500
Short Term Investments	206,266		265,248	
Inventories, net	18,006		17,472	
Accounts Receivable from UMass Memorial	35,724		17,463	
Due From Related Organizations	69	193	59	203
Other Assets	56,125	55	14,738	670
Total Current Assets	677,927	619	692,679	1,373
Noncurrent Assets				
Cash and Cash Equivalents		1,475		2,018
Cash Held By State Treasurer	8,342		5,403	
Cash and Securities Held By Trustees	486,015		707,061	
Accounts, Grants and Loans Receivable, net	38,526		38,382	
Pledges Receivable, net	17,595	1,690	6,275	293
Investments	734,205	468,260	737,788	476,272
Other Assets	9,345	2,528	6,512	62
Investment In Plant, net	4,615,776	8,090	4,333,761	8,293
Total Noncurrent Assets	5,909,804	482,043	5,835,182	486,938
Total Assets	\$6,587,731	\$482,662	\$6,527,861	\$488,311
DEFERRED OUTFLOWS OF RESOURCES				
Deferred Change in Fair Value of Interest Rate Swaps	\$65,428		\$51,059	
Loss on Debt Refunding	80,851		80,312	
Pensions	147,153		47,039	
Total Deferred Outflows of Resources	\$293,432		\$178,410	
LIABILITIES				
Current Liabilities				
Accounts Payable	\$105,652	\$64	\$120,090	\$691
Accrued Salaries and Wages	112,521		127,341	
Accrued Compensated Absences	80,730		76,634	
Accrued Workers' Compensation	3,252		3,495	
Accrued Interest Payable	21,976		22,650	
Bonds Payable	332,996		398,015	
Capital Lease Obligations	169		170	
Accelerated variable rate debt, current	5,000		6,000	
Assets Held on behalf of Others		27,837		29,284
Accounts Payable to UMass Memorial	3,707		2,787	
Due To Related Organizations	193	69	203	59
Unearned Revenues and Credits	44,041	1,224	45,530	1,387
Advances and Deposits	6,712		6,191	
Other Liabilities	57,888		47,354	
Total Current Liabilities	774,837	29,194	856,460	31,421
Noncurrent Liabilities				
Accrued Compensated Absences	35,671		31,813	
Accrued Workers' Compensation	12,160		10,886	
Bonds Payable	2,646,626		2,685,235	
Capital Lease Obligations	429		562	
Derivative Instruments, Interest Rate Swaps	90,478		71,054	
Net Pension Liability	408,418		237,135	
Unearned Revenues and Credits	23,936		26,821	
Advances and Deposits	27,705		28,621	
Other Liabilities	48,760	3,502	41,583	3,505
Total Noncurrent Liabilities	3,294,183	3,502	3,133,710	3,505
Total Liabilities	\$4,069,020	\$32,696	\$3,990,170	\$34,926
DEFERRED INFLOWS OF RESOURCES				
Pensions	\$12,050		\$48,753	
Net Position:				
Invested in Capital Assets Net of Related Debt	\$2,013,966	\$8,090	\$1,887,941	\$8,293
Restricted				
Nonexpendable	18,384	374,566	18,378	328,226
Expendable	218,272	46,275	169,591	92,488
Unrestricted	549,471	21,035	591,438	24,378
Total Net Position	\$2,800,093	\$449,966	\$2,667,348	\$453,385

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

University of Massachusetts
Consolidated Statements of Revenues, Expenses, and Changes in Net Position
For The Years Ended June 30, 2016 and 2015
(in thousands of dollars)

	University Related		University Related	
	University	Organizations	University	Organizations
	June 30, 2016	June 30, 2016	June 30, 2015	June 30, 2015
REVENUES				
Operating Revenues				
Tuition and Fees (net of scholarship allowances of \$244,025 at June 30, 2016 and \$212,469 at June 30, 2015)	\$826,815		\$765,218	
Federal Grants and Contracts	329,403		313,754	
State Grants and Contracts	75,306		70,871	
Local Grants and Contracts	2,445		1,717	
Private Grants and Contracts	121,198		124,399	
Sales and Service, Educational	27,500		25,601	
Auxiliary Enterprises	383,281		362,193	
Other Operating Revenues:				
Sales and Service, Independent Operations	47,613		48,368	
Sales and Service, Public Service Activities	476,831		295,429	
Other	113,104		105,234	
Total Operating Revenues	2,403,496		2,112,784	
EXPENSES				
Operating Expenses				
<i>Educational and General</i>				
Instruction	794,691		712,430	
Research	434,213		433,586	
Public Service	71,457	\$16,502	72,910	\$16,359
Academic Support	181,057		167,582	
Student Services	141,915		127,988	
Institutional Support	248,379		237,212	
Operation and Maintenance of Plant	228,406		217,913	
Depreciation and Amortization	240,865	202	221,043	201
Scholarships and Fellowships	44,645	364	49,300	149
<i>Auxiliary Enterprises</i>	297,089		273,680	
<i>Other Expenditures</i>				
Independent Operations	47,930		40,961	
Public Service Activities	410,106		227,692	
Total Operating Expenses	3,140,753	17,068	2,782,297	16,709
Operating Loss	(737,257)	(17,068)	(669,513)	(16,709)
NONOPERATING REVENUES/(EXPENSES)				
Federal Appropriations	6,827		6,619	
State Appropriations	669,748		621,200	
Gifts	42,415	18,783	30,351	17,111
Investment Income	29,381	182	29,579	(18)
Unrealized Loss on Investments	(7,633)		(11,327)	
Endowment Income Distributed for Operations	24,740	1,386	23,362	1,387
Interest on Indebtedness	(105,276)		(100,332)	
Nonoperating Federal Grants	75,743		76,539	
Other Nonoperating Income	1,540		2,927	
Net Nonoperating Revenues	737,485	20,351	678,918	18,480
Income Before Other Revenues, Expenses, Gains, and Losses	228	3,283	9,405	1,771
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES				
Capital Appropriations	121,298		62,582	
Capital Grants and Contracts	51,259		55,823	
Endowment Loss, net of amount used for operations	(28,958)	(36,524)	(13,086)	(16,057)
Additions to Permanent Endowments		25,864	920	21,618
Capital Contribution	2,985			
Disposal of Plant Facilities	(10,462)		(12,120)	
Other Additions/(Deductions)	(3,605)	3,958	(15,565)	259
Total Other Revenues, Expenses, Gains, and Losses	132,517	(6,702)	78,554	5,820
Total Increase in Net Position	132,745	(3,419)	87,959	7,591
NET POSITION				
Net Position at Beginning of Year	2,667,348	453,385	2,579,389	445,794
Net Position at End of Year	\$2,800,093	\$449,966	\$2,667,348	\$453,385

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

University of Massachusetts
Consolidated Statements of Cash Flows
For The Years Ended June 30, 2016 and 2015
(in thousands of dollars)

	University June 30, 2016	University June 30, 2015
CASH FLOWS FROM OPERATING ACTIVITIES		
Tuition and Fees	\$829,654	\$802,554
Grants and Contracts	791,533	778,001
Payments to Suppliers	(1,295,707)	(1,046,986)
Payments to Employees	(1,444,036)	(1,352,448)
Payments for Benefits	(354,120)	(295,584)
Payments for Scholarships and Fellowships	(44,635)	(49,294)
Loans Issued to Students and Employees	(5,596)	(5,899)
Collections of Loans to Students and Employees	7,099	8,668
Auxiliary Enterprises Receipts	369,715	354,192
Sales and Service, Educational	24,328	22,720
Sales and Service, Independent Operations	57,451	54,621
Sales and Service, Public Service Activities	493,461	317,039
Net Cash Used for Operating Activities	(570,853)	(412,417)
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
State Appropriations	724,985	676,197
Tuition Remitted to the State	(30,583)	(31,055)
Federal Appropriations	6,827	6,619
Gifts and Grants for Other Than Capital Purposes	26,831	27,106
Nonoperating Federal Grants	75,743	76,539
Student Organization Agency Transactions	527	(431)
Net Cash Provided by Noncapital Financing Activities	804,330	754,975
CASH FLOWS FROM CAPITAL AND OTHER FINANCING ACTIVITIES		
Proceeds from Capital Debt	8,668	365,501
Bond Issuance Costs Paid	2	(789)
Capital Appropriations	121,297	62,497
Capital Grants and Contracts	58,759	50,199
Purchases of Capital Assets and Construction	(191,039)	(152,369)
Principal Paid on Capital Debt and Leases	(78,287)	(161,296)
Interest Paid on Capital Debt and Leases	(113,746)	(106,625)
Use of Debt Proceeds on Deposit with Trustees	(321,964)	(330,330)
Net Cash Used for Capital Financing Activities	(516,310)	(273,212)
CASH FLOWS FROM INVESTING ACTIVITIES		
Proceeds from Sales and Maturities of Investments	1,138,588	876,156
Interest on Investments	8,862	8,651
Purchase of Investments	(1,090,191)	(928,361)
Net Cash Provided by (Used for) Investing Activities	57,259	(43,554)
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	(225,574)	25,792
Cash and Cash Equivalents - Beginning of the Year	830,026	804,234
Cash and Cash Equivalents - End of Year	\$604,452	\$830,026
RECONCILIATION OF OPERATING LOSS TO NET CASH USED BY OPERATING ACTIVITIES		
Operating Loss	(\$737,257)	(\$669,513)
<i>Adjustments to reconcile loss to net cash used by Operating Activities:</i>		
Depreciation and Amortization Expense	240,865	221,043
<i>Changes in Assets and Liabilities:</i>		
Receivables, net	(2,969)	(15,355)
Inventories	(534)	(1,174)
Due to/from Related Organizations		(273)
Accounts Receivable/Payable UMass Memorial	(17,341)	22,267
Other Assets	(44,077)	(5,067)
Accounts Payable (non-capital)	(17,821)	3,419
Accrued Liabilities	(5,835)	18,671
Deferred Revenue	(4,374)	10,185
Advances and Deposits	(395)	(194)
Other Liabilities	18,885	3,574
Net Cash Used for Operating Activities	(570,853)	(412,417)
SUPPLEMENTAL DISCLOSURE OF NONCASH ACTIVITIES:		
Bonds to refund existing debt		302,388
Assets acquired and included in accounts payable and other liabilities	63,109	\$59,726

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

**University of Massachusetts
Notes to Consolidated Financial Statements
June 30, 2016 and 2015**

1. SUMMARY OF ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES

ORGANIZATION

The consolidated financial statements herein present the financial position, results of operations, changes in net position, and cash flows of the University of Massachusetts ("University"), a federal land grant institution. The financial statements of the University include the Amherst, Boston, Dartmouth, Lowell and Worcester Medical School campuses, and the Central Administration office of the University, Worcester City Campus Corporation ("WCCC"), the University of Massachusetts Amherst Foundation ("UMass Amherst Foundation"), as well as the University of Massachusetts Building Authority ("the Building Authority").

The Building Authority is a public instrumentality of the Commonwealth created by Chapter 773 of the Acts of 1960 (referred to as the "Enabling Act"), whose purpose is to provide dormitories, dining commons, and other buildings and structures for use by the University. WCCC is a tax exempt organization founded to support research and real property activities for the University. The UMass Amherst Foundation was established in 2003 as a tax exempt organization founded to foster and promote the growth, progress, and general welfare of the University. These component units are included in the financial statements of the University because of the significance and exclusivity of their financial relationships with the University.

The University Related Organizations column in the accompanying financial statements includes the financial information of the University's discretely presented component units. The University of Massachusetts Foundation, Inc. ("Foundation") and the University of Massachusetts Dartmouth Foundation, Inc. ("Dartmouth Foundation") are related tax exempt organizations founded to foster and promote the growth, progress and general welfare of the University, and are reported in a separate column to emphasize that they are Massachusetts not-for-profit organizations legally separate from the University. These component units are included as part of the University's financial statements because of the nature and the significance of their financial relationship with the University. The financial statement presentation of the discretely presented component units has been reclassified to conform to the University presentation. The financial reports of all above mentioned component units are available upon request from the University.

The University is an enterprise fund of the Commonwealth of Massachusetts ("Commonwealth"). The financial balances and activities included in these financial statements are, therefore, also included in the Commonwealth's comprehensive annual financial report.

BASIS OF PRESENTATION

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America as prescribed by the Governmental Accounting Standards Board ("GASB") using the economic resources measurement focus and the accrual basis of accounting. These financial statements are reported on a consolidated basis, and all intra-University transactions are eliminated.

Operating revenues consist of tuition and fees, grants and contracts, sales and services of educational activities (including royalties from licensing agreements) and auxiliary enterprise revenues. Operating expenses include salaries, wages, fringe benefits, utilities, subcontracts on grants and contracts, supplies and services (including independent operations and public service activities), and depreciation and amortization. All other revenues and expenses of the University are reported as non-operating revenues and expenses including state general appropriations, federal appropriations, non-capital gifts, short term investment income, endowment income used in operations, interest expense, and capital additions and deductions. Other revenues, expenses, gains and losses represent all capital items, other changes in long term plant, and changes in endowment net position. Revenues are recognized when earned and expenses are recognized when incurred with the exception of revenue earned on certain public service activities. Restricted grant revenue is recognized only when all eligibility requirements have been met. Contributions, including unconditional promises to give (pledges) for non-endowment or non-capital purposes, are recognized as revenues in the period received. Pledges to restricted non-expendable endowments are recognized as revenues in the period received. Conditional promises to give are not recognized until they become unconditional, that is when the conditions on which they depend are substantially met. The University applies restricted net assets first when an expense or outlay is incurred for purposes for which both restricted and unrestricted net assets are available.

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, and disclosures of contingencies at the date of the financial statements, revenues and expenditures recognized during the reporting period. Significant estimates include the accrual for employee compensated absences, and workers' compensation liability, the allowance for doubtful accounts, valuation of certain investments, amounts recorded in connection with the pension obligation and the related defined inflows and outflows. Actual results could differ from those estimates.

The University reports its financial statements as a "business-type activity" ("BTA") under GASB Statement No. 35, *Basic Financial Statements – and Management's Discussion and Analysis – for Public Colleges and Universities* (GASB 35). BTAs are defined as activities are financed in whole or in part by fees charged to external parties for goods or services.

In order to ensure observance of limitations and restrictions placed on the use of available resources, the accounts of the University are maintained internally in accordance with the principles of fund accounting. This is the procedure by which resources for

various purposes are maintained in separate funds in accordance with the activities or objectives specified. GASB 35 establishes standards for external financial reporting by public colleges and universities that resources be classified into the following net position categories:

- **Invested in capital assets, net of related debt:** Capital assets, at historical cost or fair market value on date of gift, net of accumulated depreciation and outstanding principal balances of debt attributable to the acquisition, construction or improvement of those assets.
- **Restricted Nonexpendable:** Resources subject to externally imposed stipulations that they be maintained permanently by the University.
- **Restricted Expendable:** Resources whose use by the University is subject to externally imposed stipulations. Such assets include restricted grants and contracts, the accumulated net gains/losses on true endowment funds, as well as restricted funds loaned to students, restricted gifts and endowment income, and other similar restricted funds.
- **Unrestricted:** Resources that are not subject to externally imposed stipulations. Substantially all unrestricted net assets are designated to support academic, research, auxiliary enterprises or unrestricted funds functioning as endowments, or are committed to capital construction projects.

Revenues are reported net of discounts and allowances. As a result, student financial aid expenditures are reported as an allowance against tuition and fees revenue while stipends and other payments made directly to students are recorded as scholarship and fellowship expenditures on the statements of revenues, expenses, and changes in net position. Discounts and allowances for tuition and fees and auxiliary enterprises are calculated using the Alternate Method which reports tuition and fee revenue net of scholarship allowances.

ADOPTION OF ACCOUNTING PRONOUNCEMENTS

For the year ended June 30, 2016, the University adopted the provisions of GASB Statement No.72, "Fair Value measurements and Application" ("GASB 72"). This statement addresses the accounting and financial reporting issues related to fair value measurements, as well as requires certain disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. GASB 72 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This statement also provides guidance for determining a fair value measurement for financial reporting purposes, as well as for applying fair value to certain investments and swap counterparties at the measurement date. The University assessed the impact of GASB No. 72 on its financial statements and has added required disclosures of assets and liabilities reported at fair value in accompanying financial statements. The determination of fair value as it relates to the interest rate swaps was also impacted by the adoption of GASB 72. As the amounts were immaterial, the University did not adjust the fair value of this liability at June 30, 2015. Implementation of GASB 72 did not have any impact on the net position of the University.

NEW GASB PRONOUNCEMENTS

In June 2015 the GASB released Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The primary objective of this Statement is to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits or OPEB). It also improves information provided by state and local governmental employers about financial support for OPEB that is provided by other entities. This Statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*. Management is evaluating the impact this pronouncement will have on the University.

CLASSIFICATION OF ASSETS AND LIABILITIES

The University presents current and non-current assets and liabilities in the statements of net position. Assets and liabilities are considered current if they mature in one year or less, or are expected to be received, used, or paid within one year or less. Investments with a maturity of greater than one year and balances that have externally imposed restrictions as to use are considered non-current. Cash Held by State Treasurer includes balances with restrictions as to use and balances that may be rolled forward for use toward the restricted purposes in future years, and such balances are classified as non-current. Cash held by trustees is presented based upon its expected period of use and the restrictions imposed on the balances by external parties.

CASH AND CASH EQUIVALENTS AND INVESTMENTS

Cash and cash equivalents consist primarily of petty cash, demand deposit accounts, savings accounts, and money market accounts with a maturity of three months or less when purchased.

Investments are reported at their respective fair values. Short-term investments consist of deposits with original maturities of less than one year and are available for current use. Securities received as a gift are recorded at estimated fair value at the date of the gift.

Private equity and certain other non-marketable securities held by the Foundation are valued using current estimates of fair value by management based on information provided by the general partner or investment manager for the respective securities. The Foundation believes that the carrying amounts of these investments are a reasonable estimate of fair value, however, their estimated value is subject to uncertainty and therefore may differ from the value that would have been used had a ready market for such

investment existed. Venture capital investments represent initial investments made to certain funds and are reported at fair value based on company stock price.

Investment securities are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the accompanying financial statements.

Investment income includes dividends and interest income and is recognized on the accrual basis. In computing realized gains and losses, cost is determined on a specific identification basis.

RESTRICTED GRANTS AND CONTRACTS

The University receives monies from federal and state government agencies under grants and contracts for research and other activities including medical service reimbursements. The University records the recovery of indirect costs applicable to research programs, and other activities which provide for the full or partial reimbursement of such costs, as revenue. Recovery of indirect costs for the years ended June 30, 2016 and 2015 was \$119.0 million and \$112.2 million, respectively, and is a component of grants and contracts revenue. The costs, both direct and indirect, charged to these grants and contracts are subject to audit by the granting agency. The University believes that any audit adjustments would not have a material effect on the University's financial statements.

PLEDGES AND ENDOWMENT SPENDING

Pledges for non-endowment purposes are presented net of amounts deemed uncollectible, and after discounting to the present value of the expected future cash flows. Because of uncertainties with regard to whether they are realizable, bequests and intentions and other conditional promises are not recognized as assets until the specified conditions are met.

The Foundation utilizes the pooled investment concept whereby all invested funds are in one investment pool, except for investments of certain funds that are otherwise restricted. Pooled investment funds will receive an annual distribution of 4% of the endowment fund's average market value for the preceding twelve quarters on a one year lag. Only quarters with funds on deposit shall be included in the average. In addition, a prudence rule will be utilized limiting spending from a particular endowment fund to no lower than 93% of its book value. The actual spending rate approved was 4% for 2016 and 2015. Future utilization of gains is dependent on market performance. Deficiencies for donor-restricted endowment funds resulting from declines in market value would be offset by an allocation from unrestricted net position to restricted expendable net position, and would be recorded in realized and unrealized gains (losses) on sale of investments. In fiscal years 2016 and 2015, the deficiencies were \$3.2 million and \$0.1 million respectively. The Foundation believes that these adjustments are temporary and will not require permanent funding.

INVENTORIES

The University's inventories consist of books, general merchandise, central stores, vaccines, and operating supplies which are carried at the lower of cost (first-in, first-out and average cost methods) or market value.

INVESTMENT IN PLANT

Capital assets are stated at cost or fair value upon receipt as a gift. Net interest costs incurred during the construction period for major capital projects are capitalized. Repairs and maintenance costs are expensed as incurred, whereas major improvements that extend the estimated useful lives of the assets are capitalized as additions to property and equipment. Depreciation of capital assets is provided on a straight-line basis over the estimated useful lives of the respective assets. The University records a full year of depreciation in the year of acquisition. Land is not depreciated. The University does not capitalize works of art, historical treasures or library books.

Following is the range of useful lives for the University's depreciable assets:

Buildings	20-50 years
Building Improvements	3-20 years
Equipment, Furniture and IT Infrastructure	3-15 years
Software	5 years
Land Improvements	20 years

COMPENSATED ABSENCES

Employees earn the right to be compensated during absences for annual vacation leave and sick leave. The accompanying statements of net position reflect an accrual for the amounts earned and ultimately payable for such benefits as of the end of the fiscal year. The accrual equates to the entire amount of vacation time earned and an actuarially determined liability for the sick leave component of compensated absences. Employees are only entitled to 20% of their sick leave balance upon retirement. The actuarial calculation utilized the probability of retirement for this estimate.

UNEARNED REVENUE

Unearned revenue consists of amounts billed or received in advance of the University providing goods or services. Unearned revenue is recognized as revenue as expenses are incurred and therefore earned.

ADVANCES AND DEPOSITS

Advances from the U.S. Government for Federal Perkins Loans to students are reported as part of advances and deposits. Future loans to students are made available only from repayments of outstanding principal amounts plus accumulated interest received thereon. Funding for the low-interest Federal Perkins Loan program will expire September 30, 2017. Universities and colleges are not allowed to make Federal Perkins Loans to new borrowers after this date.

TUITION AND STATE APPROPRIATIONS

The accompanying financial statements for the years ended June 30, 2016 and 2015 present as tuition revenue approximately \$30.6 million and \$31.1 million, respectively, of in-state tuition received by the University and remitted to the State Treasurer’s Office for the general fund of the Commonwealth of Massachusetts. The amount of tuition retained by the University related to out-of-state students during 2016 and 2015 was \$85.1 million and \$82.0 million, respectively. The recorded amount of State Appropriations received by the University has been reduced by a corresponding amount of tuition remitted as shown below (in thousands):

	2016	2015
Gross Commonwealth Appropriations	\$546,953	\$516,794
Plus: Fringe Benefits	178,032	159,403
	<u>724,985</u>	<u>676,197</u>
Less: Tuition Remitted	(30,583)	(31,055)
Less: Mandatory Waivers	(24,654)	(23,942)
Net Commonwealth support	<u>\$669,748</u>	<u>\$621,200</u>

AUXILIARY ENTERPRISES

An auxiliary enterprise is an entity that exists to furnish a service to students, faculty or staff acting in a personal capacity, and that charges a fee for the use of goods and services. For the years ended June 30, 2016 and 2015, the University recognized Auxiliary Enterprise revenue of \$383.3 million and \$362.2 million, respectively.

OTHER OPERATING REVENUES AND EXPENDITURES, SALES AND SERVICES, PUBLIC SERVICE ACTIVITIES

Public Service Activities consist largely of sales and services provided to third parties by the UMass Medical School campus under its Commonwealth Medicine (“CWM”) programs, which provide public consulting and services in health care financing, administration and policy to federal, state and local agencies and not-for-profit health and policy organizations. Included in this category of activities are Commonwealth Medicine revenues of \$283.8 million and \$268.7 million for the years ended June 30, 2016 and 2015, respectively. Included in expenditures are Commonwealth Medicine expenditures of \$244.1 million and \$227.7 million for the years ended June 30, 2016 and 2015, respectively.

Public Service Activities also include payments received by the Medical School for educational services it provides to its clinical affiliate, UMass Memorial, as required by the enabling legislation enacted by the Commonwealth in 1997. Educational services revenues included in public service revenues were \$209.9 million and \$43.8 million for the years ended June 30, 2016 and 2015, respectively. Finally, Public Service Activity expenditures include payments made to the Commonwealth of Massachusetts of \$166.0 million for the year ended June 30, 2016, pursuant to requirements of legislation enacted by the State Legislature of Massachusetts.

FRINGE BENEFITS FOR CURRENT EMPLOYEES AND POST EMPLOYMENT OBLIGATIONS – PENSION AND NON-PENSION

The University participates in the Commonwealth’s Fringe Benefit programs, including active employee and post – employment health insurance, unemployment compensation, pension, and workers’ compensation benefits. Health insurance and pension costs for active employees and retirees are paid through a fringe benefit rate charged to the University by the Commonwealth. Workers’ compensation costs are assessed separately based on actual University experience.

In addition to providing pension benefits, under Chapter 32A of the Massachusetts General Laws, the Commonwealth is required to provide certain health care and life insurance benefits for retired employees of the Commonwealth, housing authorities, redevelopment authorities, and certain other governmental agencies. Substantially all of the Commonwealth’s employees may become eligible for these benefits if they reach retirement age while working for the Commonwealth. Eligible retirees are required to contribute a specified percentage of the health care benefit costs which is comparable to contributions required from employees. The Commonwealth is reimbursed for the cost of benefits to retirees of the eligible authorities and non-state agencies.

The Commonwealth's Group Insurance Commission ("GIC") was established by the Legislature in 1955 to provide and administer health insurance and other benefits to the Commonwealth's employees and retirees, and their dependents and survivors. The GIC also covers housing and redevelopment authorities' personnel, certain authorities and other offline agencies, retired municipal teachers from certain cities and towns and municipalities as an agent multiple employer program, accounted for as an agency fund activity of the Commonwealth, not the University.

The GIC administers a plan included within the State Retiree Benefits Trust Fund, an irrevocable trust. Any assets accumulated in excess of liabilities to pay premiums or benefits or administrative expenses are retained in that fund. The GIC's administrative costs are financed through Commonwealth appropriations and employee investment returns. The Legislature determines employees' and retirees' contribution ratios.

The GIC is a quasi-independent state agency governed by an eleven-member body ("the Commission") appointed by the Governor. The GIC is located administratively within the Executive Office of Administration and Finance, and is responsible for providing health insurance and other benefits to the Commonwealth's employees and retirees and their survivors and dependents. During the fiscal years that ended on June 30, 2016 and June 30, 2015, respectively, the GIC provided health insurance for its members through indemnity, PPO, and HMO plans. The GIC also administered carve-outs for the pharmacy benefit and mental health and substance abuse benefits for certain of its health plans. In addition to health insurance, the GIC sponsors life insurance, long-term disability insurance (for active employees only), dental and vision coverage for employees not covered by collective bargaining, a retiree discount vision plan and retiree dental plan, and finally, a pre-tax health care spending account and dependent care assistance program (for active employees only).

Pursuant to the provisions of Paragraph (e), Section 5 of Chapter 163 of the Acts of 1997 and consistent with the September 22, 1992 Memorandum of Understanding between the Commonwealth of Massachusetts Executive Office of Administration and Finance and the University of Massachusetts, the University's Medical School campus has assumed the obligation for the cost of fringe benefits provided by the Commonwealth to University Medical School employees (other than those employees paid from state appropriated funds) for all periods on or after July 1, 1989. The Medical School determines the actual costs for the health insurance benefits and actuarially calculates the incurred service costs for pensions and retiree health insurance.

INCOME TAX STATUS

The University and the Building Authority are component units of the Commonwealth of Massachusetts and are exempt from Federal and state income tax under the doctrine of intergovernmental tax immunity found in the U.S. Constitution. The University qualifies as a public charity eligible to receive charitable contributions under Section 170(b)(1)(A)(ii) of the Internal Revenue Code, as amended (the Code). The Building Authority qualifies as a public charity under Section 170(b)(1)(A)(iv) of the Code.

The Worcester City Campus Corporation (WCCC), and the University Related Organizations are organizations described in Section 501(c)(3) of the Code, and are generally exempt from income taxes pursuant to Section 501(a) of the Code. WCCC and the University Related Organizations are required to assess uncertain tax positions and have determined that there were no such positions that are material to the financial statements.

COMPARATIVE INFORMATION AND RECLASSIFICATIONS

The University's financial statements include prior year comparative information. Certain reclassifications were made in prior year to conform to current year presentation.

Beginning in fiscal year 2016, in an effort to increase the transparency of activity that flowed through Investment Income and Endowment Returns, management decided to distinguish between Investment Return, Unrealized Gains and Losses on Investments, Endowment Distributed for Operations and Endowment Return, net of amounts used in operations. Fiscal year 2015 was reclassified to conform to this new presentation.

2. CASH AND CASH EQUIVALENTS AND INVESTMENTS

The University's investments are made in accordance with the Investment Policy and Guidelines Statement Operating Cash Portfolio adopted in May 2005 and later amended in June 2009 by the Board of Trustees (the "Investment Policy") and the Statement of Investment and Spending Policies of the University of Massachusetts Foundation, Inc. The goals of these documents are to preserve capital, provide liquidity, and generate investment income. The University of Massachusetts has statutory authority under Massachusetts General Laws Chapter 75 to collect, manage, and disburse trust funds of the University.

Investments are reported at their respective fair values. The values of publicly traded fixed income and equity securities are based upon quoted market prices at the close of business on the last day of the fiscal year. Private equities and certain other non-marketable securities are valued using current estimates in fair value by management based on information provided by the general partner or investment manager for the respective securities. Investments in units of non-publicly traded pooled funds are valued at the unit value determined by the fund's administrator based on quoted market prices of the underlying investments. Private equities and other non-marketable securities represent approximately 23.5% and 24.4% of the University's investments at June 30, 2016 and 2015, respectively.

Custodial Credit Risk - Custodial Credit Risk is the risk that, in the event of a failure of the counterparty, the University would not be able to recover the value of its deposits, investments or collateral securities that were in the possession of an outside party. The University does not have a formal policy related to mitigation of custodial credit risk. Deposits are exposed to custodial risk if they are uninsured and uncollateralized. Investment securities are exposed to custodial credit risk if they are uninsured or not registered in the

name of the University and are held by either the counterparty or the counterparty's trust department or agent but not in the University's name. As of June 30, 2016 and 2015, all cash and investment accounts were held on behalf of the University by the Trustees, in the Trustees' name.

The University maintains depository, payroll, disbursement, receipt, and imprest accounts. In addition to bank account deposits, the University held money market instruments which are classified as investments. Interest bearing and money market accounts carry Federal Deposit Insurance Corporation (FDIC) insurance up to \$250,000 per account. None of the accounts are collateralized above the FDIC insured amounts.

At June 30, 2016 and 2015, the carrying amounts, bank balances and FDIC insured amounts were as follows (in thousands):

	2016			2015		
	Book Balance	Bank Balance	FDIC Insured	Book Balance	Bank Balance	FDIC Insured
Depository Accounts	\$ 102,155	\$ 85,605	\$ 999	\$ 90,691	\$ 70,176	\$ 1,052
Certificates of Deposit	20,650	20,650	20,400	650	650	400
Money Market	164,505	164,505	2,501	233,305	233,305	2,501
Total	\$ 287,310	\$ 270,760	\$ 23,900	\$ 324,646	\$ 304,131	\$ 3,953

At June 30, 2016, the University held a carrying and fair market value of \$737.3 million in non-money market investments compared to a carrying and fair market value of \$713.7 million at June 30, 2015. In the event of negligence due to the University's custodian and/or investment manager(s), it is expected that investment balances of \$737.3 million and \$713.7 million at June 30, 2016 and 2015, respectively, would be fully recovered. However, these amounts are subject to both interest rate risk and credit risk.

Concentration of Credit Risk - Concentration of credit risk is assumed to arise when the amount of investments that the University has with one issuer exceeds 5% or more of the total value of the University's investments. The University does not have a formal policy for concentration of credit risk.

As of June 30, 2016 and June 30, 2015, there is no concentration of investments with one issuer of the University portfolio, excluding U. S. Government guaranteed obligations, which exceed 5% of the portfolio.

Credit Risk - Credit risk is the risk that the University will lose money because of the default of the security issuer or investment counterparty. The University's Investment Policy and Guidelines Statement allows each portfolio manager full discretion within the parameters of the investment guidelines specific to that manager.

The table below presents the fair value (in thousands) and average credit quality of the fixed income component of the University's investment portfolio as of June 30, 2016 and 2015, respectively:

Asset Class	June 30, 2016		June 30, 2015	
	Fair Value	Average Credit Quality	Fair Value	Average Credit Quality
Short Duration	\$ 270,117	AAA	\$ 314,081	AAA
Intermediate Duration	239,218	A	231,382	A

The table below presents the fair value (in thousands) by credit quality of the rated debt investments component, which includes cash and cash equivalents, of the University's investment portfolio as of June 30, 2016 and 2015, respectively:

Rated Debt Investments - 2016

(in thousands)

	S&P Quality Ratings								
	Fair Value	AAA	AA	A	BBB	BB	B	<B	Unrated
U.S. Agencies	\$ 535	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 535
U.S. Government	34,641	-	-	-	-	-	-	-	34,641
Certificates of Deposit	20,500	-	-	-	-	-	-	-	20,500
Corporate Debt	107,428	20,736	7,017	28,393	38,718	-	-	-	12,564
Municipal/Public Bonds	5,455	442	1,875	2,040	1,098	-	-	-	
Bond Mutual Funds	151,385	65,982	19,627	14,766	23,002	13,016	6,717	1,592	6,683
Money Market Funds	189,391	21,038	-	-	-	-	-	-	168,353
	<u>\$ 509,335</u>	<u>\$ 108,198</u>	<u>\$ 28,519</u>	<u>\$ 45,199</u>	<u>\$ 62,818</u>	<u>\$ 13,016</u>	<u>\$ 6,717</u>	<u>\$ 1,592</u>	<u>\$ 243,276</u>

Rated Debt Investments - 2015

(in thousands)

	S&P Quality Ratings								
	Fair Value	AAA	AA	A	BBB	BB	B	<B	Unrated
U.S. Agencies	\$ 1,313	\$ -	\$ 582	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 731
U.S. Government	34,856	-	48	-	-	-	-	-	34,808
Certificates of Deposit	500	500	-	-	-	-	-	-	
Corporate Debt	100,192	22,117	6,662	25,797	26,957	-	-	-	18,659
Municipal/Public Bonds	4,767	439	2,899	312	1,117	-	-	-	
Bond Mutual Funds	113,655	44,137	3,159	12,754	18,835	14,590	8,667	2,986	8,527
Money Market Funds	290,180	290,067	-	-	-	-	-	-	113
	<u>\$ 545,463</u>	<u>\$ 357,260</u>	<u>\$ 13,350</u>	<u>\$ 38,863</u>	<u>\$ 46,909</u>	<u>\$ 14,590</u>	<u>\$ 8,667</u>	<u>\$ 2,986</u>	<u>\$ 62,838</u>

Interest Rate Risk - Interest rate risk is the risk that changes in interest rates will adversely affect the fair market value of an investment. The University's Investment Policy and Guidelines Statement establishes targets for the preferred duration of the fixed income component of the investment portfolio by asset class by limiting investments through targeted allocations to different asset classes.

The table below shows the allocation for each asset class and the fair value (in thousands) for each as of June 30, 2016 and 2015, respectively:

<u>Asset Class</u>	<u>6/30/2016</u>	<u>6/30/2016</u>	<u>6/30/2015</u>	<u>6/30/2015</u>
	<u>Allocation</u>	<u>Fair Value</u>	<u>Allocation</u>	<u>Fair Value</u>
Short Duration	29%	\$ 270,117	32%	\$ 314,081
Intermediate Duration	25%	239,218	23%	231,382
Alternatives	23%	220,543	24%	244,456
Commodities	1%	9,108	18%	182,880
Equities	20%	183,027	2%	18,704
Real Estate	2%	18,458	1%	11,533
	<u>100%</u>	<u>\$ 940,471</u>	<u>100%</u>	<u>\$ 1,003,036</u>

The table below presents the fair value (in thousands) by investment maturity of the rated debt investments component, which includes cash and cash equivalents, of the University's investment portfolio as of June 30, 2016 and 2015, respectively:

INVESTMENTS - 2016
(in thousands)

Investment Type:	Investment Maturity (in Years)				
Debt Securities	Fair Value	Less than 1	1 to 5	6 to 10	More than 10
U.S. Agencies	\$ 535	\$ 343	\$ 192	-	-
U.S. Government	34,641	1,180	29,935	\$ 3,526	-
Certificates of Deposit	20,500	20,500	-	-	-
Corporate Debt	107,428	34,560	67,054	5,814	-
Municipal/Public Bonds	5,455	5,455	-	-	-
Bond Mutual Funds	151,385	18,688	82,901	36,419	\$ 13,377
Money Market Funds	189,391	189,391	-	-	-
Sub Total Debt	\$ 509,335	\$ 270,117	\$ 180,082	\$ 45,759	\$ 13,377

Other Investments

Alternative Assets	\$ 220,543
Equity Securities - International	106,102
Equity Securities - Domestic	76,925
Commodities	9,108
Real Estate	18,458
Grand Total	\$ 940,471

INVESTMENTS - 2015
(in thousands)

Investment Type:	Investment Maturity (in Years)				
Debt Securities	Fair Value	Less than 1	1 to 5	6 to 10	More than 10
U.S. Agencies	\$ 1,313	-	\$ 1,313	-	-
U.S. Government	34,856	-	33,862	\$ 994	-
Certificates of Deposit	500	500	-	-	-
Corporate Debt	100,192	1,284	93,411	5,097	\$ 400
Municipal/Public Bonds	4,767	3,407	1,360	-	-
Bond Mutual Funds	113,655	18,710	46,479	33,791	14,675
Money Market Funds	290,180	290,180	-	-	-
Sub Total Debt	\$ 545,463	\$ 314,081	\$ 176,425	\$ 39,882	\$ 15,075

Other Investments

Alternative Assets	\$ 244,456
Equity Securities - International	110,903
Equity Securities - Domestic	71,977
Commodities	18,704
Real Estate	11,533
Grand Total	\$ 1,003,036

Fair Value Measurements - GASB No. 72, "Fair Value measurements and Application" sets forth the framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under GASB No. 72 are described as follows:

Level 1 – Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the University has the ability to access.

Level 2 – Inputs other than Level 1 that are observable, either directly or indirectly and include:

- Quoted prices for similar assets or liabilities in active markets;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Inputs other than quoted prices that are observable for the asset or liability;
- Inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value measurement. Unobservable inputs are developed based on the best information available in the circumstances and may include the University's own data.

The following table presents the investments carried at fair value, as of June 30, 2016, by the GASB 72 valuation hierarchy defined above:

**Investments and Derivative Instruments Measured at Fair Value
(in thousands)**

	6/30/2016	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
Debt Securities				
US Treasury securities	\$ 31,873	\$ 31,873		
Government agency bonds	535		\$ 535	
Asset backed securities	23,951		23,951	
Commerical mortgage-backed securities	11,552		11,552	
Government issued commercial mortgage-backed securities	421		421	
Government mortgage-backed securities	3,911		3,911	
Non Government Backed CMO's	404		404	
Corporate bonds	71,756		71,598	\$ 158
Municipal and provincial bonds	5,455		5,455	
Other fixed income	151,384	137,608	13,776	
Total debt securities	301,242	169,481	131,603	158
Equity Securities				
Dometic equities	76,924	76,074		850
International equities	106,106	106,106		
Total Equity Securities	183,030	182,180	-	850
Other Securities				
Commodities	9,108	9,108		
REITS	18,458	18,458		
Total Other Securities	27,566	27,566	-	-
Total investments by fair value level	\$ 511,838	\$ 379,227	\$ 131,603	\$ 1,008
Investments measured at the net asset value (NAV)				
Multi Strategy hedge funds				
Equity	\$ 41,970			
Long/short	28,614			
Fixed income	59,131			
Absolute return	59,139			
Real assets	12,055			
Private equity	1,147			
Private debt	14,989			
Private real estate	3,497			
Total investments measured at the NAV	220,542			
Total Investments measured at fair value	\$ 732,380			
Cash and Cash Equivalents	208,091			
Total Investments Per Financial Statements	\$ 940,471			

The following table presents the investments carried at fair value, as of June 30, 2015, by the GASB 72 valuation hierarchy defined above:

**Investments and Derivative Instruments Measured at Fair Value
(in thousands)**

	6/30/2015	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
Debt Securities				
US Treasury securities	\$ 29,345	\$ 29,345		
Government agency bonds	1,313		\$ 1,313	
Asset backed securities	27,851		27,851	
Commerical mortgage-backed securities	17,464		17,464	
Government issued commercial mortgage-backed securities	1,319		1,319	
Government mortgage-backed securities	4,192		4,192	
Corporate bonds	55,003		54,985	\$ 17
Municipal and provincial bonds	4,767		4,767	
Other fixed income	113,655	113,655		
Total debt securities	254,909	143,000	111,891	17
Equity Securities				
Dometic equities	72,477	71,577		900
International equities	110,903	110,903		
Total Equity Securities	183,380	182,480	-	900
Other Securities				
Commodities	18,704	18,704		
REITS	11,533	11,533		
Total Other Securities	30,237	30,237	-	-
Total investments by fair value level	\$ 468,526	\$ 355,717	\$ 111,891	\$ 917
Investments measured at the net asset value (NAV)				
Multi Strategy hedge funds				
Equity	\$ 42,205			
Long/short	40,981			
Fixed income	71,753			
Absolute return	62,163			
Real assets	12,329			
Private equity	493			
Private debt	14,532			
Total investments measured at the NAV	244,456			
Total Investments measured at fair value	\$ 712,982			
Cash and Cash Equivalents	290,054			
Total Investments Per Financial Statements	\$ 1,003,036			

3. CASH HELD BY STATE TREASURER

Accounts payable, accrued salaries and outlays for future capital projects to be funded from state-appropriated funds totaled \$17.3 million at June 30, 2016 and \$33.0 million at June 30, 2015. The University has recorded a comparable amount of cash held by the State Treasurer for the benefit of the University, which will be subsequently utilized to pay for such liabilities. The cash is held in the State Treasurer's pooled cash account. The Commonwealth requires all bank deposits in excess of insurance coverage by the FDIC to be collateralized with a perfected pledge of eligible collateral. Eligible collateral must be pledged in an amount equal to 102% of the amount of the deposits that exceed FDIC insurance. Sufficient collateral to cover total Commonwealth deposits in excess of the FDIC insured amount must be pledged and held in safekeeping by a custodian that is approved by and under the control of the Treasurer and Receiver – General.

4. CASH AND SECURITIES HELD BY TRUSTEES

Cash and securities held by trustees primarily consist of unspent bond proceeds, amounts held for the future payment of debt service on such borrowings and designated funds from the Building Authority. At June 30, 2016 and June 30, 2015, there was \$.9 million and \$6.2 million, respectively, available from the Revolving Loan Fund established with 2000 Series A bond proceeds issued to acquire and implement enterprise resource planning technology along with other projects (see Note 8) and \$485.1 million and \$700.9 million, respectively, held by trustees related to the Building Authority.

Pursuant to Trust Agreements between the Building Authority and its bond trustees, all funds deposited with those trustees (approximately \$486.0 million at June 30, 2016 and \$707.1 million at June 30, 2015) shall be continuously maintained for the benefit of the Building Authority and Registered owners of the Bonds. All investments shall be (a) held with a bank or trust company approved by the Trustees and the Building Authority, as custodians, or (b) in such other manner as may be required or permitted by applicable state and Federal laws and regulations. Investments shall consist of (a) direct obligations of, or obligations which are unconditionally guaranteed by the United States of America, or any other agency or corporation which has been created pursuant to an act of Congress of the United States as an agency or instrumentality thereof; or (b) other marketable securities eligible as collateral for the deposit of trust funds under regulations of the Comptroller of the Currency having a market value not less than the amount of such deposit. Direct obligations of, or obligations which are unconditionally guaranteed by the United States of America or any other agency or corporation which has been created pursuant to an act of Congress of the United States as an agency or instrumentality thereof, may be subject to repurchase upon demand by the owner pursuant to a repurchase agreement with a bank or trust company.

Cash Deposits – Custodial Credit Risk The Building Authority holds a majority of its cash and cash equivalents in high quality money market mutual funds that invest in securities that are permitted investments under the Building Authority's Enabling Act or in money market mutual funds that have been specifically permitted by state legislation. The Building Authority's cash and cash equivalents consisted of the following as of June 30 (in thousands):

	2016	2015
Cash	\$ 4,577	\$ 3,580
Permitted money market accounts ("MMA")	475,240	692,194
Total cash and cash equivalents	<u>\$ 479,817</u>	<u>\$ 695,774</u>

Custodial credit risk is the risk that, in the event of a bank failure, the University will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The University does not have a deposit policy for custodial credit risk. As of June 30, 2016 and June 30, 2015, the bank balances of uninsured deposits totaled \$4,077 million and \$3,261 million, respectively. For purposes of disclosure under GASB Statement No. 40, *Deposit and Investment Risk Disclosures*, money market accounts investing in debt securities are considered investments and therefore, are included in the investment disclosures that follow.

Investments

As of June 30, 2016, the Building Authority's investments consisted of the following:

Investment type	Investment Maturities (in Years)			
	Fair value	Less than 1	1 to 5	6 to 10
Debt Securities				
Repurchase Agreements	\$ 5,318	\$ -	\$ 5,318	\$ -
Money Market funds	475,239	475,239	-	-
Total	<u>\$ 480,557</u>	<u>\$ 475,239</u>	<u>\$ 5,318</u>	<u>\$ -</u>

As of June 30, 2015, the Building Authority's investments consisted of the following:

Investment type	Investment Maturities (in Years)			
	Fair value	Less than 1	1 to 5	6 to 10
Debt Securities				
Repurchase Agreements	\$ 5,318	\$ -	\$ -	\$ 5,318
Money Market funds	692,194	692,194	-	-
Total	\$ 697,512	\$ 692,194	\$ -	\$ 5,318

Because money market funds are highly liquid, they are presented as investments with maturities of less than one year.

Interest Rate Risk The Building Authority has a formal investment policy that establishes minimum credit quality of certain instruments, outlines investment procedures, and provides for periodic reporting. Generally, the Building Authority holds its investments until maturity.

Credit Risk Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. The risk is measured by the assignment of a rating by a nationally recognized statistical rating organization.

The Enabling Act specifies the permitted investments of the Building Authority. These permitted investments include direct obligations of or obligations which are unconditionally guaranteed by the United States of America ("Treasuries"), obligations of an agency or organization created pursuant to an act of Congress of the United States as an agency or instrumentality thereof ("Agencies"), time deposits or certificate of deposits fully secured by Treasuries or Agencies, and Treasuries and Agencies subject to repurchase agreements. Other legislation allows the Building Authority to invest in the Massachusetts Municipal Depository Trust (the "MMDT"), a money market account sponsored by the Treasurer of the Commonwealth and managed by Federated Investors, Inc. Additionally, the Building Authority's Bond Trustee invests some of the Building Authority's funds in money market accounts that are permitted and collateralized by Treasuries.

No credit risk disclosures are required under GASB 40 relating to the Building Authority's investment in Treasuries. The Building Authority's investments in repurchase agreements are not rated but are fully collateralized by Treasuries and Agencies. MMDT is unrated.

Custodial Credit Risk The Building Authority's Enabling Act does not contain legal or policy requirements that would limit the exposure to custodial credit risk except that interest-bearing time deposits or certificates of deposit of banking institutions or trust companies must be continuously and fully secured by Treasuries or Agencies.

Custodial credit risk generally applies only to direct investments in marketable securities. Custodial credit risk does not apply to indirect investment in securities through the use of mutual funds or government investment pools, such as MMDT. Direct investments in marketable securities are held by the Building Authority's Bond Trustee as the Building Authority's agent. In accordance with the Building Authority's repurchase agreements, collateral for the agreements is held in segregated accounts with market values between 100% and 105% of the repurchase price, depending on the type of asset used as security and the specific repurchase agreement.

Concentrations of Credit Risk The Building Authority places no limit on the amount it may invest in any one issuer. As of June 30, 2016, the Building Authority had 98.0% of its investments in MMDT. As of June 30, 2015, the Building Authority had 98.7% of its investments in MMDT.

5. ACCOUNTS, GRANTS AND LOANS RECEIVABLE

Accounts, grants and loans receivable as of June 30, 2016 and 2015 are as follows (in thousands):

	<u>2016</u>	<u>2015</u>
Student Accounts Receivable	\$ 56,661	\$ 54,295
Less allowance for uncollectible accounts	<u>(23,077)</u>	<u>(23,955)</u>
	<u>33,584</u>	<u>30,340</u>
Grants and Contracts Receivable	98,383	94,929
Less allowance for uncollectible accounts	<u>(2,108)</u>	<u>(2,124)</u>
	<u>96,275</u>	<u>92,805</u>
Student Loans Receivable	44,760	45,362
Less allowance for uncollectible accounts	<u>(303)</u>	<u>(296)</u>
	<u>44,457</u>	<u>45,066</u>
Commonwealth Medicine	69,489	66,894
Less allowance for uncollectible accounts	<u>(500)</u>	<u>(822)</u>
	<u>68,989</u>	<u>66,072</u>
Other	39,996	54,763
Less allowance for uncollectible accounts	<u>(597)</u>	<u>(1,147)</u>
	<u>39,399</u>	<u>53,616</u>
Total, net	282,704	287,899
Less current portion, net	<u>(244,178)</u>	<u>(249,517)</u>
Long-term, net	<u>\$ 38,526</u>	<u>\$ 38,382</u>

UMASS MEMORIAL

The University and UMass Memorial have the following ongoing agreements:

- UMass Memorial has been granted the right to occupy portions of the University's Worcester Medical School campus for a period of 99 years and UMass Memorial has agreed to share responsibility for various capital and operating expenses relating to the occupied premises. UMass Memorial has also agreed to contribute to capital improvements to shared facilities.
- UMass Memorial has agreed to make certain payments to the University and its related organizations, including: 1) an annual fee of \$12.0 million (plus an inflation adjustment), for 99 years as long as the University continues to operate a medical school; and 2) a participation payment based on a percentage of net operating income of UMass Memorial for which revenue is recognized by the University when the amounts are received.

The University is reimbursed by, and reimburses UMass Memorial for shared services, cross-funded employees, and other agreed upon activities provided and purchased. For the years ended June 30, 2016 and 2015, the reimbursements for services provided to UMass Memorial were \$125.2 million and \$156.3 million, respectively. Included in these amounts are payroll paid by the University on behalf of UMass Memorial in an agency capacity in the amount of \$71.3 million and \$96.2 million for fiscal years 2016 and 2015, respectively. At June 30, 2016 and 2015, the University has recorded a receivable in the amount of \$35.7 million and \$17.5 million, respectively from UMass Memorial which includes \$22.9 million and \$9.5 million, respectively, in payroll and related fringe charges. The University has recorded a payable at June 30, 2016 of \$3.6 million primarily for cross-funded payroll. At June 30, 2015, the University had a payable of \$2.8 million primarily for cross-funded payroll.

6. RELATED ORGANIZATIONS

Related party activity with the Foundation includes loan agreements and investments of the University's endowment assets and Intermediate Term Investment Fund (ITIF) with the Foundation.

As of June 30, 2016, the net position of the Foundation included as related organization in the accompanying financial statements of the University is \$465.8 million, of which \$438.9 million are restricted funds and \$26.9 million are unrestricted funds. During the fiscal year ended June 30, 2016, the University received \$29.7 million from the Foundation, and transferred \$14.7 million to the Foundation of which \$0.0 million related to the establishment of quasi-endowment. At June 30, 2016, the University's investments include \$309.0 million of endowment funds held in a custodial relationship at the Foundation, and \$283.2 million in ITIF.

As of June 30, 2015, the net position of the Foundation was \$468.4 million, of which \$438.4 million are restricted funds and \$30.0 million are unrestricted funds. During the fiscal year ended June 30, 2015, the University received \$28.5 million from the Foundation, and transferred \$14.1 million to the Foundation of which \$3.8 million related to the establishment of quasi-endowment. At June 30, 2015, the University's investments include \$333.3 million of endowment funds held in a custodial relationship at the Foundation, and \$291.4 million in ITIF.

The University leases office space from the Foundation for an annual rent of approximately \$0.4 million.

The Building Authority and the Commonwealth have entered into various lease agreements under which the Commonwealth leases to the Building Authority certain property for nominal amounts.

Through July 31, 2015, the University of Massachusetts Club (the "Club") was managed by UMass Club Management, LLC, a wholly owned subsidiary of ClubCorp USA. The Authority provided operating support for the Club of approximately \$102,000 in fiscal year 2016. On August 1, 2015 management of the Club was transitioned to the not-for-profit organization University Services, Inc. The Authority did not provide additional operating support in fiscal year 2016 once University Services, Inc. took over management of the Club. The Authority provided \$187,700 in operating support to ClubCorp USA in fiscal 2015.

7. INVESTMENT IN PLANT

Investment in plant activity for the year ended June 30, 2016 is comprised of the following (in thousands):

University:

	Beginning Balance	Additions	Retirements	Ending Balance
Buildings and Improvements	\$5,447,343	\$251,688	(\$8,031)	\$5,691,000
Equipment and Furniture	634,270	59,330	(34,632)	658,968
Software	136,570	1,052	(1,119)	136,503
Library Books	74,576	-	(8,598)	65,978
	6,292,759	312,070	(52,380)	6,552,449
Accumulated Depreciation	(2,494,718)	(240,957)	38,462	(2,697,213)
Sub-Total	3,798,041	71,113	(13,918)	3,855,236
Land	71,579	12,582	-	84,161
Construction in Progress	464,142	428,789	(216,552)	676,379
Sub-Total	535,721	441,371	(216,552)	760,540
Total	\$4,333,762	\$512,484	(\$230,470)	\$4,615,776

University Related Organizations:

	Beginning Balance	Additions	Retirements	Ending Balance
Buildings and Improvements	\$ 7,942	\$ -	\$ -	\$7,942
Equipment and Furniture	168	-	-	168
	8,110	-	-	8,110
Accumulated Depreciation	(1,238)	(201)	-	(1,439)
Sub-Total	6,872	(201)	-	6,671
Land	1,419	-	-	\$1,419
Total	\$8,291	\$ (201)	\$ -	\$8,090

Investment in plant activity for the year ended June 30, 2015 is comprised of the following (in thousands):

University:

	Beginning Balance	Additions	Retirements	Ending Balance
Buildings and Improvements	\$4,694,649	\$762,310	(\$9,616)	\$5,447,343
Equipment and Furniture	609,786	53,085	(28,601)	634,270
Software	136,904	737	(1,071)	136,570
Library Books	84,315	-	(9,739)	74,576
	5,525,654	816,132	(49,027)	6,292,759
Accumulated Depreciation	(2,309,127)	(220,952)	35,361	(2,494,718)
Sub-Total	3,216,527	595,180	(13,666)	3,798,041
Land	68,852	2,727	-	71,579
Construction in Progress	779,407	415,396	(730,661)	464,142
Sub-Total	848,259	418,123	(730,661)	535,721
Total	\$4,064,786	\$1,013,303	(\$744,327)	\$4,333,762

University Related Organizations:

	Beginning Balance	Additions	Retirements	Ending Balance
Buildings and Improvements	\$7,942	\$ -	\$ -	\$7,942
Equipment and Furniture	168	-	-	168
	8,110	-	-	8,110
Accumulated Depreciation	(1,053)	(\$185)	-	(1,238)
Sub-Total	7,057	(185)	-	6,872
Land	1,421	-	-	\$1,421
Total	\$8,478	(\$185)	\$ -	\$8,293

The University has capitalized interest on borrowings, net of interest earned on related debt reserve funds, during the construction period of major capital projects. Capitalized interest is added to the cost of the underlying assets being constructed, and is amortized over the useful lives of the assets. For the years ended June 30, 2016 and 2015, the University capitalized net interest costs of \$22.1 million and \$23.6 million, respectively.

8. BONDS PAYABLE

Amounts Outstanding at June 30, 2016 are as follows (in thousands)

Issue Borrowing	Original Borrowing	Maturity Date	Interest Rate	Amount Outstanding
University of Massachusetts Building Authority:				
Series 2004-1	\$ 183,965	2016	5.25%	\$ 1,515
Series 2008-A	26,580	2038	variable	20,105
Series 2008-1	232,545	2038	variable	179,425
Series 2008-2	120,560	2038	4.00-5.00%	63,025
Series 2009-1	247,810	2039	3.00-5.00%	108,365
Series 2009-2	271,855	2039	6.42-6.57%	271,855
Series 2009-3	28,570	2039	5.28-6.17%	26,235
Series 2010-1	118,985	2020	5.00%	72,310
Series 2010-2	430,320	2040	3.80-5.45%	430,320
Series 2010-3	3,005	2040	5.75%	2,785
Series 2011-1	135,040	2034	variable	128,245
Series 2011-2	101,700	2034	variable	97,265
Series 2013-1	212,585	2043	2.00%-5.00%	203,420
Series 2013-2	71,790	2043	.43-2.69%	67,335
Series 2013-3	24,640	2043	4.00% - 5.00%	24,640
Series 2014-1	293,890	2045	3.00% - 5.00%	293,465
Series 2014-2	14,085	2020	.44%-2.10%	11,330
Series 2014-4	157,855	2026	.20% - 3.38%	149,975
Series 2014-3	67,365	2029	2.00%-5.00%	64,470
Series 2015-1	298,795	2036	4.00% - 5.00%	298,795
Series 2015-2	191,825	2036	3.00% - 5.00%	191,825
				<u>2,706,705</u>
			Unamortized Bond Premium	122,146
			SUBTOTAL	<u>2,828,851</u>
University of Massachusetts HEFA/MDFA:				
2000 Series A	\$ 20,000	2030	variable	20,000
2007 Series D	10,435	2031	3.50-4.25%	8,645
Series 2011	29,970	2034	2.50-4.00%	26,940
				<u>55,585</u>
			Unamortized Bond Premium	949
				<u>56,534</u>
WCCC HEFA/MDFA:				
Series 2005-D	\$ 99,325	2029	5.00-5.25%	1,335
Series 2007-E	118,750	2036	3.50-5.00%	31,250
Series 2007-F	101,745	2036	4.00-5.00%	51,890
Series 2011	10,495	2023	2.00-5.00%	7,495
				<u>91,970</u>
			Unamortized Bond Premium	1,215
			SUBTOTAL	<u>93,185</u>
MDFA:				
Clean Renewable Energy Bonds	\$ 1,625	2027	3.50%	<u>1,052</u>
			TOTAL	<u>\$ 2,979,622</u>

Bond Payable activity for the year ended June 30, 2016 is summarized as follows (in thousands):

	<u>Beginning Balance</u>	<u>Additions/ Amortization</u>	<u>Retirements/ Repayments</u>	<u>Ending Balance</u>
University of Massachusetts Building Authority:				
Series 2004-A	\$ 2,340		\$ (2,340)	\$ -
Series 2004-1	8,300		(6,785)	1,515
Series 2005-1	2,805		(2,805)	-
Series 2005-2	16,005		(16,005)	-
Series 2008-A	21,035		(930)	20,105
Series 2008-1	187,125		(7,700)	179,425
Series 2008-2	65,835		(2,810)	63,025
Series 2009-1	120,575		(12,210)	108,365
Series 2009-2	271,855		-	271,855
Series 2009-3	26,755		(520)	26,235
Series 2010-1	84,775		(12,465)	72,310
Series 2010-2	430,320		-	430,320
Series 2010-3	2,835		(50)	2,785
Series 2011-1	129,690		(1,445)	128,245
Series 2011-2	98,220		(955)	97,265
Series 2013-1	208,060		(4,640)	203,420
Series 2013-2	69,570		(2,235)	67,335
Series 2013-3	24,640		-	24,640
Series 2014-1	293,890		(425)	293,465
Series 2014-2	14,085		(2,755)	11,330
Series 2014-4	153,800		(3,825)	149,975
Series 2014-3	67,365		(2,895)	64,470
Series 2015-1	298,795		-	298,795
Series 2015-2	191,825		-	191,825
Plus: unamortized bond premium	133,429		(11,283)	122,146
Subtotal	2,923,929		(95,078)	2,828,851
UMass HEFA/MDFA:				
2000 Series A	20,000		-	20,000
2007 Series D	9,025		(380)	8,645
Series 2011	27,925		(985)	26,940
Plus: unamortized bond premium	895		54	949
Subtotal	57,845		(1,311)	56,534
WCCC HEFA/MDFA:				
WCCC 2005 Series D	1,785		(450)	1,335
WCCC 2007 Series E	33,945		(2,695)	31,250
WCCC 2007 Series F	54,830		(2,940)	51,890
Series 2011	8,270		(775)	7,495
Plus: unamortized bond premium	1,499		(284)	1,215
Subtotal	100,329		(7,144)	93,185
MDFA:				
Clean Renewable Energy Bonds	1,147		(95)	1,052
Total	\$ 3,083,250		\$ (103,628)	\$ 2,979,622

Principal and interest, which is estimated using rates in effect at June 30, 2016, on bonds payable for the next five fiscal years and in subsequent five-year periods are as follows (in thousands):

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>
2017	\$ 94,586	\$ 114,869
2018	94,991	112,464
2019	99,976	109,248
2020	103,321	105,600
2021	108,108	101,307
2022-2026	503,361	448,094
2027-2031	505,120	348,576
2032-2036	499,610	246,334
2037-2041	545,790	127,121
2042-2046	300,450	27,901
2047-2051		
Total	\$ 2,855,313	\$ 1,741,514

The 2011-1 variable rate bonds have an outstanding principal balance of \$128.2 million and are classified as a current debt obligation as a result of the liquidity facilities expiring in June 2017. The Authority expects to redeem these variable rate bonds on their original principal amortization schedule. The 2011-2 window bonds with a principal outstanding balance of \$97.3 million have no supporting liquidity facility and therefore are classified as a current debt obligation. Consistent with prior years, the Authority expects to redeem this bond based on its original amortization schedule and based on annual maturities on that schedule.

Bond payable activity for the year ended June 30, 2015 is summarized as follows (in thousands):

	<u>Beginning Balance</u>	<u>Additions/ Amortization</u>	<u>Retirements/ Repayments</u>	<u>Ending Balance</u>
University of Massachusetts Building Authority:				
Series 2003-1	\$ 6,155		\$ (6,155)	\$ -
Series 2004-A	4,575		(2,235)	2,340
Series 2004-1	16,600		(8,300)	8,300
Series 2005-1	5,480		(2,675)	2,805
Series 2005-2	25,200		(9,195)	16,005
Series 2008-A	21,930		(895)	21,035
Series 2008-1	194,530		(7,405)	187,125
Series 2008-2	105,725		(39,890)	65,835
Series 2009-1	198,670		(78,095)	120,575
Series 2009-2	271,855			271,855
Series 2009-3	27,250		(495)	26,755
Series 2010-1	96,645		(11,870)	84,775
Series 2010-2	430,320			430,320
Series 2010-3	2,880		(45)	2,835
Series 2011-1	131,090		(1,400)	129,690
Series 2011-2	99,135		(915)	98,220
Series 2013-1	212,585		(4,525)	208,060
Series 2013-2	71,790		(2,220)	69,570
Series 2013-3	24,640			24,640
Series 2014-1	293,890			293,890
Series 2014-2	14,085			14,085
Series 2014-4	157,855		(4,055)	153,800
Series 2014-3		\$ 67,365		67,365
Series 2015-1		298,795		298,795
Series 2015-2		191,825		191,825
Plus: unamortized bond premium	<u>64,807</u>	<u>81,639</u>	<u>(13,017)</u>	<u>133,429</u>
Subtotal	2,477,692	639,624	(193,387)	2,923,929
UMass HEFA/MDFA:				
2000 Series A	20,000			20,000
2007 Series D	9,395		(370)	9,025
Series 2011	28,880		(955)	27,925
Plus: unamortized bond premium	<u>1,056</u>		<u>(161)</u>	<u>895</u>
Subtotal	59,331		(1,486)	57,845
WCCC HEFA/MDFA:				
WCCC 2005 Series D	78,676		(76,891)	1,785
WCCC 2007 Series E	105,659		(71,715)	33,944
WCCC 2007 Series F	84,416		(29,585)	54,831
Series 2011	9,030		(760)	8,270
Plus: unamortized bond premium	<u>8,398</u>		<u>(6,899)</u>	<u>1,499</u>
Subtotal	286,179		(185,850)	100,329
MDFA:				
Clean Renewable Energy Bonds	1,242		(95)	1,147
Total	<u>\$ 2,824,444</u>	<u>\$ 639,624</u>	<u>\$ (380,818)</u>	<u>\$ 3,083,250</u>

University of Massachusetts Building Authority

The bond agreements related to the Building Authority bonds generally provide that the net revenues of the Building Authority are pledged as collateral on the bonds and also provide for the establishment of bond reserve funds, bond funds, and maintenance reserve funds.

The University is obligated under its contracts for financial assistance, management and services with the Building Authority to collect rates, rents, fees and other charges with respect to such facilities sufficient to pay principal and interest on the Building Authority's bonds and certain other costs such as insurance on such facilities.

Pursuant to the authority given by the Building Authority's enabling act, the Commonwealth, acting by and through the Trustees of the University, has guaranteed the payment of principal and interest on the Building Authority's bonds. (The guarantee is a general obligation of the Commonwealth to which the full faith and credit of the Commonwealth are pledged. As is generally the case with other general obligations of the Commonwealth, funds with which to honor the guarantee, should it be called upon, will be provided by Commonwealth appropriation). The Building Authority's enabling act provides that the outstanding principal amount of notes and bonds of the Building Authority guaranteed by the Commonwealth cannot exceed \$200 million. The amount of bond obligations guaranteed by the Commonwealth was \$117.4 million and \$121.6 million at June 30, 2016 and June 30, 2015, respectively.

When the Building Authority no longer has any bonds outstanding, its properties revert to the Commonwealth, and all its funds (other than funds pledged to bondholders) are required to be paid into the Treasury of the Commonwealth.

Variable Rate Bonds On April 15, 2016, the Building Authority entered into a standby purchase agreement with Barclays Bank PLC ("Barclays") which requires Barclays to purchase bonds that are tendered and not remarketed. Under the terms of the Barclays standby bond purchase agreement, the Building Authority is required to pay Barclays in quarterly installments a facility fee in the amount of 29 basis points (or higher, under certain circumstances) of the commitment amount. In fiscal year 2016 the Building Authority incurred fees in connection with the Barclays agreement in the amount of \$123,205. The agreement expires on April 22, 2019 and may be extended if a mutual interest exists between the Building Authority and Barclays. Previously, the 2008-1 bonds were supported with a standby purchase agreement with J.P. Morgan Chase Bank, N.A. ("J.P. Morgan"). Fees incurred by the Building Authority in connection with J.P. Morgan totaled \$4 million and \$5 million for the year ended June 30, 2016 and June 30, 2015, respectively.

The 2008-A bonds are supported by a standby bond purchase agreement with Barclays Bank PLC ("Barclays") which requires Barclays to purchase bonds that are tendered and not remarketed. Under the terms of the Barclays standby bond purchase agreement, the Building Authority is required to pay Barclays in quarterly installments a facility fee in the amount of 32.5 basis points (or higher, under certain circumstances) of the commitment amount. The agreement expired in April 2016. The Building Authority and Barclays executed a first amendment to the agreement and extended the agreement until April 15, 2019. Under the first amendment to the standby purchase agreement, the Building Authority is required to pay Barclays in quarterly installments a facility fee in the amount of 27.5 basis points (or higher, under certain circumstances) of the initial commitment and may be extended if a mutual interest exists between both the Building Authority and Barclays. Fees incurred by the Building Authority in connection with the Barclays agreement totaled \$84,230 and \$87,072 for the years ended June 30, 2016 and June 30, 2015, respectively.

The 2011-1 bonds are supported by a standby bond purchase agreement with Wells Fargo Bank, N.A. ("Wells") which requires Wells to purchase bonds tendered and not remarketed in an amount not to exceed the principal on the bonds plus accrued interest up to 185 days at an annual interest rate not to exceed 12 percent. Under the agreement, the Building Authority was required to pay Wells in quarterly installments a facility fee in the amount of 40 basis points (or higher, under certain circumstances) of the initial commitment. The initial commitment under the agreement was set at \$143.3 million and was subject to adjustment from time to time in accordance with the provisions of the agreement. The standby bond purchase agreement expired on June 9, 2014. The Building Authority and Wells executed a first amendment to the standby bond purchase agreement to extend the agreement until June 9, 2017. Under the first amendment to the standby purchase agreement, the Building Authority is required to pay Wells in quarterly installments a facility fee in the amount of 25 basis points (or higher, under certain circumstances) of the initial commitment. The initial commitment under the first amendment to the standby bond purchase agreement was set at \$139.1 million and is subject to adjustment from time to time in accordance with the provisions of the agreement. Fees incurred by the Building Authority in connection with the Wells agreement totaled \$0.4 million and \$0.4 million for the years ended June 30, 2016 and 2015, respectively.

Window Bonds In fiscal year 2011, the Building Authority issued its 2011-2 bonds in a variable rate Window Bond mode. As with the Building Authority's other variable rate bonds, the Window Bondholders can tender the bonds at any time. However, unlike the Building Authority's other variable rate bonds, where the bondholders will receive payment on any tendered bonds 7 days from the tender, Window Bondholders are not required to receive funds for the tender until after a 30 day remarketing period and an additional 180 day funding window period. Due to this 210 day funding period, the Building Authority is not required to obtain any type of liquidity support for the 2011-2 bonds and the bonds are considered supported with self-liquidity. Window Bondholders receive an interest rate on the Window Bonds at a fixed spread over the Securities Industry and Financial Markets Association Municipal Swap Index™ ("SIFMA"). The initial spread to the SIFMA index is 9 basis points.

Bond Refundings There were no refunding of bonds in the fiscal year 2016.

In Fiscal year 2015, the Building Authority issued \$191.8 million of Refunding Revenue Senior Series 2015-2 Bonds which advance refunded \$104.5 million for WCCC bonds series, \$37.2 million of the Building Authority's 2008-2 bonds and \$66.7 million of the Building Authority's 2009-1 bonds. The Building Authority deposited into trust accounts funds sufficient to provide for all future debt service payments on the refunded bonds until the bonds are called.

These advanced refunded bonds are considered defeased and, accordingly, the liability for the bonds payable and the assets held to repay the debt are not recorded in the Building Authority's financial statements.

In connection with the Building Authority's refundings, the Building Authority recorded a difference between the reacquisition price and the net carrying amount of the refunded debt of \$95.4 million. This balance is being reported as a component of deferred outflows, loss on debt refunding, and will be amortized as an increase in interest expense over remaining term of the original life of the refunded bonds. These refundings reduced the Building Authority's debt service payments in future years by \$73.8 million and resulted in an economic gain (the present value of the savings) of \$56.2 million.

Bond Premium and Issuance Expenses There were no new bond issues in the fiscal year 2016, thus no bond premiums were recorded in the current year. In fiscal year 2015, the Building Authority received premiums at issuance totaling \$190.6 million. The Building Authority amortizes the premiums received as a reduction in interest expense over the life of the respective bond issue.

In connection with the Building Authority's bond issues, the Building Authority incurred certain issuance costs associated with the bond offerings. In fiscal year 2015 these costs amounted to \$3.5 million, respectively, and were expensed in accordance with the provisions of GASB Statement No. 65, *Items Previously Reported as Assets and Liabilities*.

Interest Rate Swaps The Building Authority uses derivative instruments to manage the impact of interest rate changes on its cash flows and net position by mitigating its exposure to certain market risks associated with operations, and does not use derivative instruments for trading or speculative purposes.

The Building Authority's contracts are evaluated pursuant to GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments* ("GASB No. 53") to determine whether they meet the definition of derivative instruments, and if so, whether they effectively hedge the expected cash flows associated with interest rate risk exposures. The Building Authority applies hedge accounting for derivative instruments that are deemed effective hedges and under GASB No. 53 are referred to as hedging derivative instruments. Under hedge accounting, changes in the fair value of a hedging derivative instrument are reported as a deferred inflow or deferred outflow in the statement of net position until the contract is settled or terminated.

All settlement payments or receipts for hedging derivative instruments are recorded as interest expense in the period settled.

The Building Authority's hedging derivative instruments at June 30, 2016 and 2015 were as follows:

	Derivative Instruments		Derivative Instruments		Type of Hedge	Financial Statement Classification for Changes in Liability
	Liability 6/30/2015	Net Change in Liability	Liability 6/30/2016			
Series 2008-1 Swap	\$ (29,349)	\$ (8,878)	\$ (38,227)		Cash Flow	Non-current Liability
Series 2008-A Swap	(3,367)	(971)	(4,338)		Cash Flow	Non-current Liability
Series 2006-1 Swap	(38,338)	(9,575)	(47,913)		Cash Flow	Non-current Liability
Total	\$ (71,054)	\$ (19,424)	\$ (90,478)			

The terms of the Building Authority's financial derivative instruments that were outstanding at June 30, 2016 are summarized in the table below:

	Type	Effective Date	Termination Date	Authority Pays	Authority Receives	Value	
						(000's)	
Series 2008-1 Sw ap	Synthetic Fixed	May 1, 2008	May 1, 2038	3.388%	70% of 1-Month LIBOR	\$	232,545
Series 2008-A Sw ap	Synthetic Fixed	Nov 13, 2008	May 1, 2038	3.378%	70% of 1-Month LIBOR	\$	26,580
Series 2006-1 Sw ap	Synthetic Fixed	Apr. 20, 2006	Nov. 1, 2034	3.482%	60% of 3-Month LIBOR + .18%	\$	243,830

Fair Values - The Building Authority implemented GASB No 72, *Fair Value measurements and Application* in fiscal year 2016. GASB 72 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between swap counterparties at the measurement date, which includes the non-performance risk. The Building Authority engaged an independent party to perform the valuations. The expected swap cash flows are calculated using the zero-coupon discounting method which takes into consideration the prevailing interest rate environment, the specific terms and conditions of a given transaction, and assumes that the current forward rates implied by the yield curve are the market's best estimate of future spot interest rates. The income approach is then used to obtain the fair value of the swaps, where future amounts (the expected swap cash flows) are converted to a single current (discounted) amount, using a rate of return that takes into account the relative risk of nonperformance associated with the cash flows, and time value of money. Where applicable under the income approach, the option pricing model technique, such as the Black-Derman-Toy model, or other appropriate option pricing model is used. As the interest rate swaps are valued using the LIBOR swap rate observed at commonly quoted intervals for the full term of the swaps, the measurement results in the swap fair values being categorized as Level 2.

As of June 30, 2016 and 2015, the Building Authority's swaps had a negative fair value of \$90.5 million and \$71.1 million, respectively, and as such are presented as noncurrent liabilities.

Credit risk - As of June 30, 2016, the Building Authority was not exposed to credit risk on the swaps as the fair value was negative. Since changes in interest rates affect the fair values of swap agreements, it is possible that the swap agreements with negative fair values become positive which would expose the Authority to credit risk. To mitigate the potential for credit risk, when a swap position has a positive fair value and if the counterparty's credit quality falls below A3/A/A, the fair value of the swap will be fully collateralized by the counterparty with U.S. Government Securities or US Government Agency Securities. Collateral posted by the counterparty will be held by a third-party custodian.

The credit ratings for the Authority's counterparties at June 30, 2016 are as follows:

	Credit Ratings		
	Moody's	S&P	Fitch
UBS AG	A1	A	A
Deutsche Bank AG	Baa2	BBB+	A-
Citibank NA	A1	A	A+

Basis risk - The Building Authority is exposed to basis risk on its pay-fixed interest rate swaps because the variable-rate payment received by the Building Authority (a percent of LIBOR) on these hedging derivative instruments is based on indexes other than the actual interest rates the Authority pays on its hedged variable rate debt. Should the relationship between LIBOR and the actual variable rate interest payments on the bonds converge, the expected cost savings may not materialize.

Termination risk - The Building Authority's swaps are governed under the International Swap Dealers Association Master Agreement (the "Master Agreement"), which includes standard termination events, such as failure to pay and bankruptcy. Additionally, the Master Agreement was amended so that the swap may be terminated by the Building Authority if the counterparty's credit quality rating falls below certain levels or the counterparty fails to have a rating. Further, the swap may be terminated by the counterparties if the long-term, unsecured, unenhanced senior debt rating of any bonds issued by the Building Authority is withdrawn, suspended or falls below certain levels or the Authority fails to have a rating. The Building Authority or the counterparties may terminate the swaps if the other party fails to perform under the terms of the contract. The A Building Authority may also terminate the swaps at its option. If the swap is terminated, the variable-rate bonds would no longer carry a synthetic fixed interest rate and the Building Authority's interest payment will be based solely upon the rate required by the related bonds as issued. When a termination event occurs, a mark-to-market (or "fair market value") calculation is performed to determine whether the Building Authority is owed or must pay cash to close out the swap position. A negative fair value means the Building Authority would incur a loss and need to make a termination payment to settle the swap position. A positive fair value means the Authority would realize a gain and receive a termination payment in settlement of the swap position.

Contingencies - All of the Building Authority's swaps include provisions that require the Building Authority to post collateral in the event its credit rating falls below certain levels. In the event the Building Authority is rated A2 by Moody's Investors Service or A by Standard & Poor's, the Building Authority would need to post collateral equal to amounts above the fair value of its swaps in liability positions above \$10.0 million. In the event the Building Authority is not rated or rated below A3 by Moody's Investors Service or below A- by Standard & Poor's, the Building Authority must post collateral in the amount of the fair value of the swaps in liability positions. The collateral posted is to be in the form of cash obligations guaranteed by the U.S. Treasury, or negotiable debt obligations issued by the Federal Home Loan Mortgage Association or the Federal National Mortgage Association. If the Building Authority does not post collateral, the derivative instrument may be terminated by the counterparty. The Building Authority's credit rating is Aa2 from Moody's Investors Service, AA from Fitch Ratings, and AA- from Standard and Poor's at June 30, 2016; therefore, no collateral was required to be posted.

Termination of hedge accounting - In June of 2011, the Building Authority undertook an advance refunding of the 2008-3 and 2008-4 variable rate bonds hedged by the Series 2006-1 Swap. As part of the refunding, the Series 2006-1 swap was re-assigned to a new underlying notional (the 2011-1 and 2011-2 Bonds) with identical terms. This refunding and reassignment effectively terminated the original hedge. At June 30, 2011, the Series 2006-1 Swap was considered a hedging derivative instrument. In accordance with GASB No. 53, at the time of a termination event related to an advance refunding of the hedged debt, the balance of the amounts in deferred outflows is to be included in the net carrying amount of the refunded debt for the purposes of calculating the deferred loss on refunding. The balance of the deferred outflows that was included in the net carrying amount of the refunded debt at the time of the refunding was \$22.2 million. The change in fair value of the Series 2006-1 Swap from the refunding date to June 30, 2016 is reported as a deferred outflow as the swap was determined to be effective at June 30, 2016.

Swap payments and associated debt. Using rates as of June 30, 2016, the debt service requirements of the variable-rate debt and net swap payments, assuming current interest rates remain the same for their term, were as follows:

Fiscal Year Ending June 30,	Principal	Interest	Interest Rate Swaps, Net	Total
2017	\$ 11,625	\$ 387	\$ 12,601	\$ 24,613
2018	11,770	378	12,270	24,418
2019	12,215	370	11,912	24,497
2020	12,720	359	11,522	24,601
2021	17,955	227	5,987	24,169
2022-2026	151,915	1,221	39,466	192,602
2027-2031	138,310	571	19,336	158,217
2032-2036	54,235	109	3,687	58,031
2037-2041	1,620	13	504	2,137
Total	\$ 412,365	\$ 3,635	\$ 117,285	\$ 533,285

As actual rates vary, variable-rate bond interest payments and net swap payments will vary.

MassDevelopment

University of Massachusetts Series A, D and 2011

The University, through the Massachusetts Development Finance Agency ("MassDevelopment"), has issued bonds in order to construct new student centers on the Boston and Lowell campuses; to create a pool of funds to acquire telecommunications, electronics, computer, office, research, equipment and administrative systems; and to fund the related renovation costs and to refund previously issued bonds.

Variable Rate Debt In March 2000, the University issued \$40.0 million of MHEFA Variable Rate Demand Revenue Bonds, University of Massachusetts Issue, Series A (the "Series A Bonds") to create a pool of funds from which the University could finance and refinance the acquisition of certain equipment and related renovation costs at the various University campuses on a revolving basis throughout the term of the Series A Bonds. The Series A Bonds were remarketed on April 1, 2016 and now bear interest at the long term rate of 1.15%. The newest long term rate period will end on March 31, 2019 and the Remarketed Series A Bonds will be subject to mandatory tender for purchase on April 1, 2019. The purchase price of the bonds will be paid from the remarketing of such bonds. However, if the remarketing proceeds are insufficient, the University will be obligated to purchase the bonds tendered, up to an aggregate principal amount of \$20.0 million. The Remarketed Series A Bonds will mature on November 1, 2030 and are subject to mandatory purchase prior to maturity as described above. Interest on the Remarketed Series A Bonds in the newest long-term rate period is payable on October 1 and April 1. The Remarketed Series A Bonds are considered a reissuance for federal tax purposes. The Remarketed Series A Bonds are not supported by any insurance policy, liquidity facility or other credit enhancement. The Remarketed Series A Bonds are a general obligation of the University payable from all funds of the University permitted to be applied thereto. The University's unrestricted net position secures the obligations of the University with respect to the Remarketed Series A Bonds. The University is required to certify annually that there are sufficient funds in the unrestricted net position to cover the debt service on the Remarketed Series A Bonds.

Debt covenants The University of Massachusetts Series A, D, and 2011 bonds include a covenant for the maintenance of a debt service fund as outlined in the related debt agreement. The University is required to make deposits in this debt service fund on or before the twenty-fifth day of each March and September. As of June 30, 2016 and 2015, the university is in compliance with this covenant.

Refundings In November 2011, the University issued \$30.0 million of Massachusetts Development Finance Agency Revenue Refunding Bonds (the "Series 2011 Bonds"). The University deposited the proceeds into an irrevocable trust fund to provide for payment of the MHEFA Revenue Bonds, University of Massachusetts Issue, 2002 Series C (the "Series C Bonds"). This payment was made as a lump sum in October 2012. The Series 2011 bonds were issued at a premium of \$1.2 million. These bonds bear interest at various fixed rates ranging from 2.5% to 4.0% and mature on October 1, 2034. As a result of the change in future payments, the University will reduce its aggregate debt service payments by \$4.8 million and achieve an economic gain of \$3.4 million.

In January 2007, the University issued \$10.4 million of MHEFA Revenue Bonds, University of Massachusetts Issue Series D. The proceeds from this issuance were used to advance refund a portion of the MHEFA Revenue Bonds, University of Massachusetts Issue, 2001 Series B (the "Series B Bonds"). These advance refunded bonds were defeased, and accordingly, the liability for the bonds payable and the assets held to repay the debt have not been included in the University's financial statements.

Worcester City Campus Corporation Series D, E, F and 2011

The Worcester City Campus Corporation (WCCC) through MassDevelopment has issued bonds to finance the construction or acquisition of the Lazare Research Building, South Road parking garage, Ambulatory Care Center ("ACC"), two buildings housing the operations of MassBiologics, One Innovation Drive, 373, 377 and 381 Plantation Street, Worcester and to refund previously issued bonds.

In November 2011, the Corporation issued \$10.5 million of Massachusetts Development Finance Agency Revenue Refunding Bonds (the "Series 2011 Bonds"). The Series 2011 Bonds were issued at a premium of \$1.1 million. The proceeds of the Series 2011 Bonds were used to refund the Massachusetts Health and Education Facilities Authority (MHEFA) Series B Bonds, which were used to finance the construction of a parking garage, the acquisition and installation of equipment at the Lazare Research Building, and the financing of 373 Plantation Street.

In January 2007, the Corporation issued \$101.7 million of MHEFA Revenue Bonds (the Series F Bonds). The Series F Bonds were issued at a premium of \$2.8 million. These bonds have been partially refunded by Series 2015 bonds.

In January 2007, the Corporation issued \$118.8 million of MHEFA Revenue Bonds (the Series E Bonds). The Series E Bonds were issued at a premium of \$3.9 million. The Corporation deposited \$32.4 million of the proceeds to an irrevocable trust fund to provide for partial advanced refunding of outstanding MHEFA Series B Revenue Bonds. In accordance with the applicable guidance, a portion of the Series B Bonds totaling \$30.8 million and the related irrevocable trust has been derecognized by the Corporation. Approximately \$85.7 million of the Series E Bonds proceeds were used to finance the construction of the Ambulatory Care Center. These bonds have been partially refunded by Series 2015 bonds.

In April 2005, the Corporation issued \$99.3 million of MHEFA Revenue Bonds (the Series D Bonds). The Corporation deposited the proceeds to an irrevocable trust fund to provide for payment of the MHEFA Series A Revenue Bonds. The proceeds from the Series A Bonds were previously used to fund the construction of the Lazare Research Building. In accordance with the applicable guidance, the Series A Bonds and the related irrevocable trust were derecognized by the Corporation. The Series D Bonds have been partially refunded by Series 2014 Bonds. The Series D Bonds were issued at a premium of \$4.1 million.

Pledged Revenues WCCC is obligated under the terms of indebtedness to make debt service payments from revenues received from certain facility leases. Total applicable pledged revenues were \$6.5 million and \$6.6 million for fiscal years 2016 and 2015, respectively.

Clean Renewable Energy Bonds

During 2011, the University entered into an Energy Services agreement for Solar Panel construction with the Commonwealth's Division of Capital Asset Management and Century Bank and Trust Company. The financing arrangement included \$1.6 million in Clean Renewable Energy Bonds. The outstanding principal balance for these bonds was \$1.1 million as of June 30, 2016.

9. LEASES

The University leases certain equipment and facilities under operating leases with terms exceeding one year, which are cancelable at the University's option with 30 day notice. The rent expense related to these operating leases amounted to approximately \$27.1 million and \$25.6 million for the years ended June 30, 2016 and 2015, respectively. The master leases primarily consist of telecommunications, software, and co-generation systems. The University also leases space to third party tenants. During 2016 and 2015, the amount reported as rental income was \$18.3 million and \$18.8 million, respectively.

The following presents a schedule of future minimum payments under non-cancelable operating leases for the next five years and in subsequent five-year periods for the University as of June 30, 2016 (in thousands):

Year	Operating Leases
2017	\$23,082
2018	22,452
2019	22,010
2020	20,836
2021	20,471
2022 and thereafter	116,290
Total Payments	<u>\$225,141</u>

10. OTHER LONG-TERM LIABILITIES

During the year ended June 30, 2016, the following changes occurred in long-term liabilities as recorded in the statements of net position (in thousands):

	<u>Beginning Balance</u>	<u>Additions/ Adjustments</u>	<u>Reductions/ Adjustments</u>	<u>Ending Balance</u>
University:				
Capital lease obligations	\$562	\$198	(\$331)	\$ 429
Compensated absences	31,813	3,858	-	35,671
Workers' compensation	10,886	1,274	-	12,160
Unearned revenues and credits	26,822	13,049	(15,935)	23,936
Advances and deposits	28,621	1,056	(1,972)	27,705
Other liabilities	41,583	8,536	(1,359)	48,760
University Related Organization:				
Other liabilities	\$3,505	\$ -	\$ (3)	\$ 3,502

During the year ended June 30, 2015 the following changes occurred in long-term liabilities as recorded in the statement of net position (in thousands):

	<u>Beginning Balance</u>	<u>Additions/ Adjustments</u>	<u>Reductions/ Adjustments</u>	<u>Ending Balance</u>
University:				
Capital lease obligations	\$ -	\$ 562	\$ -	\$ 562
Compensated absences	31,779	34	-	31,813
Workers' compensation	10,811	75	-	10,886
Unearned revenues and credits	21,243	23,585	(18,006)	26,822
Advances and deposits	28,094	758	(231)	28,621
Other liabilities	43,263	-	(1,680)	41,583
University Related Organization:				
Other liabilities	\$3,483	\$ 22	-	\$ 3,505

11. FRINGE BENEFITS

Expenditures for the years ended June 30, 2016 and 2015 include \$295.1million and \$257.8 million, respectively, for the employer portion of fringe benefit costs (pension expense, health insurance for active employees and retirees, and terminal leave) that was paid directly by the Commonwealth of Massachusetts. Of this amount, \$117.1 million for 2016 and \$98.4 million for 2015 was reimbursed to the Commonwealth and \$178.0 million and \$159.4 million, respectively, is included in revenue as state appropriations.

12. MEDICAL SCHOOL LEARNING CONTRACTS

The University's Medical School enters into learning contracts with certain medical students. These contracts give students the option of deferring a portion of their tuition until after residency training, and canceling all or a portion of their tuition if they practice primary care medicine for two or four full years (depending on conditions) in the Commonwealth. The University does not record as revenue the portion of tuition deferred under these learning contracts until actual cash repayments are received. The cumulative amount granted under such learning contracts plus accrued interest totaled \$73.2 million and \$70.9 million at June 30, 2016 and 2015, respectively. Cumulative repayments totaled approximately \$56.2 million and \$53.8 million as of June 30, 2016 and 2015, respectively.

13. PENSIONS

The Massachusetts State Employees' Retirement System (MSERS) is a public employee retirement system (PERS) that administers a cost-sharing multi-employer defined benefit plan as defined by Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans*, covering substantially all employees of the Commonwealth. Management of MSERS is vested in the Massachusetts State Retirement Board (the MSRB) which consists of five members- two elected by current and active MSERS members, one by the remaining members of the MSRB, one who is appointed by the State Treasurer and the State Treasurer, who serves as ex-officio and is the Chair of the MSRB.

MSERS provides retirement, disability, survivor and death benefits to members and their beneficiaries. Massachusetts General Laws (MGL) establishes uniform benefit and contribution requirements for all contributory PERS. These requirements provide for superannuation retirement allowance benefits up to a maximum of 80% of a member's highest three-year average annual rate of regular compensation. For employees hired after April 1, 2012, retirement allowances are calculated on the basis of the last five years or any five consecutive years, whichever is greater in terms of compensation. Benefit payments are based upon a member's age, length of creditable service, and group creditable service, and group classification. The authority for amending these provisions rests with the Legislature.

Members become vested after ten years of creditable service. A superannuation retirement allowance may be received upon the completion of twenty years of creditable service or upon reaching the age of 55 with ten years of service. Normal retirement for most employees occurs at age 65; for certain hazardous duty and public safety positions, normal retirement is at age 55. Most employees who joined the system after April 1, 2012 cannot retire prior to age 60.

The MSERS' funding policies have been established by Chapter 32 of MGL. The Legislature has the authority to amend these policies. The annuity portion of the MSERS retirement allowance is funded by employees, who contribute a percentage of their regular compensation. Costs of administering the plan are funded out of plan assets.

Member contributions for MSERS vary depending on the most recent date of membership:

Hire Date	% of Compensation
Prior to 1975	5% of regular compensation
1975-1983	7% of regular compensation
1984 to 6/30/1996	8% of regular compensation
7/1/1996-present	9% of regular compensation
1979 to present	An additional 2% of regular compensation in excess of \$30,000

The University makes contributions on behalf of the employees through a fringe benefit charge assessed by the Commonwealth. The fringe benefit charged amounted to \$84.5 million and \$85.7 million for the years ended June 30, 2016 and 2015, respectively. Annual covered payroll was 75.8% and 76.2% for the years ended June 30, 2016 and 2015, respectively of annual total payroll for the University. The amount of pension expense included in the fringe charge was \$25.1 million and \$22.4 million for the years ended June 30, 2016 and 2015, respectively.

Actuarial Assumptions The total pension liability for the June 30, 2015 measurement date was determined by an actuarial valuation as of January 1, 2015 rolled forward to June 30, 2015. This valuation used the following assumptions:

1. (a) 7.5% investment rate of return, (b) 3.5% discount rate credited to an annuity savings fund and (c) 3.00% cost of living increase per year.
2. Salary increases are based on analyses of past experience but range from 3.5% to 9.0% depending on group and length of service.
3. In May 2015, Chapter 19 of the Acts of 2015 created an Early Retirement Incentive (ERI) for certain members of SERS who upon election of the ERI retired effective June 30, 2015. As a result, the total pension liability of SERS has increased by approximately \$230 million as of June 30, 2015.
4. Mortality rates were as follows:
 - a) Pre-retirement – reflects RP-2000 Employees table projected generationally with Scale BB and a base year of 2009 (gender distinct)
 - b) Post-retirement – reflects RP-2000 Healthy Annuitant table projected generationally with Scale BB and a base year of 2009 (gender distinct)
 - c) Disability – the mortality rate is assumed to be in accordance with the RP-2000 Healthy Annuitant table projected generationally with Scale BB and a base year of 2015 (gender distinct)

The total pension liability for the June 30, 2014 measurement date was determined by an actuarial valuation as of January 1, 2014 rolled forward to June 30, 2014. This valuation used the following assumptions:

1. (a) 8.0% investment rate of return, (b) 3.5% interest rate credited to an annuity savings fund and (c) 3.0% cost of living increase per year.
2. Salary increases are based on analyses of past experience but range from 3.5% to 9.0% depending on group and length of service.
3. Mortality rates were as follows:
 - a. Pre-retirement – reflects RP-2000 Employees table projected 20 years with Scale AA (gender distinct)
 - b. Post-retirement – reflects Healthy Annuitant table projected 15 years with Scale AA (gender distinct)
 - c. Disability – the mortality rate is assumed to be in accordance with the RP-2000 Table projected 5 years with Scale AA (gender distinct) set forward 3 years for males.

Investment assets of MSERS are with the Pension Reserves Investment Trust (PRIT) Fund. The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future rates of return by the target asset allocation percentage.

Best estimates of geometric rates of return for each major asset class included in the PRIT Fund's target asset allocation as of June 30, 2015 are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Global Equity	40.00%	6.90%
Core Fixed Income	13.00%	2.40%
Private Equity	10.00%	8.50%
Real Estate	10.00%	6.50%
Value Added Fixed Income	10.00%	5.80%
Hedge Funds	9.00%	5.80%
Portfolio Completion Strategies	4.00%	5.50%
Timber / Natural Resources	4.00%	6.50%
Total	<u>100.00%</u>	

Best estimates of geometric rates of return for each major asset class included in the PRIT Fund's target asset allocation as of June 30, 2014 and 2013 are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return 2014
Global Equity	43.00%	7.20%
Core Fixed Income	13.00%	2.50%
Hedge Funds	10.00%	5.50%
Private Equity	10.00%	8.80%
Real Estate	10.00%	6.30%
Value Added Fixed Income	10.00%	6.30%
Timber / Natural Resources	4.00%	5.00%
Total	<u>100.00%</u>	

Discount Rate The Discount rate used to measure the total pension liability was 7.5%. The projection of cash flows used to determine the discount rate assumed that plan member's contributions will be made at the current contribution rates and the Commonwealth's contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rates. Based on those assumptions, the net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity Analysis The following illustrates the sensitivity of the collective net pension liability to changes in the discount rate as of June 30, 2015. In particular, the table presents the MSERS collective pension liability assuming it was calculated using a single discount rate that is one-percentage-point lower or one-percentage-point higher than the current discount rate (amounts in thousands):

Fiscal Year Ended	1% Decrease to 6.5%	Current Discount Rate 7.5%	1% Increase to 8.5%
June 30, 2016	\$ 606,780	\$ 408,418	\$ 308,037
June 30, 2015	342,861	237,135	145,815

For the year ending June 30, 2016, the University recognized \$34.5 million of pension expense, which is recorded in Operating Expenses. The following table shows the components of pension expense as of June 30, 2016 (amounts in thousands):

	2016	2015
Proportionate Share of Plan Pension Expense	\$ 46,106	17,555
Net Amortization of Deferred Amounts from Change in Proportion	11,224	4,851
2016 Payments	(22,864)	(22,463)
Pension Expense	<u>\$ 34,466</u>	<u>\$ (57)</u>

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions At June 30, 2016 the University reported a liability of \$408.4 million for its proportionate share of MSERS's net pension liability. The net pension liability was measured as of June 30, 2015 and the total pension liability was used to calculate the net pension liability which was determined by an actuarial valuation as of that date. The University's proportion of the net pension liability was based on a projection of the University's long-term share of contributions to the pension plan relative to the total projected contributions of all participating entities, actuarially determined. There were no changes of assumptions or other inputs that affected measurement of the total pension liability during the measurement period. There were no changes of benefit terms that affected measurement of the total pension liability during the measurement period.

At June 30, 2016, the University reported its proportionate share of MSERS's deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

	Deferred Inflows of Resources	Deferred Outflows of Resources
Changes of Assumptions		\$ 70,730
Changes in Proportion Due to Internal Allocation		45,965
Employer Contributions after measurement date		22,386
Differences Between Expected and Actual Experience		8,072
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	\$ 11,736	
Changes in Proportion From Commonwealth	314	
	<u>\$ 12,050</u>	<u>\$ 147,153</u>

At June 30, 2015, the University reported its proportionate share of MSERS's deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

	Deferred Inflows of Resources	Deferred Outflows of Resources
Changes of Assumptions		\$ 2,666
Changes in Proportion Due to Internal Allocation		21,910
Employer Contributions after measurement date		22,463
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	\$ 48,672	
Changes in Proportion From Commonwealth	82	
	<u>\$ 48,754</u>	<u>\$ 47,039</u>

The net amounts of the employer's balances of deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended June 30:	
2017	\$ 20,439
2018	20,439
2019	20,439
2020	33,774
2021	17,627
Thereafter	-
	<u>\$ 112,717</u>

Non-vested faculty and certain other employees of the University can opt out of MSERS and participate in a defined contribution plan, the Massachusetts Optional Retirement Program ("ORP"), administered by the Commonwealth's Department of Higher Education. At June 30, 2016 and 2015, there were 3,783 and 4,449 University employees, respectively participating in ORP. Employees contribute at the same rate as members in SERS do and the Commonwealth matches 5% of employee contributions. The Commonwealth contributed \$10.4 million and \$6.2 million in 2016 and 2015, respectively. University employees contributed \$24.4 million and \$28.6 million in 2016 and 2015, respectively.

The MSERS and ORP retirement contributions of employees who become members of MSERS or ORP after January 1, 2011 are subject to a state compensation limit. Effective January 1, 2011, the University established a defined contribution plan, the University of Massachusetts 401(a) Retirement Gap Plan, administered by the University's Treasury Office. Employees with MSERS or ORP membership dates after January 1, 2011 are eligible employees for the Gap Plan. Eligible employees begin participation in the Gap Plan when their regular compensation exceeds the state compensation limit in effect for the plan year, at which point their contributions to MSERS or ORP are required to stop for the remainder of the plan year. Employee contributions to the Gap Plan are mandatory and at the same rate as MSERS and ORP; the University contributes 5%. At June 30, 2016 and 2015 plan assets totaled approximately \$1.529 million and \$891.4 million, respectively.

14. CONCENTRATION OF CREDIT RISK (Other than Cash and Investments)

The receivable from UMass Memorial Medical Center (UMMMC) which is uncollateralized represents a potential concentration of credit risk for the university. The receivable from UMass Memorial represents 11.2% and 5.7% of total accounts receivable for the University at June 30, 2016 and 2015, respectively. The University also had uncollateralized receivables one organization comprising approximately 12.0% of the total outstanding receivables at June 30, 2016 and uncollateralized receivables from three other organizations comprising approximately 11.8%, 8.0% and 3.7% of the total outstanding receivables at June 30, 2015.

15. COMMITMENTS AND CONTINGENCIES

The Building Authority, University, and WCCC have outstanding purchase commitments under construction contracts and real estate agreements in amounts aggregating \$157.3 million and \$205.7 million at June 30, 2016 and 2015, respectively. In connection with the investments in certain limited partnership agreements, the Foundation has \$84.7 million and \$60.1 million in committed calls as of June 30, 2016 and 2015, respectively, which are scheduled to be funded over a number of years. The University has entered an Energy Performance Contract that is being managed by the Commonwealth's Division of Capital Asset Management (DCAM) under its Clean Energy Investment Program. This project includes 32 energy conservation measures. The installation costs will be incurred over 2 phases with Phase 1 being \$18.0 million and Phase 2 being \$13.5 million. The term of these transactions is 20 years. The University has a commitment to the Commonwealth for Clean Energy Investment Program Funds used through June 30, 2016 and 2015 in the amount of \$28.2 million and \$29.1 million, respectively.

The University, as an agency of the Commonwealth, is self-insured for property loss exposure, subject to appropriation from the state legislature. However, properties owned by the University of Massachusetts Building Authority located on a campus of the University, such as the Mullins Center, dining commons, and most dormitories, are insured by the Building Authority. In addition, certain properties owned by other University Related Organizations and leased to the University are insured by the related organization. The University and its employees are protected against tort claims through sovereign immunity under Chapter 258 of the Massachusetts General Laws. The University maintains certain liability insurance policies, including Commercial General Liability, leased Automotive Liability, Directors and Officers and Comprehensive Crime policies. Employees of the University are covered for Worker's Compensation protection under Chapter 152 of the Massachusetts General Laws. The University has recorded a liability for future expected costs of its workers' compensation claims of \$15.4 million as of June 30, 2016 and \$14.4 million as of June 30, 2015. Estimated future payments related to such costs have been discounted at a rate of 4.0%.

The University is a defendant in various lawsuits and is subject to various contractual matters; however, University management is of the opinion that the ultimate outcome of all litigation or potential contractual obligations will not have a material effect on the financial position, financial results or cash flows of the University.

From time to time the University and/or its affiliated organizations are subject to audits of programs that are funded through either federal and/or state agencies. The University is aware that the Office of the Inspector General for the U.S. Department of Health and Human Services performed an audit of Medicaid Supplemental Revenues ("MSR") received by UMMC, the final report for which was issued December 2009. Portions of this report continue to be contested and the final outcome of this audit is currently unknown. Dependent on the final outcome, UMMC may be required to repay any MSR received deemed to be disallowed as a result of the audit. Dependent on that outcome, the University, consistent with the Agreement for Medical Educational Services, made part of the Definitive Agreement between the University and UMMC, and its subsequent amendments and the indemnification provisions in these Agreements, may be required to indemnify UMMC for a portion of any amounts due. Although the final outcome of this audit is currently unknown, and management believes that as of the date of the financial statements it is not probable that a liability exists, management concludes it is reasonably possible that amounts could be repaid and that those amounts may be material to the University's financial position and results of operations.

Five Universities in the Commonwealth of Massachusetts jointly formed the Massachusetts Green High Performance Computing Center, Inc. (MGHPCC) and MGHPCC Holyoke, Inc. in May 2010 and April 2012, respectively, to construct and operate a research computing center located in Holyoke, Massachusetts. MGHPCC and MGHPCC Holyoke, Inc. are tax-exempt organizations under Internal Revenue Code section 501(c) (3). Each respective university agreed to contribute \$10.0 million and as of June 30, 2016, each university had contributed the required amounts. The University's unamortized \$5.0 million investment is included in its Statement of Financial Position within Other Assets.

16. SUBSEQUENT EVENTS

On November 8, 2016, the Building Authority entered into an agreement whereby the Building Authority sub-leased property on the University of Boston campus to Provident Commonwealth Educational Resources Inc., a Massachusetts not-for-profit corporation. The land is leased to the Authority by the Commonwealth. Provident Commonwealth Educational Resources, Inc. will engage a contractor to construct a 1,082 bed student housing facility on the site. The Building Authority will sub-lease the property to Provident Commonwealth Educational Resources Inc. for a term of approximately 40 years. Commencing approximately one year following the completion of the project (estimated completion August 2018), the annual rental amount payable to the Building Authority under the ground lease will be \$1.0 million.

Pursuant to the Dining Facility Sublease dated November 8, 2016 between Provident Commonwealth Education Resources Inc., as sub-lessor and the Building Authority, as sub-lessee, Provident Commonwealth Educational Resources Inc. shall lease the dining facility, located within the residential hall, to the Building Authority and the Building Authority shall operate the Dining Facility.

For purposes of determining the effects of subsequent events on these financial statements, management has evaluated events subsequent to June 30, 2016 through December 7, 2016, the date on which the financial statements were available to be issued and determined that there are no other matters requiring recognition or disclosure to the accompanying financial statements.

The University of Massachusetts
Required Supplementary Information - Unaudited
June 30, 2016

**SCHEDULE OF THE UNIVERSITY'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY
MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM**

	<u>6/30/2015</u>	<u>6/30/2016</u>
University's proportion of the net pension liability	3.489%	3.922%
University's proportionate share of the net pension liability	\$ 237,134	\$ 408,418
University's covered-employee payroll	\$ 1,061,132	\$ 1,139,719
University's proportionate share of the net pension liability as a percentage of its covered-employee payroll	22.35%	35.83%
Plan fiduciary net position as a percentage of total pension liability	76.32%	67.87%

**SCHEDULE OF THE UNIVERSITY'S CONTRIBUTIONS
MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM**

Contractually required contribution	\$ 22,870	\$ 22,386
Contributions in relation to the contractually required contribution	<u>(22,870)</u>	<u>(22,386)</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>
University's covered-employee payroll	\$ 1,061,132	\$ 1,139,719
Contributions as a percentage of covered-employee payroll	2.16%	1.96%

This page is intentionally left blank

**University of Massachusetts
2016 Annual Financial Report
Supplemental Financial Information
Table of Contents**

	<u>Page</u>
Report of Independent Certified Public Accountants on Supplemental Information	S
Campuses:	
<i>Central Administration:</i>	
Statements of Net Position as of June 30, 2016 and 2015	S-1
Statements of Revenues, Expenses and Changes in Net Position for the Years Ended June 30, 2016 and 2015	S-2
<i>Amherst:</i>	
Statements of Net Position as of June 30, 2016 and 2015	S-3
Statements of Revenues, Expenses and Changes in Net Position for the Years Ended June 30, 2016 and 2015	S-4
<i>Boston:</i>	
Statements of Net Position as of June 30, 2016 and 2015	S-5
Statements of Revenues, Expenses and Changes in Net Position for the Years Ended June 30, 2016 and 2015	S-6
<i>Dartmouth:</i>	
Statements of Net Position as of June 30, 2016 and 2015	S-7
Statements of Revenues, Expenses and Changes in Net Position for the Years Ended June 30, 2016 and 2015	S-8
<i>Lowell:</i>	
Statements of Net Position as of June 30, 2016 and 2015	S-9
Statements of Revenues, Expenses and Changes in Net Position for the Years Ended June 30, 2016 and 2015	S-10
<i>Worcester (including Worcester City Campus Corporation and Subsidiary):</i>	
Statements of Net Position as of June 30, 2016 and 2015	S-11
Statements of Revenues, Expenses and Changes in Net Position for the Years Ended June 30, 2016 and 2015	S-12
University Related Organizations:	
Combining Statements of Net Position as of June 30, 2016 and 2015	I
Combining Statements of Revenues, Expenses and Changes in Net Position for the Years Ended June 30, 2016 and 2015	II
Notes to Supplementary Information	III



Grant Thornton LLP
75 State Street, 13th Floor
Boston, MA 02109
T 617.723.7900
F 617.723.3640
www.GrantThornton.com
linkd.in/GrantThorntonUS
twitter.com/GrantThorntonUS

REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

Board of Trustees

University of Massachusetts

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities and the aggregate discretely presented component units of the University of Massachusetts (the "University"), an enterprise fund of the Commonwealth of Massachusetts, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the University's basic financial statements, and our report thereon dated December 15, 2016 expressed unmodified opinions on those financial statements. Our audits were performed for the purpose of forming opinions on these financial statements that collectively comprise the University's basic financial statements.

The accompanying Supplemental Schedules of Financial Information for University Campuses and University related organizations as of and for the years ended June 30, 2016 and 2015 is presented for purposes of additional analysis and is not a required part of the financial statements. Such supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. However, the University has not reflected the impact of accounting for pensions in these Supplemental Schedules. Accounting principles generally accepted in the United States of America require the net pension liability as well as deferred inflows and deferred outflows of resources associated with pensions to be recorded in the financial statements. The amounts not reflected in the Supplemental Schedules are as follows (in \$000's): net pension liability (\$408,418 and \$237,135), deferred inflows of resources (\$12,050 and \$48,753) and deferred outflows of resources (\$147,153 and \$47,039) as of June 30, 2016 and 2015 respectively. The other supplementary information has been subjected to the auditing procedures applied in the audits of the basic financial statements and certain additional procedures. These additional procedures included comparing and reconciling the information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, except for the effects of the matter described above related to pensions, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Grant Thornton LLP

Boston, Massachusetts
December 15, 2016

**University of Massachusetts
CENTRAL ADMINISTRATION
Statements of Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
ASSETS		
Current Assets		
Cash and Cash Equivalents	\$10,293	\$8,737
Cash Held By State Treasurer	7	77
Accounts, Grants and Loans Receivable, net	2,959	2,280
Short Term Investments	35,628	56,861
Due From Other Campuses	800	1,132
Other Assets	26,575	5,713
Total Current Assets	76,262	74,800
Noncurrent Assets		
Cash and Securities Held By Trustees	12,231	21,015
Cash Held By State Treasurer	188	188
Investments	100,517	107,963
Other Assets	5,000	6,000
Investment In Plant, net	99,853	95,171
Total Noncurrent Assets	217,789	230,337
Total Assets	\$294,051	\$305,137
DEFERRED OUTFLOWS OF RESOURCES		
Loss on Debt Refinancing	\$767	\$802
LIABILITIES		
Current Liabilities		
Accounts Payable	\$1,580	\$4,396
Accrued Salaries and Wages	2,476	2,808
Accrued Compensated Absences	4,576	4,431
Accrued Interest Payable	593	589
Due To Campuses	43,879	46,316
Due To Related Organizations	279	384
Unearned Revenues and Credits	641	1,159
Advances and Deposits	243	437
Other Liabilities	6,443	6,680
Total Current Liabilities	60,710	67,200
Noncurrent Liabilities		
Accrued Compensated Absences	654	589
Bonds Payable	77,374	83,485
Unearned Revenues and Credits	222	210
Other Liabilities	13,839	10,061
Total Noncurrent Liabilities	92,089	94,345
Total Liabilities	\$152,799	\$161,545
Net Position:		
Invested in Capital Assets Net of Related Debt	\$11,956	\$18,026
Restricted		
Nonexpendable	2,208	2,206
Expendable	25,769	27,530
Unrestricted	102,086	96,632
Total Net Position	\$142,019	\$144,394

**University of Massachusetts
CENTRAL ADMINISTRATION
Statements of Revenues, Expenses and Changes in Net Position
For The Years Ended June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
REVENUES		
Operating Revenues		
Tuition and Fees	\$5,204	\$4,701
Federal Grants and Contracts	5,984	2,934
State Grants and Contracts	4,795	4,985
Local Grants and Contracts	17	134
Private Grants and Contracts	3,052	3,305
Sales and Service, Educational	2,253	2,129
Allocation from Campuses	67,626	65,476
Other Operating Revenues:		
Other	10,790	11,013
Total Operating Revenues	99,721	94,677
EXPENSES		
Operating Expenses		
<i>Educational and General</i>		
Instruction	14,802	10,721
Research	4,466	4,269
Public Service	3,110	2,818
Institutional Support	69,314	68,982
Operation and Maintenance of Plant	(91)	2,262
Scholarships and Fellowships	6	6
Depreciation and Amortization	9,240	6,534
Total Operating Expenses	100,847	95,592
Operating Income/(Loss)	(1,126)	(915)
NONOPERATING REVENUES/(EXPENSES)		
State Appropriations	890	
Investment Income	7,319	10,176
Unrealized Gains/(Losses) on Investments	(599)	(4,413)
Endowment Return	272	301
Interest on Indebtedness	(3,897)	(1,747)
Other Nonoperating Income	18	
Net Nonoperating Revenues	4,003	4,317
Income Before Other Revenues, Expenses, Gains, and Losses	2,877	3,402
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES		
Endowment Return, net of amount used for operations	(2,409)	(898)
Other Additions/(Deductions)	(2,843)	(14,210)
Total Other Revenues, Expenses, Gains, and Losses	(5,252)	(15,108)
Total Increase in Net Position	(2,375)	(11,706)
NET POSITION		
Net Position at Beginning of Year, as reported	144,394	156,100
Net Position at End of Year	\$142,019	\$144,394

**University of Massachusetts
AMHERST CAMPUS
Statements of Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
ASSETS		
Current Assets		
Cash and Cash Equivalents	\$34,657	\$32,763
Cash Held By State Treasurer	4,187	11,468
Accounts, Grants and Loans Receivable, net	54,756	51,367
Pledges Receivable, net	4,224	2,719
Short Term Investments	103,269	107,018
Inventories, net	4,978	4,808
Due From Other Campuses	18,670	20,677
Other Assets	516	715
Total Current Assets	225,257	231,535
Noncurrent Assets		
Cash Held By State Treasurer	1,566	2,315
Cash and Securities Held By Trustees	105,235	198,874
Accounts, Grants and Loans Receivable, net	17,188	17,996
Pledges Receivable, net	15,372	3,824
Investments	296,977	277,293
Investment in Plant, net	1,832,692	1,712,927
Total Noncurrent Assets	2,269,030	2,213,229
Total Assets	\$2,494,287	\$2,444,764
DEFERRED OUTFLOWS OF RESOURCES		
Deferred Change in Fair Value of Interest Rate Swaps	\$43,423	\$30,586
Loss on Debt Refunding	34,294	37,000
Total Deferred Outflows of Resources	\$77,717	\$67,586
LIABILITIES		
Current Liabilities		
Accounts Payable	\$49,979	\$38,456
Accrued Salaries and Wages	44,680	51,822
Accrued Compensated Absences	26,168	24,686
Accrued Workers' Compensation	1,317	1,459
Accrued Interest Payable	6,383	6,679
Bonds Payable	151,842	236,319
Accelerated variable rate debt, current	2,124	
Unearned Revenues and Credits	14,438	14,133
Advances and Deposits	1,299	926
Other Liabilities	10,185	6,984
Total Current Liabilities	308,415	381,464
Noncurrent Liabilities		
Accrued Compensated Absences	13,906	12,301
Accrued Workers' Compensation	4,924	4,546
Bonds Payable	824,114	782,593
Derivative Instrument, Interest Rate Swap	55,450	43,275
Unearned Revenues and Credits	13,271	13,090
Advances and Deposits	12,828	13,748
Total Noncurrent Liabilities	924,493	869,553
Total Liabilities	\$1,232,908	\$1,251,017
Net Position:		
Invested in Capital Assets Net of Related Debt	\$934,947	\$889,321
Restricted		
Nonexpendable	3,985	3,977
Expendable	73,949	57,647
Unrestricted	326,215	310,388
Total Net Position	\$1,339,096	\$1,261,333

**University of Massachusetts
AMHERST CAMPUS
Statements of Revenues, Expenses and Changes in Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
REVENUES		
Operating Revenues		
Tuition and Fees (net of scholarship allowances of \$114,881 at June 30, 2016 and \$99,261 at June 30, 2015)	\$366,191	\$341,462
Federal Grants and Contracts	90,212	87,227
State Grants and Contracts	18,334	16,990
Local Grants and Contracts	322	207
Private Grants and Contracts	36,349	32,712
Sales and Service, Educational	8,935	8,908
Auxiliary Enterprises	241,428	223,784
Other Operating Revenues:		
Other	22,416	19,010
Total Operating Revenues	784,187	730,300
EXPENSES		
Operating Expenses		
<i>Educational and General</i>		
Instruction	358,273	326,938
Research	113,462	105,987
Public Service	25,848	24,663
Academic Support	64,782	62,818
Student Services	57,493	54,551
Institutional Support	74,519	69,644
Operation and Maintenance of Plant	90,140	86,813
Depreciation and Amortization	96,614	89,442
Scholarships and Fellowships	14,452	20,215
<i>Auxiliary Enterprises</i>	200,807	185,181
Total Operating Expenses	1,096,390	1,026,252
Operating Loss	(312,203)	(295,952)
NONOPERATING REVENUES/(EXPENSES)		
Federal Appropriations	6,827	6,619
State Appropriations	319,541	298,423
Gifts	27,665	15,714
Investment Income	5,176	5,410
Unrealized Gain/(Loss) on Investments	(2,560)	(3,605)
Endowment Income Distributed for Operations	9,730	10,039
Interest on Indebtedness	(32,417)	(29,820)
Nonoperating Federal Grants	23,831	24,323
Other Nonoperating Income	47	643
Net Nonoperating Revenues	357,840	327,746
Income Before Other Revenues, Expenses, Gains, and Losses	45,637	31,794
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES		
Capital Appropriations	16,118	13,679
Capital Grants and Contracts	30,984	29,248
Endowment Return, net of amount used for operations	(9,806)	(5,252)
Disposal of Plant Facilities	(5,193)	(4,959)
Other Additions/(Deductions)	22	6,984
Total Other Revenues, Expenses, Gains, and Losses	32,125	39,700
Total Increase in Net Position	77,762	71,494
NET POSITION		
Net Position at Beginning of Year, as reported	1,261,334	1,189,839
Net Position at End of Year	\$1,339,096	\$1,261,333

**University of Massachusetts
BOSTON CAMPUS
Statements of Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
ASSETS		
Current Assets		
Cash and Cash Equivalents	\$3,467	\$4,138
Cash Held By State Treasurer	1,227	4,609
Accounts, Grants and Loans Receivable, net	28,254	26,123
Pledges Receivable, net	626	511
Short Term Investments	11,429	27,054
Inventories, net	853	814
Due From Other Campuses	4,670	5,040
Other Assets	186	160
Total Current Assets	50,712	68,449
Noncurrent Assets		
Cash Held By State Treasurer	2,117	1,377
Cash and Securities Held By Trustees	257,625	314,185
Accounts, Grants and Loans Receivable, net	8,120	7,978
Pledges Receivable, net	770	730
Investments	66,538	84,341
Other Assets	1,493	
Investment In Plant, net	644,458	538,779
Total Noncurrent Assets	981,121	947,390
Total Assets	\$1,031,833	\$1,015,839
DEFERRED OUTFLOWS OF RESOURCES		
Deferred Change in Fair Value of Interest Rate Swaps	\$2,751	\$1,462
Loss on Debt Refunding	7,242	7,726
Total Deferred Outflows of Resources	\$9,993	\$9,188
LIABILITIES		
Current Liabilities		
Accounts Payable	\$18,596	\$27,010
Accrued Salaries and Wages	20,583	23,225
Accrued Compensated Absences	12,480	11,743
Accrued Workers' Compensation	459	458
Accrued Interest Payable	4,081	4,165
Bonds Payable	39,701	23,647
Accelerated variable rate debt, current	273	
Capital Lease Obligations	43	97
Unearned Revenues and Credits	4,592	4,612
Advances and Deposits	1,611	2,269
Other Liabilities	6,659	8,476
Total Current Liabilities	109,078	105,702
Noncurrent Liabilities		
Accrued Compensated Absences	4,924	4,263
Accrued Workers' Compensation	1,719	1,426
Bonds Payable	488,263	516,654
Capital Lease Obligations	72	326
Derivative Instrument, Interest Rate Swap	5,643	4,510
Unearned Revenues and Credits	2,257	1,990
Advances and Deposits	4,189	4,337
Other Liabilities	1,342	1,591
Total Noncurrent Liabilities	508,409	535,097
Total Liabilities	\$617,487	\$640,799
Net Position:		
Invested in Capital Assets Net of Related Debt	\$355,941	\$284,313
Restricted		
Nonexpendable	6,620	6,713
Expendable	21,426	21,178
Unrestricted	40,352	72,024
Total Net Position	\$424,339	\$384,228

**University of Massachusetts
BOSTON CAMPUS
Statements of Revenues, Expenses and Changes in Net Position
For The Years Ended June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
REVENUES		
Operating Revenues		
Tuition and Fees (net of scholarship allowances of \$45,471 at June 30, 2016 and \$44,311 at June 30, 2015)	\$186,884	\$169,657
Federal Grants and Contracts	33,721	28,895
State Grants and Contracts	7,215	8,300
Local Grants and Contracts	1,220	537
Private Grants and Contracts	11,771	10,829
Sales and Service, Educational	3,709	4,197
Auxiliary Enterprises	5,965	9,211
Other Operating Revenues:		
Other	2,837	854
Total Operating Revenues	253,322	232,480
EXPENSES		
Operating Expenses		
<i>Educational and General</i>		
Instruction	161,679	146,347
Research	39,456	37,357
Public Service	5,886	9,219
Academic Support	36,168	31,862
Student Services	28,309	23,172
Institutional Support	57,467	55,199
Operation and Maintenance of Plant	31,567	28,319
Depreciation and Amortization	18,989	16,572
Scholarships and Fellowships	16,047	12,254
<i>Auxiliary Enterprises</i>	7,280	9,001
Total Operating Expenses	402,848	369,302
Operating Loss	(149,526)	(136,822)
NONOPERATING REVENUES/(EXPENSES)		
State Appropriations	117,987	110,295
Gifts	3,775	3,149
Investment Income	4,743	4,519
Unrealized Gain/(Loss) on Investments	(622)	(593)
Endowment Return	2,876	2,346
Interest on Indebtedness	(9,064)	(8,133)
Nonoperating Federal Grants	23,554	23,439
Other Nonoperating Income/(Expense)	767	487
Net Nonoperating Revenues	144,016	135,509
Income Before Other Revenues, Expenses, Gains, and Losses	(5,510)	(1,313)
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES		
Capital Appropriations	46,847	35,290
Capital Grants and Contracts	3,739	1,118
Endowment Return, net of amount used for operations	(3,616)	(1,792)
Disposal of Plant Facilities	(2,125)	(3,516)
Other Additions/(Deductions)	776	(347)
Total Other Revenues, Expenses, Gains, and Losses	45,621	30,753
Total Increase in Net Position	40,111	29,440
NET POSITION		
Net Position at Beginning of Year, as reported	384,228	354,788
Net Position at End of Year	\$424,339	\$384,228

**University of Massachusetts
DARTMOUTH CAMPUS
Statements of Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
ASSETS		
Current Assets		
Cash and Cash Equivalents	\$2,458	\$1,233
Cash Held By State Treasurer	1,037	3,815
Accounts, Grants and Loans Receivable, net	10,090	11,213
Short Term Investments	7,353	5,732
Due From Other Campuses	741	715
Due From Related Organizations	69	59
Other Assets	23,645	482
Total Current Assets	45,393	23,249
Noncurrent Assets		
Cash Held By State Treasurer	1,995	352
Cash and Securities Held By Trustees	31,377	50,576
Accounts, Grants and Loans Receivable, net	2,923	2,807
Investments	22,613	15,498
Investment In Plant, net	331,821	321,691
Total Noncurrent Assets	390,729	390,924
Total Assets	\$436,122	\$414,173
DEFERRED OUTFLOWS OF RESOURCES		
Deferred Change in Fair Value of Interest Rate Swaps	\$11,438	\$6,839
Loss on Debt Refunding	19,871	21,427
Total Deferred Outflows of Resources	\$31,309	\$28,266
LIABILITIES		
Current Liabilities		
Accounts Payable	\$7,846	\$4,431
Accrued Salaries and Wages	9,511	11,746
Accrued Compensated Absences	6,588	6,308
Accrued Workers' Compensation	460	373
Accrued Interest Payable	1,170	1,255
Bonds Payable	85,922	64,358
Accelerated variable rate debt, current	2,603	6,000
Due To Other Campuses	800	1,132
Unearned Revenues and Credits	1,695	1,779
Advances and Deposits	1,108	1,167
Other Liabilities	4,209	1,228
Total Current Liabilities	121,912	99,777
Noncurrent Liabilities		
Accrued Compensated Absences	4,351	3,818
Accrued Workers' Compensation	1,720	1,162
Bonds Payable	113,601	147,951
Derivative Instrument, Interest Rate Swap	20,064	15,939
Unearned Revenues and Credits	54	44
Advances and Deposits	3,573	3,317
Other Liabilities	28,176	29,159
Total Noncurrent Liabilities	171,539	201,390
Total Liabilities	\$293,451	\$301,167
Net Position:		
Invested in Capital Assets Net of Related Debt Restricted	\$124,922	\$124,530
Expendable	32,699	7,594
Unrestricted	16,359	9,148
Total Net Position	\$173,980	\$141,272

**University of Massachusetts
DARTMOUTH CAMPUS
Statements of Revenues, Expenses and Changes in Net Position
For The Years Ended June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
REVENUES		
Operating Revenues		
Tuition and Fees (net of scholarship allowances of \$35,987 at June 30, 2016 and \$35,359 June 30, 2015)	\$76,480	\$72,269
Federal Grants and Contracts	8,106	7,798
State Grants and Contracts	6,420	6,060
Local Grants and Contracts	425	343
Private Grants and Contracts	3,560	3,560
Sales and Service, Educational	71	40
Auxiliary Enterprises	48,835	47,374
Other Operating Revenues:		
Other	5,016	6,447
Total Operating Revenues	148,913	143,891
EXPENSES		
Operating Expenses		
<i>Educational and General</i>		
Instruction	72,360	66,415
Research	11,654	15,347
Public Service	3,235	3,228
Academic Support	29,048	27,762
Student Services	13,211	12,190
Institutional Support	19,247	18,374
Operation and Maintenance of Plant	24,147	21,298
Depreciation and Amortization	17,904	16,663
Scholarships and Fellowships	5,001	7,442
<i>Auxiliary Enterprises</i>	32,438	28,337
Total Operating Expenses	228,245	217,056
Operating Loss	(79,332)	(73,165)
NONOPERATING REVENUES/(EXPENSES)		
State Appropriations	75,971	70,006
Investment Income	1,447	978
Unrealized Gain/(Loss) on Investments	239	(441)
Endowment Income Distributed for Operations	2,158	1,957
Interest on Indebtedness	(7,968)	(8,252)
Nonoperating Federal Grants	12,458	12,792
Other Nonoperating Income	95	1,413
Net Nonoperating Revenues	84,400	78,453
Income/(Loss) Before Other Revenues, Expenses, Gains, and Losses	5,068	5,288
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES		
Capital Appropriations	30,057	5,576
Capital Grants and Contracts		11,400
Disposal of Plant Facilities	(194)	(1,183)
Endowment Return, net of amount used for operations	(557)	1,096
Additions to Permanent Endowments		920
Other Additions/(Deductions)	(1,666)	(27,804)
Total Other Revenues, Expenses, Gains, and Losses	27,640	(9,995)
Total Increase in Net Position	32,708	(4,707)
NET POSITION		
Net Position at Beginning of Year, as reported	141,272	145,979
Net Position at End of Year	\$173,980	141,272

University of Massachusetts
LOWELL CAMPUS
Statements of Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)

	June 30, 2016	June 30, 2015
ASSETS		
Current Assets		
Cash and Cash Equivalents	\$10,306	\$6,165
Cash Held By State Treasurer	2,008	5,775
Accounts, Grants and Loans Receivable, net	27,400	33,237
Pledges Receivable, net	1,265	1,172
Short Term Investments	30,540	33,668
Due From Other Campuses	4,831	4,850
Other Assets	2,335	1,103
Total Current Assets	78,685	85,970
Noncurrent Assets		
Cash Held By State Treasurer	1,913	694
Cash and Securities Held By Trustees	79,358	119,931
Accounts, Grants and Loans Receivable, net	4,092	3,488
Pledges Receivable, net	1,453	1,721
Investments	89,631	74,665
Other Assets	2,184	512
Investment In Plant, net	684,841	623,420
Total Noncurrent Assets	863,472	824,431
Total Assets	\$942,157	\$910,401
DEFERRED OUTFLOWS OF RESOURCES		
Deferred Change in Fair Value of Interest Rate Swaps	\$7,816	\$5,761
Loss on Debt Refunding	3,197	3,381
Total Deferred Outflows of Resources	\$11,013	\$9,142
LIABILITIES		
Current Liabilities		
Accounts Payable	\$10,877	\$11,836
Accrued Salaries and Wages	16,386	19,551
Accrued Compensated Absences	10,880	10,212
Accrued Workers' Compensation	370	432
Accrued Interest Payable	3,865	3,931
Bonds Payable	30,235	53,238
Capital Lease Obligations	76	73
Unearned Revenues and Credits	6,679	4,678
Advances and Deposits	1,810	1,301
Other Liabilities	6,364	2,436
Total Current Liabilities	87,542	107,688
Noncurrent Liabilities		
Accrued Compensated Absences	5,620	5,175
Accrued Workers' Compensation	1,383	1,344
Bonds Payable	484,334	468,390
Derivative Instruments, Interest Rate Swap	9,321	7,330
Capital Lease Obligations	159	236
Unearned Revenues and Credits	1,821	4,979
Advances and Deposits	3,667	3,771
Other Liabilities	3,485	339
Total Noncurrent Liabilities	509,790	491,564
Total Liabilities	\$597,332	\$599,252
Net Position:		
Invested in Capital Assets Net of Related Debt	\$237,542	\$211,600
Restricted		
Nonexpendable	4,543	4,456
Expendable	24,490	18,795
Unrestricted	89,263	85,440
Total Net Position	\$355,838	\$320,291

**University of Massachusetts
LOWELL CAMPUS
Statements of Revenues, Expenses and Changes in Net Position
For The Years Ended June 30, 2016 and 2015
(in thousands of dollars)**

	June 30, 2016	June 30, 2015
REVENUES		
Operating Revenues		
Tuition and Fees (net of scholarship allowances of \$45,417 at June 30, 2016 and \$40,768 at June 30, 2015)	\$178,648	\$164,963
Federal Grants and Contracts	25,908	26,718
State Grants and Contracts	5,486	6,069
Local Grants and Contracts	461	496
Private Grants and Contracts	9,491	10,903
Sales and Service, Educational	89	66
Auxiliary Enterprises	57,782	52,725
Other Operating Revenues:		
Other	7,984	8,205
Total Operating Revenues	285,849	270,145
EXPENSES		
Operating Expenses		
<i>Educational and General</i>		
Instruction	123,521	113,129
Research	45,846	45,313
Public Service	1,176	947
Academic Support	36,441	32,027
Student Services	34,272	32,268
Institutional Support	41,204	40,141
Operation and Maintenance of Plant	37,940	36,005
Depreciation and Amortization	32,985	28,666
Scholarships and Fellowships	9,134	9,383
<i>Auxiliary Enterprises</i>	34,059	31,063
Total Operating Expenses	396,578	368,942
Operating Loss	(110,729)	(98,797)
NONOPERATING REVENUES/(EXPENSES)		
State Appropriations	104,725	96,633
Gifts	3,425	3,159
Investment Income	6,251	2,946
Unrealized Gain/(Loss) on Investments	(254)	(1,012)
Endowment Income Distributed for Operations	2,396	2,165
Interest on Indebtedness	(21,272)	(18,371)
Nonoperating Federal Grants	15,900	15,985
Other Nonoperating Income/(Expense)	108	135
Net Nonoperating Revenues	111,279	101,640
Income/(Loss) Before Other Revenues, Expenses, Gains, and Losses	550	2,843
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES		
Capital Appropriations	27,591	7,099
Capital Grants and Contracts	11,404	10,666
Endowment Return, net of amount used for operations	(2,298)	(1,102)
Disposal of Plant Facilities	(1,394)	(1,299)
Other Additions/(Deductions)	(306)	(1,748)
Total Other Revenues, Expenses, Gains, and Losses	34,997	13,616
Total Increase in Net Position	35,547	16,459
NET POSITION		
Net Position at Beginning of Year, as reported	320,291	303,832
Net Position at End of Year	\$355,838	\$320,291

University of Massachusetts
WORCESTER CAMPUS
Statements of Net Position
As of June 30, 2016 and 2015
(in thousands of dollars)

	Worcester Campus June 30, 2016	Worcester Campus June 30, 2015	Worcester City Campus Corporation June 30, 2016	Worcester City Campus Corporation June 30, 2015	Eliminations June 30, 2016	Eliminations June 30, 2015	Combined Totals Memorandum Only June 30, 2016	Combined Totals Memorandum Only June 30, 2015
ASSETS								
Current Assets								
Cash and Cash Equivalents	\$5,565	\$5,707	\$34,461	\$31,222			\$40,026	\$36,929
Cash Held By State Treasurer	422	1,853					422	1,853
Accounts, Grants and Loans Receivable, net	120,155	124,716	564	581	\$4	\$69	120,723	125,366
Pledges Receivable, net	1,349	6,218					1,349	6,218
Short Term Investments	18,047	34,915					18,047	34,915
Inventories, net	12,175	11,850					12,175	11,850
Accounts Receivable UMass Memorial	35,723	17,463	1				35,724	17,463
Due From Other Campuses	14,967	15,034					14,967	15,034
Due From Related Organizations	1,346	1,137	47,332	46,310	(48,399)	(47,063)	279	384
Other Assets	2,358	6,263	510	302			2,868	6,565
Total Current Assets	212,107	225,156	82,868	78,415	(48,395)	(46,994)	246,580	256,577
Noncurrent Assets								
Cash Held By State Treasurer	563	477					563	477
Cash and Securities Held By Trustees	188	2,445	1	35			189	2,480
Accounts, Grants and Loans Receivable, net	6,203	6,113					6,203	6,113
Investments	157,929	178,028					157,929	178,028
Other Assets			668				668	
Investment In Plant, net	654,870	663,460	367,241	378,313			1,022,111	1,041,773
Total Noncurrent Assets	819,753	850,523	367,910	378,348			1,187,663	1,228,871
Total Assets	\$1,031,860	\$1,075,679	\$450,778	\$456,763	(\$48,395)	(\$46,994)	\$1,434,243	\$1,485,448
DEFERRED OUTFLOWS OF RESOURCES								
Deferred Outflows of Resources	\$6,110	\$6,411	\$9,370	\$9,976			15,480	16,387
LIABILITIES								
Current Liabilities								
Accounts Payable	\$14,344	\$27,968	\$2,430	\$5,993			\$16,774	\$33,961
Accrued Salaries and Wages	18,885	18,189					18,885	18,189
Accrued Compensated Absences	20,038	19,254					20,038	19,254
Accrued Workers' Compensation	646	773					646	773
Accrued Interest Payable	3,500	3,562	2,384	2,469			5,884	6,031
Bonds Payable	12,335	9,478	12,961	10,975			25,296	20,453
Accounts Payable UMass Memorial	3,628	2,787	79				3,707	2,787
Due to Related Organizations	46,986	46,191	1,606	1,075	-\$48,395	-\$46,994	197	272
Capital Lease Obligations	50						50	
Unearned Revenues and Credits	14,642	19,169	1,354				15,996	19,169
Advances and Deposits	440	91	201				641	91
Other Liabilities	20,714	18,207	3,314	3,343			24,028	21,550
Total Current Liabilities	156,208	165,669	24,329	23,855	(48,395)	(46,994)	132,142	142,530
Noncurrent Liabilities								
Accrued Compensated Absences	6,216	5,667					6,216	5,667
Accrued Workers' Compensation	2,414	2,408					2,414	2,408
Bonds Payable	373,483	384,931	285,457	301,231			658,940	686,162
Capital Lease Obligations	198						198	
Unearned Revenues and Credits	6,311	6,508					6,311	6,508
Advances and Deposits	3,448	3,448					3,448	3,448
Other Liabilities	1,523		395	433			1,918	433
Total Noncurrent Liabilities	393,593	402,962	285,852	301,664			679,445	704,626
Total Liabilities	\$549,801	\$568,631	\$310,181	\$325,519	(\$48,395)	(\$46,994)	\$811,587	\$847,156
Net Position:								
Invested in Capital Assets Net of Related Debt	\$270,876	\$285,053	\$77,782	\$75,098			\$348,658	\$360,151
Restricted								
Nonexpendable	1,028	1,026					1,028	1,026
Expendable	39,939	36,847					39,939	36,847
Unrestricted	176,326	190,533	72,185	66,122			248,511	256,655
Total Net Position	\$488,169	\$513,459	\$149,967	\$141,220			\$638,136	\$654,679

University of Massachusetts
WORCESTER CAMPUS
Statements of Revenues, Expenses and Changes in Net Position
For The Years Ended June 30, 2016 and June 30, 2015
(in thousands of dollars)

	Worcester Campus June 30, 2016	Worcester Campus June 30, 2015	Worcester City City Campus Corporation June 30, 2016	Worcester City City Campus Corporation June 30, 2015	Eliminations June 30, 2016	Eliminations June 30, 2015	Combined Totals Memorandum Only June 30, 2016	Combined Totals Memorandum Only June 30, 2015
REVENUES								
Operating Revenues								
Tuition and Fees (net of scholarship allowances of \$2,269 at June 30, 2016 and \$2,060 at June 30, 2015)	\$18,612	\$16,867					\$18,612	\$16,867
Federal Grants and Contracts	165,484	160,182					165,484	160,182
Slate Grants and Contracts	35,032	30,547					35,032	30,547
Private Grants and Contracts	57,983	63,567					57,983	63,567
Sales and Service, Educational	12,443	10,261					12,443	10,261
Auxiliary Enterprises	29,271	29,099					29,271	29,099
Other Operating Revenues:								
Sales and Service, Independent Operations	47,613	48,368					47,613	48,368
Sales and Service, Public Service Activities	474,981	293,661	\$23,176	\$24,537	-\$21,326	-\$22,769	476,831	295,429
Other	44,475	41,037	56,331	56,488	(36,745)	(37,820)	64,061	59,705
Total Operating Revenues	885,894	693,589	79,507	81,025	(58,071)	(60,589)	907,330	714,025
EXPENSES								
Operating Expenses								
<i>Educational and General</i>								
Instruction	57,050	53,824			(68)	(68)	56,982	53,756
Research	218,598	227,769			(74)	(74)	218,524	227,695
Public Service	29,300	32,035					29,300	32,035
Academic Support	12,110	13,113			(102)	(102)	12,008	13,011
Student Services	6,835	5,908					6,835	5,908
Institutional Support	48,454	50,623			(275)	(275)	48,179	50,348
Operation and Maintenance of Plant	44,371	44,302	22,233	24,549	(24,672)	(25,635)	41,932	43,216
Depreciation and Amortization	45,382	43,747	19,751	19,419			65,133	63,166
<i>Auxiliary Enterprises</i>	22,079	21,898			(1,800)	(1,800)	20,279	20,098
<i>Other Expenditures</i>								
Independent Operations	54,420	47,559			(6,490)	(6,598)	47,930	40,961
Public Service Activities	412,936	232,993	21,760	20,737	(24,590)	(26,037)	410,106	227,693
Total Operating Expenses	951,535	773,771	63,744	64,705	(58,071)	(60,589)	957,208	777,887
Operating Income/(Loss)	(65,641)	(80,182)	15,763	16,320			(49,878)	(63,862)
NONOPERATING REVENUES/(EXPENSES)								
Slate Appropriations	50,634	45,843					50,634	45,843
Gifts	7,550	8,329					7,550	8,329
Investment Income	4,092	5,107	353	443			4,445	5,550
Unrealized Gain/(Loss) on Investments	(3,837)	(1,263)					(3,837)	(1,263)
Endowment Return	7,308	6,554					7,308	6,554
Interest on Indebtedness	(20,453)	(21,302)	(10,205)	(12,707)			(30,658)	(34,009)
Other Nonoperating Income	505	192					505	192
Net Nonoperating Revenues	45,799	43,460	(9,852)	(12,264)			35,947	31,196
Income/(Loss) Before Other Revenues, Expenses, Gains, and Losses	(19,842)	(36,722)	5,911	4,056			(13,931)	(32,666)
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES								
Capital Appropriations	685	938					685	938
Capital Grants and Contracts	5,132	3,391					5,132	3,391
Disposal of Plant Facilities	(1,406)	(2,110)	(150)	947			(1,556)	(1,163)
Contributions for Capital Expenditures			2,985				2,985	
Endowment Return, net of amount used for operations	(10,272)	(5,138)					(10,272)	(5,138)
Additions to Permanent Endowment								
Other Additions/Deductions	414	51,560	1	(30,000)			415	21,560
Total Other Revenues, Expenses, Gains, and Losses	(5,447)	48,641	2,836	(29,053)			(2,611)	19,588
Total Increase in Net Position	(25,289)	11,919	8,747	(24,997)			(16,542)	(13,078)
NET POSITION								
Net Position at Beginning of Year, as reported	513,458	501,540	141,220	166,217			654,678	667,757
Net Position at End of Year	\$488,169	\$513,459	\$149,967	\$141,220			\$638,136	\$654,679

Combining Statements of Net Position for University Related Organizations as of June 30, 2016 and 2015
(in thousands of dollars)

Supplemental Schedule I

	Total June 30, 2016	Eliminations and Adjustments June 30, 2016	The University of Massachusetts Foundation, Inc. June 30, 2016	University of Massachusetts Dartmouth Foundation, Inc. June 30, 2016	Total June 30, 2015	Eliminations and Adjustments June 30, 2015	The University of Massachusetts Foundation, Inc. June 30, 2015	University of Massachusetts Dartmouth Foundation, Inc. June 30, 2015
ASSETS								
Current Assets								
Accounts, Grants and Loans Receivable, net								
Pledges Receivable, net	\$371	(\$7,296)	\$6,635	\$1,032	\$500	(\$6,581)	\$6,045	\$1,036
Due From Related Organizations	193	193			203	203		
Other Assets	55		55		670		659	11
Total Current Assets	619	(7,103)	6,690	1,032	1,373	(6,378)	6,704	1,047
Noncurrent Assets								
Cash and Cash Equivalents	1,475		98	1,377	2,018		135	1,883
Pledges Receivable, net	1,690	(19,392)	19,904	1,178	293	(18,099)	16,319	2,073
Investments	468,260	(641,171)	1,056,774	52,657	476,272	(675,928)	1,097,353	54,847
Other Assets	2,528			2,528	62			62
Investment In Plant, net	8,090		8,090		8,293		8,293	
Total Noncurrent Assets	482,043	(660,563)	1,084,866	57,740	486,938	(694,027)	1,122,100	58,865
Total Assets	\$482,662	(\$667,666)	\$1,091,556	\$58,772	\$488,311	(\$700,405)	\$1,128,804	\$59,912
LIABILITIES								
Current Liabilities								
Accounts Payable	\$64		\$63	\$1	\$691		\$682	\$9
Due To Related Organizations	69	(\$6,575)		6,644	59	(\$7,131)		7,190
Assets Held on Behalf of the University		(593,116)	593,116			(625,555)	625,555	
Assets Held on Behalf of Others	27,837		27,837		29,284		29,284	
Unearned Revenues and Credits	1,224		1,224		1,387		1,387	
Total Current Liabilities	29,194	(599,691)	622,240	6,645	31,421	(632,686)	656,908	7,199
Noncurrent Liabilities								
Other Liabilities	3,502		3,502		3,505		3,505	
Total Noncurrent Liabilities	3,502		3,502		3,505		3,505	
Total Liabilities	\$32,696	(\$599,691)	\$625,742	\$6,645	\$34,926	(\$632,686)	\$660,413	\$7,199
Net Position:								
Invested in Capital Assets Net of Related Debt	\$8,090	\$8,090			\$8,293	\$8,293		
Restricted								
Nonexpendable	374,566	(37,235)	\$374,566	\$37,235	330,301	(55,662)	\$351,668	\$34,295
Expendable	46,275	(30,740)	64,380	12,635	90,413	(12,057)	86,684	15,786
Unrestricted	21,035	(8,090)	26,868	2,257	24,378	(8,293)	30,039	2,632
Total Net Position	\$449,966	(\$67,975)	\$465,814	\$52,127	\$453,385	(\$67,719)	\$468,391	\$52,713

**Combining Statements of Revenues, Expenses, and Changes in Net Position for University Related Organizations
For The Years Ended June 30, 2016 and 2015
(in thousands of dollars)**

Supplemental Schedule II

	University of Massachusetts Dartmouth Foundation, Inc.				University of Massachusetts Dartmouth Foundation, Inc.			
	Eliminations and Adjustments	The University of Massachusetts Foundation, Inc.	University of Massachusetts Dartmouth Foundation, Inc.	Total	Eliminations and Adjustments	The University of Massachusetts Foundation, Inc.	University of Massachusetts Dartmouth Foundation, Inc.	Total
	June 30, 2016	June 30, 2016	June 30, 2016	June 30, 2016	June 30, 2015	June 30, 2015	June 30, 2015	June 30, 2015
EXPENSES								
Operating Expenses								
<i>Educational and General</i>								
Public Service	\$16,502	(\$971)	\$13,927	\$3,546	\$16,359	(\$1,758)	\$16,500	\$1,617
Depreciation	202		202		201		201	
Scholarships and Fellowships	364	(1,497)	811	1,050	149	(1,410)	710	849
Total Operating Expenses	17,068	(2,468)	14,940	4,596	16,709	(3,168)	17,411	2,466
Operating Income/(Loss)	(17,068)	2,468	(14,940)	(4,596)	(16,709)	3,168	(17,411)	(2,466)
NONOPERATING REVENUES/(EXPENSES)								
Gifts	18,783	1,074	11,387	6,322	17,111	680	12,765	3,666
Investment Income	182	(79)	126	135	(18)	(84)		66
Endowment Income from Spending Rate	1,386	40,568	(39,182)		1,387	7,149	(5,762)	
Net Nonoperating Revenues	20,351	41,563	(27,669)	6,457	18,480	7,745	7,003	3,732
Income/(Loss) Before Other Revenues, Expenses, Gains, and Losses	3,283	44,031	(42,609)	1,861	1,771	10,913	(10,408)	1,266
OTHER REVENUES, EXPENSES, GAINS, AND LOSSES								
Additions to Permanent Endowments	25,864	(3,094)	28,958		21,618	(6,749)	28,367	
Less: Amounts Earned/Received on Behalf of the University		(36,498)	36,498			(21,025)	21,025	
Less: Amounts Earned/Received on Behalf of Others		(1,831)	1,831			(12)	12	
Endowment Return	(36,524)	(34,671)		(1,853)	(16,057)	(15,646)	(32)	(379)
Distribution to University		28,637	(28,637)			27,211	(27,211)	
Other Additions/Deductions	3,958	3,170	1,382	(594)	259	(581)	1,507	(667)
Total Other Revenues, Expenses, Gains, and Losses	(6,702)	(44,287)	40,032	(2,447)	5,820	(16,802)	23,668	(1,046)
Total Increase/(Decrease) in Net Assets	(3,419)	(256)	(2,577)	(586)	7,591	(5,889)	13,260	220
NET POSITION								
Net Position at Beginning of Year	453,385	(67,719)	468,391	52,713	445,794	(61,830)	455,131	52,493
Net Position at End of Year	\$449,966	(\$67,975)	\$465,814	\$52,127	\$453,385	(\$67,719)	\$468,391	\$52,713

**University of Massachusetts
Supplemental Schedules
June 30, 2016 and 2015**

Basis of Presentation of Supplemental Information

The supplemental information is presented to provide information from the stand-alone books and records of the campus units, central office and related organizations. The supplemental information excludes certain eliminating entries necessary to prepare the consolidated financial statement of the University. The supplemental information also does not include the impact of adoption of GASB 68, *Pensions*, reported in the financial statements of the University because the liability has not been allocated to the campuses or the central office but rather is reflected only at the University System level in the basic financial statements.

APPENDIX D

SUMMARY OF LEGAL DOCUMENTS

[Intentionally Left Blank]

SUMMARY OF CERTAIN PROVISIONS OF THE PROJECT TRUST AGREEMENT

The pledge and assignment made by the Authority in the Project Trust Agreement secures only bonds issued under the Project Trust Agreement and not bonds issued under any other Project Trust Agreement.

The following is a summary of certain provisions of the Project Trust Agreement. Such summary does not purport to be complete, and reference is made to the Project Trust Agreement for a complete statement of its provisions.

DEFINITIONS

Capitalized words or terms used in this Summary of Certain Provisions of the Project Trust Agreement and not defined shall have the meaning given to the applicable word or term elsewhere in this Official Statement.

“Account” shall mean any account created pursuant to the Agreement.

“Accreted Amount” shall mean, as of the date of computation and with respect to any Capital Appreciation Bond, the original principal amount of such Capital Appreciation Bond upon the initial issuance of the Series of Bonds of which such Bond is a part plus the interest accrued on such Bond compounded as provided in the applicable Series Resolution.

“Agreement,” “Trust Agreement” or “Project Trust Agreement” shall mean the Trust Agreement dated as of November 1, 2000 between the Authority and State Street Bank and Trust Company, as Trustee (which has been succeeded as Trustee by U.S. Bank National Association), and each agreement supplemental thereto.

“Annual Series Requirement” as applied to a Series of Guaranteed Bonds shall mean one-twelfth of the largest amount of Principal and Interest Payments due on account of the Outstanding Guaranteed Bonds of such Series of Bonds in any calendar year after the calendar year in which such Series of Guaranteed Bonds was issued.

“Appropriations” shall mean amounts made available for expenditure by the University Trustees pursuant to appropriations or other spending authorizations in the Commonwealth's annual operating budgets, including without limitation supplementary and deficiency budgets and any tuition retention authorization, and amounts otherwise available for expenditure by the University Trustees.

“Architect” as applied to a Project shall mean the person or firm, if any, employed by the Authority as architect for such Project.

“Authorized Officer” shall mean the Chairman, Vice Chairman, Secretary-Treasurer, Assistant Secretary-Treasurer or Executive Director of the Authority or any other person so designated by resolution of the Authority.

“Bond” or “Bonds” shall mean any bond or bonds or all bonds, as the case may be, issued under the Agreement and authorized by a Series Resolution.

“Business Day” shall mean any day other than a Saturday, Sunday or day on which the New York Stock Exchange or banking institutions are authorized or required by law or executive order to be closed for commercial banking purposes in New York or Massachusetts, or in any city in which is located the designated corporate trust office of the Trustee.

“Capital Appreciation Bond” shall mean any Bond so identified in the Series Resolution applicable thereto and on which interest is compounded and is payable only at maturity or upon earlier redemption of such Bond.

“Code” shall mean the Internal Revenue Code of 1986, as amended. References to provisions of the Code include applicable successor provisions of the Code or applicable successor provisions of any recodification of the internal revenue laws of the United States.

“Commonwealth” shall mean The Commonwealth of Massachusetts.

“Commonwealth Guaranty” shall mean the guaranty by the Commonwealth pursuant to the Enabling Act of the payment of principal of and interest on Bonds so guaranteed. *“Commonwealth Guaranty”* shall not include a Credit Facility.

“Contract” shall mean the Amended and Restated Master Contract for Financial Assistance, Management and Services dated as of February 25, 2014 by and among the Authority, the University and the Commonwealth, as such Contract may be supplemented from time to time to make additional Projects and Authority bonds or notes subject to the terms thereof.

“Cost of the Project” as applied to a Project shall mean and include, without intending hereby to limit or restrict any definition of such term under the Enabling Act (as in effect on the date of the Agreement and as it may be amended from time to time), the cost, whenever incurred, of carrying out the Project and placing it in operation, including, but not limited to, the cost of construction of new buildings or structures and the cost of acquiring, adding to, altering, enlarging, leasing, reconstructing, remodeling and doing other work in or upon or respecting existing buildings and structures, if any, included in the Project, the cost of providing and installing in or in respect of any such building or structure furniture, furnishings, machinery, equipment, facilities, approaches, driveways, walkways, parking areas, planting and landscaping, the cost of leasing or otherwise acquiring land, other property, rights, easements and interests acquired for or in respect to any of the foregoing, the cost of demolishing or removing any buildings or structures on land so acquired or interests in which are so acquired and the cost of site preparation; the cost of architectural and engineering services, plans, specifications, surveys, estimates of cost and of revenues; other expenses necessary or incident to determining the feasibility or practicability of the Project; administrative expense, legal expense and such other expenses, including, but not limited to, the fees and expenses (including reasonable attorneys’ fees and expenses) of the Trustee, fees and expenses of financial advisers and other experts, printing and advertising costs and the like, taxes and other governmental charges lawfully levied or assessed, the cost of preliminary architectural and engineering services, plans, specifications, surveys, estimates of cost and revenues, other expenses necessary or incident to determine the feasibility or practicability of other projects for which written requests shall have been made by authority of the University Trustees and premiums for policies of insurance, fidelity bonds and the like covering property and risks of and related to the Project, as may be necessary or incident to the aforesaid, to the financing or refinancing thereof and to the issuance therefor of notes or Bonds or both under the provisions of the Enabling Act and interest for such period as the Authority may deem advisable but ending not later than eighteen months after the University Trustees shall have accepted the project for occupancy on money borrowed to pay all or part of the Cost of the Project.

“Counsel” shall mean an attorney or firm of attorneys admitted to practice law in the highest court of any state in the United States of America or in the District of Columbia.

“Counsel’s Opinion” shall mean an opinion signed by an attorney or firm of attorneys (who may be general or special counsel to the Authority or bond counsel to the Authority) selected by the Authority and satisfactory to the Trustee.

“Credit Facility” shall mean any instrument, including without limitation a letter of credit, guaranty, standby loan commitment, insurance policy or surety bond, or any combination thereof, under which the Authority or the Trustee is entitled to receive moneys for the payment of one or more of principal of, Redemption Price of and interest on any Bond, fees and expenses of the Trustee, amounts payable from any reserve fund established pursuant to the Agreement, amounts for the replenishment of any reserve fund established pursuant to the Agreement, the purchase price of Bonds tendered pursuant to the applicable Series Resolution and any other amounts which the Authority or the Trustee is entitled to receive under such instrument. *“Credit Facility”* shall not include the Commonwealth Guaranty or Derivatives.

“Current Expenses” as applied to a Project shall mean and include (a) the fees and expenses (including reasonable attorneys’ fees and expenses) of the Trustee under the Agreement and of any escrow or like agent appointed by the Authority with respect to the payment of bonds or Bonds issued to finance the Project or to refund any bonds or Bonds issued for such purpose or for the purpose of refunding other refunding bonds or Bonds related

to such Project, exclusive of such fees and expenses as are included in the Cost of the Project; (b) the rent, not included in the Cost of the Project, payable by the Authority under any lease of property included in the Project, as such lease may be amended or extended; (c) premiums (or accruals on account thereof), not included in the Cost of the Project, for policies of insurance maintained in force by the Authority with respect to the Project (or a proportionate part of such premiums in the event that a single policy or policies of insurance shall cover property or risks pertaining to more than one Project (or shall include one or more Other Projects) of the Authority); and (d) that portion of the general operating and administrative expenses of the Authority as the Authority shall deem properly allocable to the Project, which general operating and administrative expenses shall include, without limiting the generality of the foregoing, any amount required to be rebated by the Authority (or by any other entity with respect to moneys held by the Authority) to the United States of America by the Code or other applicable law and not provided by other moneys of the Authority available therefor, legal and other professional expenses of the Authority, expenses incurred under Section 207 of the Agreement and reasonable payments to governmental or other benefit or retirement funds for the benefit of its employees, provided, however, that the total amount which may be so allocated in any year shall not exceed such limitation, if any, as may be imposed by the Contract pertaining to the Project; but such term shall not include (x) Maintenance, Repair and Operating Expenses; (y) any reserves for extraordinary maintenance or repair of the Project or any allowance for depreciation, or (z) any deposits or transfers to the credit of the special funds created by the Agreement and designated "Debt Service Fund," "Rate Stabilization Fund," "Section 10 Reserve Fund" and "Property Fund" or to the credit of any reserve fund created pursuant to the Agreement by a Series Resolution.

"Current Interest Bond" shall mean any Bond other than a Capital Appreciation Bond.

"Debt Service Reserve Fund" shall mean any fund established by a Series Resolution to provide a reserve for the payment of one or more of principal of, Sinking Fund Installments, premium and interest on a Series of Bonds and the purchase price of Bonds of such Series tendered pursuant to the applicable Series Resolution that is not a Section 10 Reserve Fund.

"Debt Service Reserve Requirement" shall mean, with respect to a Debt Service Reserve Fund, the Debt Service Reserve Requirement established for such Debt Service Reserve Fund by the Series Resolution creating such Debt Service Reserve Fund.

"Derivative" shall mean contracts that derive their value from the value, or changes in value, of another financial instrument or index and shall include without limitation (a) interest rate swaps, swaptions, forward swaps, interest rate caps, interest rate floors, options, puts, calls and other contracts to hedge payment, rate spread or similar exposure, (b) forwards and (c) contracts to exchange cash flows or a series of payments. "Derivative" shall not include a Credit Facility.

"Enabling Act" shall mean Chapter 773 of the Acts of 1960 of the Commonwealth, as amended.

"Engineer" as applied to a Project shall mean the person or firm, if any, employed by the Authority as engineer for such Project.

"Expendable Fund Balance" shall mean the accumulation of excess unrestricted revenues over expenditures with respect to the University for all prior years and for each current year from the unrestricted current fund, the quasi endowment fund, the unexpended unrestricted plant fund and the unrestricted renewal and replacement plant fund (now referred to as Unrestricted Net Assets; see definition of *"Unrestricted Net Assets"*).

"Facilities Trust Agreement" shall mean the Trust Agreement dated as of December 1, 2000 between the Authority and State Street Bank and Trust Company (which has been succeeded as Trustee by U.S. Bank National Association).

"Favorable Opinion of Bond Counsel" shall mean, with respect to any action relating to the Bonds the occurrence of which requires such an opinion, a written legal opinion of bond counsel to the Authority addressed to the Authority, the Trustee, the Insurer and the Remarketing Agent to the effect that such action is permitted under the applicable Series Resolution and the Trust Agreement and will not jeopardize the exclusion of interest on the

Bonds from gross income for federal income tax purposes or the exemption from taxation of the Bonds, their transfer and the income therefrom, including any profit made on the sale thereof, provided by the Enabling Act.

"Fiscal Year" shall mean the twelve-month period beginning on each July 1, or any other twelve-month period designated by the Authority from time to time as its fiscal year.

"Fitch" shall mean Fitch Ratings, Inc., a corporation organized and existing under the laws of the State of Delaware, its successors and assigns, and, if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, *"Fitch"* shall be deemed to refer to any other nationally recognized securities rating agency designated by the Authority by notice to the Trustee, with the consent of the Insurer.

"Fixed Rate Bond" shall mean a Bond bearing interest at a rate fixed to the stated maturity of such Bond, including any such Bond the interest rate on which has been converted to a rate fixed to the maturity thereof from a rate that is subject to adjustment from time to time.

"Fund" shall mean any Fund created pursuant to the Agreement.

"Guaranteed Bonds" shall mean Bonds that are guaranteed by the Commonwealth Guaranty.

"interest" unless otherwise indicated, shall mean with respect to any Bond (a) the interest on any Current Interest Bond and (b) the interest on any Capital Appreciation Bond, which interest is expressed as the difference between the applicable Accreted Amount on any applicable date and the principal amount of such Capital Appreciation Bond on the date of initial issuance of the Series of Bonds of which such Capital Appreciation Bond is a part.

"interest rate," "rate of interest," "bear interest at the rate" or other like expressions shall mean the rate of interest on any Current Interest Bond and the rate (expressed as a yield to maturity) at which interest accrues on any Capital Appreciation Bond.

"Investment Obligations" shall mean and include any of the following: (a) direct obligations of, or obligations the payment of the principal of and interest on which are unconditionally guaranteed by, the United States of America; (b) obligations of the Federal National Mortgage Association, the Government National Mortgage Association, the Federal Financing Bank, the Federal Intermediate Credit Banks, Federal Banks for Cooperatives, Federal Land Banks, Federal Home Loan Banks, Farmers Home Administration and Federal Home Loan Mortgage Corporation, or of any other agency or corporation which has been or is hereafter created pursuant to an act of the Congress of the United States as an agency or instrumentality thereof; (c) interest-bearing time deposits or certificates of deposit of banking institutions or trust companies (including the Trustee) organized under the laws of any state of the United States or any national banking association, provided that such deposits or certificates shall be continuously and fully (i) insured by the Federal Deposit Insurance Corporation or any successor thereof, or (ii) secured by obligations described in clauses (a) and (b) having a market value, exclusive of accrued interest, at least equal to the aggregate amount of such deposits or certificates; (d) any of the securities described in clauses (a) and (b) which are subject to repurchase agreements with any bank or trust company organized under the laws of any state of the United States or any national banking association; (e) any other investment in which funds of the Authority are permitted from time to time to be invested by the Enabling Act; and (f) any subcategories of any of the investments described in clauses (a), (b), (c), (d) or (e) above that may be required by the issuer of a Credit Facility.

"Maintenance, Repair and Operating Expenses" as applied to a Project or Other Project shall mean and include any reasonable and necessary expenses for services, facilities, supplies, materials and utilities necessary for or incident to the maintenance, repair and operation of the Project or Other Project and the facilities and services provided thereby, billing and collecting fees, rents, rates and other charges for the use of the Project or Other Project or any room or accommodation therein or facility or service provided thereby and keeping books of account with respect to such maintenance, repair and operation. The term may also, if the Contract with respect to a Project or Other Project shall provide for application of Revenues therefrom to pay for the following costs, include the costs incurred in maintaining those activities which, and associations and organizations which, or the activities of which, are a part of the activities at the University and are subject to regulation by the University Trustees and which take

place, use or are performed in a building or structure included in such Project or Other Project or are a part of a general program of the University including such activities, associations or organizations which take place, use or are performed in such building or structure. The term shall also include reserves for the foregoing expenses and costs if and to the extent that the Contract in effect with respect to a Project, if any, or a resolution of the Authority with respect to a Project or Other Project provides for such reserves. The term shall not include Current Expenses.

“MDFA Financing Agreements” means those certain financing agreements entered into between the University and the Massachusetts Health and Educational Facilities Authority and its successor, the Massachusetts Development Finance Agency (“HEFA”) in connection with the issuance of bonds by HEFA for the benefit of the University or portions thereof.

“Moody’s” shall mean Moody's Investors Service, Inc., a corporation organized and existing under the laws of the State of Delaware, its successors and assigns and, if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, *“Moody’s”* shall be deemed to refer to any other nationally recognized securities rating agency designated by the Authority by notice to the Trustee, with the consent of the Insurer.

“Multi-Series Debt Service Reserve Fund” shall have the same meaning as the term Debt Service Reserve Fund, except that a Multi-Series Debt Service Reserve Fund shall secure more than one Series of Bonds (and any one or more of such Series so secured may be issued at different times or under different Series Resolutions from one or more other such Series so secured).

“Multi-Series Debt Service Reserve Requirement” shall mean, with respect to a Multi-Series Debt Service Reserve Fund, the Multi-Series Debt Service Reserve Requirement established for such Multi-Series Debt Service Reserve Fund by the Series Resolution creating such Multi-Series Debt Service Reserve Fund.

“Non-Guaranteed Bonds” shall mean Bonds that are not guaranteed by the Commonwealth Guaranty.

“Other Project” shall have the same meaning as the word “Project” except that Other Project shall apply to a project with respect to which a Series of Bonds shall not have been issued under the Agreement.

“Outstanding,” when used with reference to Bonds, shall mean, as of any date, Bonds theretofore or thereupon being authenticated and delivered under the Agreement except: (a) any Bonds cancelled by the Trustee or surrendered to the Trustee for cancellation at or prior to such date; (b) Bonds (or portions of Bonds) for the payment or redemption of which moneys, equal to the principal amount or Redemption Price thereof, as the case may be, with interest to the date of maturity or redemption date, shall be held in trust under the Agreement and set aside for such payment or redemption (whether at or prior to the maturity or redemption date), provided that if such Bonds (or portions of Bonds) are to be redeemed, notice of such redemption shall have been given in accordance with the Agreement or provision satisfactory to the Trustee shall have been made for the giving of such notice; (c) Bonds in lieu of or in substitution for which other Bonds shall have been authenticated and delivered pursuant to the Agreement; and (d) Bonds deemed to have been paid as provided in the Agreement.

“Person” shall include associations, corporations and other entities, including public bodies, as well as natural persons.

“Pledged Funds” shall mean one or both of (a) Trust Funds of the University pledged to secure (i) all or a portion of one or more Series of Bonds and (ii) the payment of other amounts specified in the Contract or other document by which such pledge is made as secured by such Trust Funds, and (b) Appropriations pledged to secure (i) all or a portion of one or more Series of Bonds and (ii) the payment of other amounts specified in the Contract or other document by which such pledge is made as secured by such Appropriations.

“principal” and *“principal amount,”* unless otherwise indicated, shall mean with respect to any Bond (a) the principal amount of any Current Interest Bond and (b) the principal amount on the date of initial issuance of the applicable Series of any Capital Appreciation Bond (and after such date of initial issuance the word “principal” and the term “principal amount” shall mean with respect to a Capital Appreciation Bond the portion of the applicable Accreted Amount not constituting interest). Without limiting the generality of the foregoing, when the word

“principal” or the term “principal amount” is followed by a reference to the Accreted Amount, the word “principal” or the term “principal amount” shall mean the principal amount of any Current Interest Bond.

“*principal*” and the term “*principal amount*” shall mean, with respect to any obligation other than a Bond, any amount constituting principal, however expressed, of such obligation.

“*Principal and Interest Payments*” as applied to a Series of Bonds for a particular time period or as of a particular date shall mean the principal amount of and interest on the Bonds of such Series Outstanding which is due to be paid during such period or on such date, such amount to be determined in accordance with the following when applicable: if the Authority shall by the resolution authorizing the issue of a Series of Bonds authorize the issue of all or any of such Bonds as Term Bonds, such principal amount of Bonds as will be paid or prepaid from a Sinking Fund Installment shall be treated as if it matured on the date such Sinking Fund Installment is required to be made and not on the maturity date of such Bonds.

“*Principal Office*” or “*principal office*” shall mean, when used with respect to the Trustee, the principal corporate trust office of the Trustee in Boston, Massachusetts, or, if the Trustee shall no longer perform its duties under the Trust Agreement at such office, the corporate trust office where at the applicable time the Trustee performs its duties under the Trust Agreement.

“*Project*” or “*Projects*” shall mean the construction of new buildings or structures and the acquisition, addition to, alteration, enlargement, reconstruction, remodeling and other work in or upon or respecting existing buildings or structures, the provision and installation therein or in respect thereof of furnishings, furniture, machinery, equipment, facilities, approaches, driveways, walkways, parking areas, planting and landscaping, the acquisition of land, other property, rights, easements and interests acquired for or in respect to any thereof, the demolition or removal of any buildings or structures, including buildings or structures owned by the Commonwealth, on land so acquired or interests in which are so acquired and site preparation, with respect to which a Series of Bonds shall be issued under the Agreement. The word shall also mean whenever appropriate such land, buildings or structures and such appurtenances.

“*purchaser*” shall mean the person or persons, one or more, named as the purchaser or purchasers of a Series of Bonds in the Series Resolution and any successors to its or their business. If a named or successor purchaser shall discontinue its business without a successor, the word thereafter shall mean the remaining purchaser or purchasers, whether named or successor.

“*Record Date*” shall mean, for each Series of Bonds, such date or dates as may be set forth as a Record Date in the applicable Series Resolution.

“*Redemption Price*” shall mean, (a) with respect to any Current Interest Bond, the principal amount thereof, plus the applicable premium, if any, payable upon redemption thereof pursuant to this Agreement and the applicable Series Resolution, and (b) with respect to any Capital Appreciation Bond, the Accreted Amount thereof on the redemption date, plus the applicable premium, if any, payable upon redemption thereof pursuant to the Agreement and the applicable Series Resolution.

“*Registered Owner*” shall mean the person shown from time to time as registered owner of a Bond in the books kept by the Trustee as Bond Registrar.

“*Revenues*” as applied to a Project shall mean (a) all moneys received or receivable by the Authority in payment of fees, rents, rates and other charges for the use and occupancy of, and for the services and facilities provided by, the Project including, without limitation, the moneys which the University Trustees are required to remit to the Authority or the Trustee under a Contract, and all other income derived by the Authority from the operation, ownership or control thereof. The word Revenues shall also include any other revenues or Secondary Revenues pledged as security for the Bonds. The word Revenues shall not include (a) Pledged Funds, (b) any amount paid or payable under the Commonwealth Guaranty or (c) any amount paid or payable under a Credit Facility or a Derivative.

“Secondary Revenues” shall mean all revenues received by the Authority from Other Projects or other property financed by bonds issued by the Authority under the Enabling Act under a trust agreement other than the Agreement which revenues are pledged under such trust agreement, upon and after the payment in full of all bonds, including refunding bonds, issued under such trust agreement and of all other sums, if any, then payable to the trustee under the provisions of the trust agreement securing such bonds, or upon deposit by the Authority with such trustee of funds or securities sufficient and in trust to pay, or to provide for the payment when due, of such amounts.

“Section 10 Reserve Fund” shall mean the Section 10 Reserve Fund established by the Agreement.

“Section 19C Payments” shall mean any amount required by Section 19C of the Enabling Act to be paid by the Authority to the Treasurer and Receiver-General of the Commonwealth from Revenues.

“Senior Bonds” shall mean all Bonds of each Series that is a Senior Series.

“Senior Series” shall mean any Series designated as a Senior Series in the applicable Series Resolution.

“Series” shall mean the Bonds designated as a Series in a Series Resolution.

“Sinking Fund Installment” shall mean with respect to Bonds of any particular Series and maturity and any payment date on such Bonds, the principal amount thereof required to be redeemed prior to maturity on such payment date pursuant to the provisions of the applicable Series Resolution.

“S&P” shall mean Standard & Poor's Global Ratings, its successors and assigns, and, if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, “S&P” shall be deemed to refer to any other nationally recognized securities rating agency designated by the Authority by notice to the Trustee.

“Special Record Date” shall have the meaning set forth in the Agreement.

“Specific Revenue Projects” shall mean such projects as designated by the Authority in the Contract for which specific fees will be set by the Authority.

“Subordinate Series” shall mean any Series designated as a Subordinate Series in the applicable Series Resolution.

“Term Bonds” shall mean Bonds subject to redemption prior to maturity by application of Sinking Fund Installments.

“Trustee” shall mean the Trustee appointed under the Agreement and its successor or successors.

“Trust Funds” shall mean any funds held by the University Trustees as trust funds under the provision of Section 11 of Chapter 75 of the Massachusetts General Laws and any funds administered by the University Trustees as gifts, grants or trusts under the provisions of clause (e) of the fifth paragraph of Section 1A of Chapter 75 of the Massachusetts General Laws.

“University” shall mean the University of Massachusetts continuing under Chapter 75 of the Massachusetts General Laws.

“University Trustees” shall mean the board of trustees established by and existing under Section 1A of Chapter 75 of the Massachusetts General Laws for the University or, if such board of trustees shall hereafter be abolished, the board, body, commission or other entity succeeding to the principal functions thereof or to which the powers given by said Chapter 75 with respect to the University shall be given by law.

“Unrestricted Net Assets” shall mean the accumulation of excess unrestricted revenues over expenditures with respect to the University for all prior years and for each current year from the unrestricted current fund, the

quasi endowment fund, the unexpended unrestricted plant fund and the unrestricted renewal and replacement plant fund (previously referred to as the “Expendable Fund Balance”).

“*Variable Rate Bond*” shall mean a Bond the interest rate on which is subject to adjustment from time to time and shall include but not be limited to a so-called “multi-modal” Bond, i.e. a Bond that provides that the intervals at which the interest rate on such Bond is adjusted may be changed from time to time.

PLEDGE AND ASSIGNMENT OF THE AUTHORITY PURSUANT TO THE AGREEMENT

Pursuant to the Agreement, the Authority assigns and pledges to the Trustee and grants to the Trustee a security interest in:

(a) all rights of the Authority, including such rights under any Contract, to receive all Revenues pledged under the Agreement;

(b) all moneys paid or payable for deposit in or on deposit in any Fund, Account or subaccount created under the Agreement, all investments received or receivable for deposit in or on deposit in any Fund, Account or subaccount created under the Agreement and all interest or other income on such investments paid or payable for deposit in or on deposit in any Fund, Account or subaccount created under the Agreement and all rights of the Authority to receive any such moneys, investments and interest or other income (except that moneys and securities on deposit in the Rebate Fund created under the Agreement and all interest or other income received thereon are held for the benefit of the United States of America and not for the benefit of the Registered Owners and do not secure the Bonds), subject to the application of amounts held in such Funds, Accounts and Subaccounts for the purposes and in the manner set forth in the Agreement;

(c) subject to clause (a) and clause (b) under “Particular Covenants – Payment of Lawful Charges” below, (i) the Revenues from each Project and (ii) the Revenues, including without limitation Secondary Revenues, derived from Other Projects and from such other property of the Authority, if any, as the Authority may hereafter designate by resolution; provided, however, that the assignment and pledge made by the Agreement of and the security interest granted by the Agreement in such Revenues from each Project and such Revenues, including Secondary Revenues, derived from Other Projects does not include any part thereof to be used for Current Expenses or reserves therefor, Maintenance, Repair and Operating Expenses or reserves therefor or Section 19C Payments or reserves therefor; and provided further that the assignment and pledge of and security interest in any such Secondary Revenues shall be, first, for (A) the reimbursement to the Commonwealth of any amounts theretofore paid by the Commonwealth on account of principal of or interest on any Guaranteed Bonds or other bonds of the Authority guaranteed by the Commonwealth under Section 10 of the Enabling Act and (B), if and only if the Commonwealth has made no such payments or has been reimbursed therefor, to the payment of the principal, interest and premium, if any, at maturity or upon redemption or purchase, for (1) all Bonds issued under the Agreement, or (2) all bonds of the Authority issued other than under the Agreement or (3) all such Bonds and bonds of the Authority, as the Authority may determine, at the time any Revenues from an Other Project become Secondary Revenues, by resolution approved by the University Trustees with a view to achieving reasonable uniformity in charges for like rooms, accommodations and services at the University, to the extent provided in the Agreement; and

(d) (i) all Pledged Funds paid or payable and all rights of the Authority to receive such Pledged Funds, (ii) all amounts paid or payable under the Commonwealth Guaranty with respect to Guaranteed Bonds and all rights of the Authority to receive such amounts, (iii) all amounts paid or payable under any Credit Facility and all rights of the Authority to receive such amounts and (iv) all amounts paid or payable under any Derivative and all rights of the Authority to receive such amounts.

The assignment and pledge made by the Agreement and the security interest granted by the Agreement shall be for the equal and proportionate benefit and security of all the present and future Registered Owners of the Bonds issued and to be issued under the Agreement, without preference, priority or distinction as to lien or otherwise, except as otherwise provided in the Agreement, of any one Bond over any other Bond, and that the Revenues, including any Secondary Revenues, pledged as security for the Bonds shall immediately be subject to the lien of such pledge for the benefit of the Trustee and the Registered Owners of the Outstanding Bonds as provided in the Agreement without any physical delivery thereof to the Trustee or any further act.

BONDS PERMITTED TO BE ISSUED UNDER THE AGREEMENT; VARIOUS PROVISIONS OF BONDS

(a) Any bonds the Authority is authorized by the Enabling Act to issue may be issued under the Agreement. The Bonds of each Series may be Fixed Rate Bonds or Variable Rate Bonds, as set forth in the applicable Series Resolution.

(b) As provided in the applicable Series Resolution:

(i) Bonds may be issued as Guaranteed Bonds or Non-Guaranteed Bonds, but Guaranteed Bonds and Non-Guaranteed Bonds shall not be issued as part of the same Series;

(ii) some or all of the Bonds of a Series may be secured by one or more Credit Facilities, and any such Credit Facility may be replaced;

(iii) Bonds may be issued as Current Interest Bonds or Capital Appreciation Bonds, and a Series of Bonds may combine both Current Interest Bonds and Capital Appreciation Bonds;

(iv) a Series of Bonds may be (A) a Senior Series, which Senior Series shall not be subordinate to any other Series and shall be issued on a parity with each other, if any Senior Series previously, contemporaneously or subsequently issued, or (B) a Subordinate Series;

(v) a Subordinate Series shall be subordinate to all Senior Series, may be of any level of subordination to other Subordinate Series previously, contemporaneously or subsequently issued and shall be on a parity with each other, if any, Subordinate Series of the same level previously, contemporaneously or subsequently issued; a Subordinate Series shall bear as part of its designation (in the form provided in the Agreement) whichever of the following is applicable: (A) "Subordinate Series Level 2," which Subordinate Series shall be (1) subordinate to each other, if any, Senior Series previously, contemporaneously or subsequently issued, (2) on a parity with each, if any, Subordinate Series Level 2 previously, contemporaneously or subsequently issued and (3) superior to each other, if any, Subordinate Series of a lower level previously, contemporaneously or subsequently issued, (B) "Subordinate Series Level 3," which Subordinate Series shall be (1) subordinate to each other, if any, Senior Series and Subordinate Series Level 2 previously, contemporaneously or subsequently issued, (2) on a parity with each other, if any, Subordinate Series Level 3 previously, contemporaneously or subsequently issued and (3) superior to each other, if any, Subordinate Series of a lower level previously, contemporaneously or subsequently issued or (C) "Subordinate Series Level 4" or "Subordinate Series Level 5" and so on in ascending numerical order depending on the level or subordination of such Subordinate Series, and each such Subordinate Series shall be subordinate to, on a parity with and superior to other Series depending on its level of subordination in accordance with the pattern described in (A) and (B) above;

(vi) a Subordinate Series may be any level of subordination, and a Subordinate Series of a given level may be issued after or before one or more Series of higher levels of subordination or one or more Senior Series are issued (and it is not necessary that any such Series of any higher level of subordination or any Senior Series shall ever be issued), but any such Subordinate Series shall not be subordinate to any Series but each Senior Series and each Subordinate Series of a higher level of subordination previously, contemporaneously or subsequently issued, (e.g., a Subordinate Series Level 4 may be issued after or before the issuance of a Senior Series or any or all of a Subordinate Series Level 2, Level 3 or Level 5, but a Subordinate Series Level 4 shall not be subordinated to any Series except Senior Series and Subordinate Series Level 2 and Subordinate Series Level 3);

(vii) the interest on a Series of Bonds may be excludable from or includable in gross income for federal income tax purposes;

(viii) a Series of Bonds may be secured by a Debt Service Reserve Fund or a Multi-Series Debt Service Reserve Fund, and all Guaranteed Bonds shall be secured by the Section 10 Reserve Fund as provided in the Agreement or by whatever reserve fund may be required by the Enabling Act as in

existence at the time of the issuance of the applicable Series of Guaranteed Bonds; provided, that if at the time a Series of Guaranteed Bonds is issued under the Agreement the Enabling Act does not require any reserve fund for such Series, such Series shall not be required to be (but may be) secured by a reserve fund;

(ix) a Series of Bonds may be secured by Pledged Funds;

(x) the Authority may enter into one or more Derivatives with respect to a Series of Bonds in connection with the initial issuance thereof; provided, however, that the Authority may also enter into Derivatives with respect to a Series of Bonds after the initial issuance thereof if bond counsel to the Authority delivers an opinion to the effect that such action is permitted by the Enabling Act, would not adversely affect the interest of any Registered Owner and would not adversely affect the exclusion of the interest on the Bonds from gross income for federal income tax purposes; and

(xi) more than one Series of Bonds may be issued under a single Series Resolution,

(c) With respect to the Series of Bonds on a parity with each other:

If on any date one or more of principal, Sinking Fund Installments and interest are due on such Series of Bonds moneys in the applicable subaccount in the Interest Account, the Principal Account or the Sinking Fund Account are insufficient to pay any such amount in full, taking account of any amounts deposited in any such subaccount from the Property Fund or the Optional Redemption Account as permitted by the Agreement, but without regard to any amount drawn from any Debt Service Reserve Fund, Multi-Series Debt Service Reserve Fund or Section 10 Reserve Fund to pay all or a portion of such deficiency or any amount drawn under a Credit Facility to pay all or a portion of such deficiency, moneys in any such subaccount in which a deficiency exists shall be applied to the applicable amount due from such subaccount pro rata, without regard to any amounts to be applied to such deficiency with respect to one or more such Series from any Debt Service Reserve Fund, Multi-Series Debt Service Reserve Fund, Section 10 Reserve Fund or Credit Facility; provided, however, that (a) any deficiency in any such subaccount resulting from any amount due under a Derivative not being paid in full when due shall be allocated only to the payment due on the Series of Bonds to which such Derivative pertains and shall not cause a deficiency in the payment due on any other Series of Bonds, (b) any moneys that would have been applied in accordance with such pro rata application to any Bonds secured by a direct pay Credit Facility that in fact pays all principal of, Sinking Fund Installments and interest then due on such Bonds shall be applied to reimburse the issuer of such direct pay Credit Facility for (but not in excess of) the amount paid thereunder and (c) any moneys that would have been applied in accordance with such pro rata application to Bonds with respect to which all or a portion of the principal, Sinking Fund Installments or interest due on such Bonds was paid pursuant to a Derivative shall be applied pro rata to the payment of (i) any amount due from or on account of the Authority pursuant to such Derivative for any such payment of principal, Sinking Fund Installment or interest and (ii) the principal, Sinking Fund Installments or interest on such Bonds not paid pursuant to such Derivative.

(d) Each Guaranteed Bond shall have the Commonwealth Guaranty endorsed thereon in the form set forth in the applicable Series Resolution and duly executed by the manual or facsimile signature of an officer of the University Trustees and shall be entitled to the benefit of the pledge by the Commonwealth of its full faith and credit for its guaranty of the payment of the principal of and interest on such Bonds as the same become due and payable.

(e) As to any Bond, the Registered Owner thereof shall be deemed and regarded as the absolute owner thereof for all purposes and, except as otherwise provided by law, no one of the Authority, the Trustee or the Bond registrar shall be affected by any notice to the contrary. Payment of or on account of the principal or Redemption Price of and interest on any Bond shall be made only to or upon the order of the Registered Owner, registered assigns or the legal representative of the Registered Owner. All such payments shall be valid and effectual to satisfy and discharge the liability upon such Bond including the interest thereon to the extent of the sum or sums so paid.

(f) All Bonds paid, redeemed or purchased, either at or before maturity, shall be delivered to the Trustee when such payment, redemption or purchase is made, and such Bonds shall thereupon be cancelled. All Bonds cancelled under any of the provisions of the Agreement shall be held by the Trustee until the Agreement shall be

discharged; provided, however, that Bonds so cancelled may at any time be destroyed by the Trustee, if the Trustee shall execute a certificate of destruction in duplicate describing the Bonds so destroyed, and one executed certificate shall be filed with the Executive Director of the Authority and the other executed certificate shall be retained by the Trustee.

REDEMPTION OF BONDS

Redemption of Bonds of any Series

If and to the extent that the Authority shall so provide in a Series Resolution, the Bonds of any Series authorized thereunder may be made redeemable, by application of Sinking Fund Installments or otherwise, at the option of the Authority, prior to their respective maturities either in whole or in part, on any date or dates as may be fixed in such Series Resolution, from any moneys that may be made available for such purpose, at the Redemption Price or Redemption Prices fixed by the Authority in such Series Resolution, together with the interest accrued thereon to the date fixed for redemption.

No optional redemption of less than all of the Outstanding Bonds may be made unless all interest accrued on all Outstanding Bonds to the redemption date shall have been paid or set aside for payment.

If the moneys made available from time to time for the purpose of redeeming Bonds (other than by Sinking Fund Installments) are not sufficient to redeem all of the Outstanding Bonds at the Redemption Prices then in effect, they shall be applied to Bonds of such Series, maturity and tenor as the Authority, in its discretion, may select, unless otherwise provided in any Series Resolution. If less than all the Bonds of a particular Series, maturity and tenor are to be redeemed, the particular Bonds and portions of Bonds of such Series, maturity and tenor to be redeemed shall be selected at random by the Trustee in such manner as the Trustee in its discretion may determine; provided, however, that any Bond may be redeemed in a principal amount equal to the minimum denomination in which it may be issued under the applicable Series Resolution or any integral multiple thereof and that, in selecting Bonds for redemption, the Trustee shall treat each Bond as representing that number of Bonds which is obtained by dividing the principal amount of each Bond by such minimum denomination.

Redemption Notice

The Trustee shall give notice of the redemption of any Bonds, specifying the date of redemption, the portions of the principal amounts thereof to be redeemed, the Redemption Price and any other matters specified in the applicable Series Resolution, by mailing, postage prepaid, not more than such number of days nor less than such number of days prior to the redemption date as shall be set forth in the applicable Series Resolution, copies thereof to the Registered Owners of any Bonds, or portions thereof, to be redeemed and to such other persons and at such times as may be set forth in the applicable Series Resolution; provided, however, that failure of any Registered Owner to receive such notice so mailed to such Registered Owner or any defect therein shall not affect the validity of proceedings for the redemption of any Bonds, and failure to mail such notice to any Registered Owner entitled thereto shall not affect the validity of the proceedings for the redemption of any Bonds as to which no such failure occurred. In case any Bond is to be redeemed in part only, the notice of redemption which relates to such Bond shall state also that on or after the redemption date, upon surrender of such Bond, a Bond or Bonds in aggregate principal amount equal to the unredeemed portion of such Bond will be issued described below under "Partial Redemptions."

Effect of Calling for Redemption

Notice having been given in the manner and under the conditions described above under "Redemption Notice," the Bonds or portions of Bonds so called for redemption shall, on the redemption date designated in such notice, become and be due and payable at the Redemption Price of such Bonds or portions of Bonds on such date. On the date so designated for redemption, notice having been given and moneys for payment of the Redemption Price of and interest accrued to the date of redemption on the Bonds so called for redemption being available therefor, interest on such Bonds shall cease to accrue, such Bonds or portions of Bonds shall cease to be entitled to any lien, benefit or security under the Agreement and the Registered Owners of such Bonds or portions of Bonds shall have no rights in respect thereof except to receive payment of the Redemption Price thereof upon presentation

and surrender of the same and interest accrued thereon to the date of redemption and, to the extent described above in "Redemption Notice," to receive Bonds for any unredeemed portions of Bonds.

Partial Redemptions

In case part but not all of an Outstanding Bond shall be selected for redemption, the Registered Owner thereof or the attorney or legal representative of such Registered Owner shall present and surrender such Bond to the Trustee for payment of the Redemption Price of the principal amount thereof so called for redemption, and the Authority shall execute (and, if any such Bond is a Guaranteed Bond cause the guaranty of the Commonwealth to be endorsed on) and the Trustee shall authenticate and deliver to or upon the order of such Registered Owner or the attorney or legal representative of such Registered Owner, without charge therefor, for the unredeemed portion of the principal amount of the Bond so surrendered, a Bond or Bonds aggregating in principal amount said unredeemed portion.

ESTABLISHMENT AND APPLICATION OF FUNDS AND ACCOUNTS

Funds and Accounts

The Agreement establishes the following Funds, Accounts and subaccounts to be held by the Trustee:

- (1) Note Payment Fund
- (2) Construction Fund
- (3) Preliminary Expense Fund
- (4) Revenue Fund
- (5) Debt Service Fund Interest Account:
 - (a) Interest Account (and within the Interest Account a single subaccount with respect to all Senior Bonds, and if and when the first Subordinate Series of a given level is issued, a single subaccount with respect to all Bonds of any Subordinate Series of such level)
 - (b) Principal Account (and within the Principal Account a single subaccount with respect to all Senior Bonds, and if and when the first Subordinate Series of a given level is issued, a single subaccount with respect to all Bonds of any Subordinate Series of such level)
 - (c) Sinking Fund Account (and within the Sinking Fund Account a single subaccount with respect to all Senior Bonds, and if and when the first Subordinate Series of a given level is issued, a single subaccount with respect to all Bonds of any Subordinate Series of such level)
 - (d) Optional Redemption Account
- (6) Section 10 Reserve Fund
- (7) Property Fund:
 - (a) General Account
 - (b) Insurance Proceeds Account
 - (c) Capital Improvements Reserve Account (and within the Capital Improvements Reserve Account a separate subaccount for each Project or each group of Projects with

respect to which the Authority by certificate of an Authorized Officer directs from time to time that a separate subaccount be established within the Capital Improvements Reserve Account)

(d) Multi-Purpose Reserve Account

(8) Rate Stabilization Fund

(9) Rebate Fund

Other Funds, Accounts and subaccounts (including without limitation Accounts within the Funds established under the Agreement as set forth in the preceding paragraph and subaccounts within the Accounts established under the Agreement as set forth in the preceding paragraph) may from time to time be established under the Agreement as directed by a Series Resolution or other resolution of the Authority, and moneys shall be deposited in and disbursed from such Funds, Accounts and Subaccounts as provided in such Series Resolution or other resolution.

Without limiting the generality of the previous paragraph, a Series Resolution under which is issued one or more Series of Bonds subject to tender for purchase may establish an Account (a "Purchase Account") for each such Series into which moneys (which moneys may but need not include moneys in the Revenue Fund) shall be deposited as provided in such Series Resolution to be applied to the payment of the purchase price of Bonds of the applicable Series tendered as provided in the Series Resolution.

If a Series Resolution so provides, moneys (which moneys may but need not include Revenues) may be deposited in a Purchase Account prior to being deposited in the Revenue Fund or, if already on deposit in the Revenue Fund, prior to being deposited in the Debt Service Fund or in other Funds and Accounts as described below in "Revenue Fund." Moneys in a Purchase Account representing amounts received under a Credit Facility or under a Derivative or the proceeds of the remarketing of Bonds tendered for purchase as provided in the applicable Series Resolution shall be applied to pay the purchase price only of Bonds of the Series to which the applicable Purchase Account pertains. Other moneys in a Purchase Account shall be applied as follows: if, on any date on which such moneys in a Purchase Account are to be applied to pay the purchase price of Bonds of the Series to which such Purchase Account obtains, any one or more other Purchase Accounts pertaining to Bonds of the same level (e.g., Senior Series, Subordinate Series Level 2) does not contain sufficient moneys to pay the purchase price due on such date of Bonds to which such one or more other Purchase Accounts pertain, such moneys in all Purchase Accounts pertaining to Bonds of the same level shall be applied pro rata to the payment of the purchase price of such Bonds due on such date. In addition, if and to the extent permitted by the applicable Series Resolution, moneys in any Purchase Account may be applied to reimburse the issuer of a Credit Facility for amounts received by the Trustee pursuant to such Credit Facility to be applied to the payment of the purchase price upon tender as provided in the applicable Series Resolution of Bonds for which such Purchase Account was established or to pay any amount due from or on account of the Authority under a Derivative for payments made pursuant to such Derivative for the payment of the purchase price upon tender as provided in the applicable Series Resolution of Bonds for which such Purchase Account was established.

Note Payment Fund

For each Series of Bonds the proceeds of which are to be applied in whole or in part to the payment of notes of the Authority, deposits to the credit of the Note Payment Fund shall be made as required by the provisions of the applicable Series Resolution. Monies so deposited in the Note Payment Fund shall be held by the Trustee in trust and shall be applied to the payment of the notes referred to in the Series Resolution and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds Outstanding under the Agreement until paid out or transferred as provided in the Agreement. Upon payment in full of such notes, the Trustee shall withdraw any excess monies then on deposit in the Note Payment Fund and deposit or disburse the same as provided in the applicable Series Resolution.

Construction Fund

For each Series of Bonds the proceeds of which are to be applied in whole or in part to the Cost of a Project (or for moneys held under any other trust agreement entered into by the Authority to be applied to the Cost of a Project) there may be established within the Construction Fund a separate Account for each such Project (or for two or more or all of such Projects) to the credit of which such deposits shall be made as are required by the provisions of the applicable Series Resolution or other resolution of the Authority or as designated in a certificate of an Authorized Officer. Any moneys received, other than as Revenues, from any other source, including but not limited to all grants and loans received from the federal government or any agency thereof for or in aid of the planning, construction or financing of any such Project and all contributions of money, property, labor or other things of value available under the terms of any such grant or contribution, for the carrying out of such Project may also be deposited to the credit of the appropriate Account within the Construction Fund (or a subaccount therein) or otherwise be held in trust and be disbursed and applied, all as the Authority may determine.

The moneys in each such Account within the Construction Fund shall be held by the Trustee in trust and shall be applied to the payment of the Cost of the Project and, pending such application, shall be subject to a lien and charge in favor of the Registered Owners of the Outstanding Bonds of the Series the proceeds of which are on deposit in such Account until paid out or transferred as provided in the Agreement. The Agreement contains various requirements for disbursement of moneys from Accounts or subaccounts within the Construction Fund, including without limitation requisitions containing certifications with respect to the use of such moneys in accordance with applicable requirements of the Code.

The Trustee shall upon receipt of written instructions from an Authorized Officer (which instructions and any prior modification thereof may be modified from time to time by further written instructions of an Authorized Officer delivered to the Trustee) and without requisition from the Authority or other further authority than is contained herein, on such date or dates as may be specified in the most recent such instructions delivered by such Authorized Officer, withdraw from any Account within the Construction Fund such amounts as may therein be specified to be withdrawn on the applicable date for payment of interest on the Bonds then Outstanding and shall deposit such amount to the credit of the applicable subaccount in the Interest Account.

Preliminary Expense Fund

For each Series of Bonds from the proceeds of which an amount is specified in the Series Resolution authorizing such Series of Bonds to be applied to the cost of architectural and engineering services, plans, specifications, surveys, estimates of cost and of revenues and other expenses necessary or incident to determine the feasibility or practicability of projects for which written requests shall have been made by authority of the University Trustees, the amount so specified shall be deposited to the credit of the Preliminary Expense Fund. The moneys in the Preliminary Expense Fund shall be held by the Trustee in trust and, pending the application thereof, shall be subject to a lien and charge in favor of the Registered Owners of the Bonds from the proceeds of which such deposits were made until paid out or transferred as provided in the Agreement.

Upon receipt of a certificate of an Authorized Officer directing that all or a portion of the moneys in the Preliminary Expense Fund be transferred to any Account or Accounts with the Construction Fund, accompanied by an opinion of bond counsel to the Authority to the effect that such transfer is permitted by the Enabling Act and will not adversely affect the exclusion of interest on the Bonds from gross income for federal income tax purposes, the Trustee shall withdraw moneys then on deposit to the credit of the Preliminary Expense Fund in the amounts specified in such certificate and deposit the same to the credit of the appropriate Account or Accounts within the Construction Fund in the amount or amounts specified in such certificate.

Upon receipt of a certificate of an Authorized Officer stating that all or a portion of the moneys in the Preliminary Expense Fund are not needed either for the purposes specified in the first paragraph under "Preliminary Expense Fund" or for transfer to any Account or Accounts within the Construction Fund and directing the withdrawal of such moneys from the Preliminary Expense Fund for the payment or deposit for or other application to the purposes specified in such certificate, and upon receipt of an opinion of bond counsel to the Authority to the effect that the application of the moneys to be withdrawn to the purposes set forth in such certificate is permitted by the Enabling Act and will not adversely affect the exclusion of interest on the Bonds from gross income for federal

income tax purposes, the Trustee shall withdraw from then the Preliminary Expense Fund the amount specified in such certificate and pay, deposit or apply the same as specified in such certificate.

Completion of a Project

When the construction of a Project the Cost of which shall have been paid in part or in whole from the proceeds of Bonds shall have been completed, or when for any other reason amounts on deposit in a particular Account within the Construction Fund are no longer needed to pay for the Cost of one or more Projects for which it was established, written notice thereof shall be promptly given to the Trustee by a certificate of an Authorized Officer. Any such notice with respect to the completion of a Project shall state the date of completion of the Project, the cost of the Project and the amount, if any, to be reserved for the payment of any remaining part of the Cost of the Project and the Cost of other Projects to be paid from such Account, and shall be accompanied by a Counsel's Opinion to the effect that there are no uncanceled mechanics', laborers', contractors' or materialmen's liens on any property pertaining to the Project in existence or on file in any public office where the same should be filed in order to be valid liens against any part of such property, and that, in the opinion of the signer, the time within which such liens can be created or filed has expired.

Upon receipt of such notice and, if applicable, such Counsel's Opinion, the balance in the applicable Account within the Construction Fund, not reserved by the Authority for the payment of any remaining part of the Cost of the Project or Projects, shall be withdrawn by the Trustee and applied or deposited as follows: (a) at the Authority's request, as set forth in such certificate, deposited in the amount set forth in such certificate to the credit of any other Account or Accounts existing within the Construction Fund for one or more Projects (including such an Account established simultaneously with the giving of such notice) which the applicable Series of Bonds was issued to finance, if the Authority shall by a certificate of an Authorized Officer certify that the amounts then on deposit in such other Account or Accounts are not sufficient to pay in full the projected costs of the applicable Project or Projects and if such certificate is accompanied by an opinion of bond counsel to the Authority to the effect that such deposit of such moneys is permitted by the Enabling Act and will not adversely affect the exclusion of the interest on the Bonds from gross income for federal income tax purposes; (b) deposited or applied in the amounts and for the purposes as otherwise set forth in such certificate, provided that such certificate is accompanied by an opinion of bond counsel to the Authority to the effect that the deposit or application of such moneys as provided in such certificate is permitted by the Enabling Act and will not adversely affect the exclusion of the interest on the Bonds from gross income for federal income tax purposes and (c) so much thereof as is not deposited pursuant to (a) or (b) shall be deposited to the credit of the Optional Redemption Account.

Revenue Fund

All Revenues received by the Trustee shall be deposited in the Revenue Fund immediately upon receipt by the Trustee; provided, however, that Revenues designated in writing by an Authorized Officer to be applied to Current Expenses, Maintenance, Repair and Operating Expenses or Section 19C Payments may be deposited in any account of the Authority designated in writing by such Authorized Officer. The moneys in the Revenue Fund shall be held by the Trustee in trust and applied as provided below and, pending such application, so much thereof as is not held for Current Expenses or reserves therefor, Maintenance, Repair and Operating Expenses or reserves therefor or Section 19C Payments or reserves therefor shall be subject to a lien and charge in favor of the Registered Owners of the Bonds issued and Outstanding under the Agreement.

Payments from the Revenue Fund shall be made at any time for Current Expenses, Maintenance, Repair and Operating Expenses or Section 19C Payments pursuant to requisitions as provided in the Agreement.

On the fifteenth day of each month (or if such fifteenth day is not a business day, on the next succeeding business day), and again on the last business day of each month preceding an Interest Payment Date, and on each other date provided in any Series Resolution, the Trustee shall withdraw from the Revenue Fund all moneys held for the credit of the Revenue Fund on the day of such withdrawal in excess of the amount required on the date of such withdrawal as a reserve for Current Expenses, Maintenance, Repair and Operating Expenses and Section 19C Payments. The amount so required as a reserve for Current Expenses, Maintenance, Repair and Operating Expenses and Section 19C Payments shall be as directed by the Authority but not more than the excess of (a) the amount stated in the then current Annual Schedule for such Current Expenses, Maintenance, Repair and Operating Expenses

and Section 19C Payments filed by the Authority with the Trustee as described below in “Particular Covenants – Annual Schedule of Projected Expenses,” over (b) the aggregate of the payments made by the Trustee from the Revenue Fund on account of such amounts during the period commencing with the July 1 next preceding the applicable withdrawal pursuant to the preceding sentence and ending with the last day of the month preceding such withdrawal.

The Trustee shall deposit the moneys withdrawn from the Revenue Fund as aforesaid to the credit of the Accounts and Funds as follows:

First, with respect to the Senior Bonds, in the following order of priority:

(a) to the credit of the subaccount established for Senior Bonds in the Interest Account in the Debt Service Fund so much, or the whole if required, of the moneys so withdrawn from the Revenue Fund, until the amount on deposit in the such subaccount, plus any amount to be withdrawn from any Construction Fund as described above in the last paragraph in “Construction Fund” and deposited in such subaccount to be applied to the payment of interest due on any Series of Senior Bonds on the next following Interest Payment Date, shall equal (i) the interest payable on such Interest Payment Date on all Senior Bonds then Outstanding and (ii) the aggregate of all other amounts, if any, required to be on deposit in such subaccount on such Interest Payment Date by each Series Resolution containing such a requirement applicable to Outstanding Senior Bonds; provided, however, that no deposit need be made to the credit of such subaccount with respect to any amount of such interest payable pursuant to a Derivative;

(b) to the credit of the subaccount established for Senior Bonds in the Principal Account in the Debt Service Fund so much, or the whole if required, of the balance of the moneys so withdrawn from the Revenue Fund until the amount on deposit in such subaccount, (A) if the withdrawal is made during a six-month period next preceding a November 1, shall equal (i) the aggregate principal amount of Senior Bonds maturing on such November 1, plus (ii) one-half of the aggregate principal amount of Senior Bonds maturing on the next May 1, plus (iii) the aggregate of all other amounts, if any, required to be on deposit in such subaccount on such November 1 by each Series Resolution containing such a requirement applicable to Outstanding Senior Bonds, or (B) if the withdrawal is made during a six-month period preceding a May 1, shall equal (i) the aggregate principal amount of Senior Bonds maturing on such May 1, plus (ii) one-half of the aggregate principal amount of Senior Bonds maturing on the next November 1, plus (iii) the aggregate of all other amounts, if any, required to be on deposit in such subaccount on such May 1 by each Series Resolution continuing such a requirement applicable to Outstanding Senior Bonds;

(c) To the credit of the subaccount established for Senior Bonds in the Sinking Fund Account in the Debt Service Fund so much, or the whole if required, of the balance of moneys so withdrawn from the Revenue Fund until the amount, determined after taking into account as provided in the Agreement the principal amount of Term Bonds constituting Senior Bonds theretofore purchased, on deposit to the credit of such subaccount, (A) if the withdrawal is made during a six-month period next preceding a November 1, shall equal (i) the Sinking Fund Installments on Senior Bonds due on such November 1, plus (ii) one-half of the Sinking Fund Installments on Senior bonds due on the next May 1, plus (iii) the aggregate of all other amounts, if any required to be on deposit in such subaccount on such November 1, by each Series Resolution continuing such a requirement applicable to Outstanding Senior Bonds, or (B) if the withdrawal is made during a six-month period preceding a May 1, shall equal (i) the Sinking Fund Installments of Senior Bonds due on such May 1, plus (ii) one-half of the Sinking Fund Installments due on Senior Bonds on the next November 1, plus (iii) the aggregate of all other amounts, if any, required to be on deposit in such subaccount on such May 1 by each Series Resolution continuing such a requirement applicable to Outstanding Senior Bonds;

(d) in each calendar year commencing with the first full calendar year succeeding the calendar year in which the first Series of Guaranteed Bonds constituting Senior Bonds shall be issued under the Agreement, to the credit of the Section 10 Reserve Fund so much, or the whole if required, of the balance of the moneys so withdrawn from the Revenue Fund until the amount withdrawn and deposited to the credit of the Section 10 Reserve Fund in such calendar year shall equal the aggregate of the Annual Series Requirements in effect for such calendar year in respect of all Series of Guaranteed Bonds constituting Senior Bonds Outstanding on the first day of such calendar year, plus, or, at the option of the Authority, minus, as the case may be, the deficiency or excess of the

amount on deposit to the credit of the Section 10 Reserve Fund on the first day of such calendar year, including in such amount interest accrued but unpaid on Investment Obligations in which such amount may then be invested, under or over the aggregate of all Annual Series Requirements in effect for prior calendar years in respect of such Guaranteed Bonds constituting Senior Bonds. No deposit need be made with respect to any Annual Series Requirement or portion thereof deposited pursuant to the applicable Series Resolution out of the proceeds of a Series of Guaranteed Bonds constituting Senior Bonds. If there shall have been any prior application of moneys held in the Section 10 Reserve Fund to the payment of principal of or Sinking Fund Installments or interest on Guaranteed Bonds constituting Senior Bonds, the amount of any deficiency in the amount thereafter on deposit to the credit of the Section 10 Reserve Fund resulting from such application shall be taken into account in computing the amount required to be deposited to the credit of the Section 10 Reserve Fund in any calendar year thereafter only to the extent that it is, in the judgment of the Authority, practicable to do so. The Annual Series Requirement as to any Series of Guaranteed Bonds shall be in effect for and only for the twelve calendar years next succeeding the calendar year in which Guaranteed Bonds of such Series were initially issued; for each calendar year thereafter on the first day of which Guaranteed Bonds of such Series shall be Outstanding, the aggregate of such prior Annual Series Requirements shall be included in the measure of the amount required to be on deposit to the credit of the Section 10 Reserve Fund with respect to such calendar year but no additional deposit shall be required with respect to such prior Annual Series Requirements except as may be required to restore any deficiency as aforesaid. If on the first day of any calendar year the amount on deposit in the Section 10 Reserve Fund equals or exceeds the sum of (i) the aggregate of all Annual Series Requirements in effect for prior calendar years, plus (ii) the Annual Series Requirements for such calendar year, in each case in respect of all Series of Guaranteed Bonds constituting Senior Bonds of which Guaranteed Bonds are Outstanding, no deposit need be made under this clause (d) with respect to Guaranteed Bonds constituting Senior Bonds;

(e) pro rata to the credit of each Debt Service Reserve Fund securing Senior Bonds and each Multi-Series Debt Service Reserve Fund securing Senior Bonds, (i) with respect to amounts other than amounts to replenish any withdrawal made for the payment of principal or Redemption Price of or interest on any Senior Bonds, so much, or the whole if required, of the balance of the moneys so withdrawn from the Revenue Fund until the amount deposited in each thereof in the fiscal year in which the applicable withdrawal from the Revenue Fund is made equals the amount, if any, required to be so deposited in such fiscal year by the one or more applicable Series Resolutions, and (ii) with respect to amounts to replenish any withdrawal made from any thereof for the payment of principal or Redemption Price of or Interest on any Senior Bonds, so much, or the whole if required, of the balance of the moneys so withdrawn from the Revenue Fund, until the amount on deposit in each thereof from which any withdrawal for such purpose has been made, equals the applicable Debt Service Reserve Requirement or Multi-Series Debt Service Reserve Requirement, as the case may be, of each thereof;

Second, with respect to the Bonds, if any, of all Subordinate Series Level 2 (“Level 2 Bonds”), in the order of priority provided in First above (except that in depositing moneys under this Second, the term “Level 2 Bonds” shall be substituted for the term “Senior Bonds” in First above; and

Third, with respect to the Bonds, if any, of all Subordinate Series Level 3 (“Level 3 Bonds”), in the order of priority provided in First above (except that in depositing moneys under this third, the term “Level 3 Bonds” shall be substituted for the term “Senior Bonds” in First above;

and so on for the Bonds, if any, of each other Subordinate Series, in descending order, (i.e. Subordinate Series Level 4, and then Subordinate Series Level 5 and so on), substituting in each case the appropriate designation of the Bonds (e.g. “Level 4 Bonds” or “Level 5 Bonds”) on account of which the deposit is being made for the term “Senior Bonds” in First above.

After deposits have been so made with respect to all Series of Bonds issued under the Agreement as provided above, the balance of moneys, if any, withdrawn from the Revenue Fund as aforesaid shall be deposited to the credit of the following Funds and Accounts in the following order of priority;

(f) so much, or the whole if required, of the balance of moneys so withdrawn from the Revenue Fund, to the credit of such Account or Accounts in the Property Fund as may have been established for any reserve or reserves mentioned below in clause (d) in “Particular Covenants – Rate Covenant,” pro rata until the amount deposited in each such Account in the fiscal year in which the applicable withdrawal is made from the Revenue

Fund equals the amount, if any, set forth in a certificate of an Authorized Officer to be deposited in such Account or Accounts during such fiscal year;

(g) so much, or the whole if required, of the balance of moneys so withdrawn from the Revenue Fund, to the credit of each other Account in the Property Fund (other than the Multi-Purpose Reserve Account), pro rata until the amount on deposit in each such Account in the fiscal year in which the applicable withdrawal is made from the Revenue Fund equals the amount, if any, set forth in a certificate of an Authorized Officer to be on deposit in such Account during such fiscal year;

(h) so much, or the whole, if required, of the balance of the moneys so withdrawn from the Revenue Fund, to the credit of the Multi-Purpose Reserve Account, until the amount deposited in such Account in the fiscal year in which the applicable withdrawal is made from the Revenue Fund equals the amount, if any, set forth in a certificate of an Authorized Officer to be deposited in such Account during such fiscal year; provided, that the Authority may also deposit in the Multi-Purpose Reserve Account from time to time any other moneys of the Authority not required to be otherwise deposited;

(i) to the credit of the Rate Stabilization Fund, so much, or the whole if required, of the balance of moneys so withdrawn from the Revenue Fund as may be specified from time to time in a certificate of an Authorized Officer; and

(j) the remainder, if any, to the credit of the Optional Redemption Account.

Debt Service Fund

The moneys in each Account in the Debt Service Fund shall be held in trust and applied as provided in the Agreement and in the applicable Series Resolution and, pending such application, are pledged to, and shall be subject to a lien and charge in favor of, the Registered Owners of the Bonds issued and Outstanding under the Agreement. The Trustee shall apply the moneys held from time to time for the credit of the Accounts in the Debt Service Fund as follows:

(a) as to moneys held in each subaccount in the Interest Account, to the payment of interest on the Bonds with respect to which the applicable subaccount was established, on or after the date when due to each Registered Owner of such Bonds as of the applicable Record Date or Special Record Date, as such interest becomes due and payable;

(b) as to moneys held in each subaccount in the Principal Account, to the payment, on or after the date when due, of the principal of all matured Bonds with respect to which the applicable subaccount was established;

(c) as to moneys held in each subaccount in the Sinking Fund Account, to the application on the due date of each Sinking Fund Installment to the redemption of the Term Bonds with respect to which the applicable subaccount was established, to the extent the same are then subject to redemption by application of Sinking Fund Installments, in the manner provided by the applicable Series Resolution and the Agreement and

(d) as to moneys held in the Optional Redemption Account, to the redemption or purchase of Bonds as provided below.

The Trustee upon the written direction of an Authorized Officer of the Authority shall apply moneys held in any subaccount in the Sinking Fund Account to the purchase of Term Bonds with respect to which the applicable subaccount was established whenever such Bonds may, with reasonable diligence, be purchasable at prices not exceeding the Redemption Price payable for such Bonds on the next Sinking Fund Installment due date for such Bonds; provided, however, that no such purchase shall be made within the period of forty-five (45) days next preceding the next Sinking Fund Installment due date for such Bonds.

The Trustee upon the written direction of an Authorized Officer of the Authority shall also apply moneys held in the Optional Redemption Account to the purchase, arranged as is mutually agreeable to the Trustee and the

Authority, of Bonds then Outstanding at a price not to exceed (a) the Redemption Price payable to the holders of such Bonds on the next redemption date if such Bonds shall have been called for redemption on such date or (b) if such Bonds have not been called for redemption on such date, (i) the Redemption Price applicable on such date to Bonds subject to optional redemption on such date, and (ii) as to Bonds not subject to optional redemption on such date, the Redemption Price applicable to such Bonds on the first date such Bonds are subject to optional redemption.

Notwithstanding the foregoing provision, no such purchase shall be made at any time when the amounts on deposit to the credit of the Interest Account, the Principal Account and the Sinking Fund Account are less than the amounts then respectively required to be on deposit therein, and provided further, that no such purchase of any Term Bond shall be made within the period of forty-five (45) days next preceding the next Sinking Fund Installment due date with respect to such Term Bond and no such purchase of any other Bond shall be made within the period of ten (10) days next preceding any date upon which notice of redemption of such Bonds is scheduled to be mailed.

The principal amount of all Term Bonds purchased as aforesaid shall be deemed to constitute deposits in the applicable subaccount in the Sinking Fund Account and shall be applied, first, against the amounts of such Sinking Fund Installments with respect to such Term Bonds theretofore due and not paid as the Authority shall designate by a certificate of an Authorized Officer, and second, against one or more such Sinking Fund Installments (including any portion of any such Sinking Fund Installment) not yet due as the Authority shall designate by a certificate of an Authorized Officer.

If a Series Resolution shall provide for the redemption at the option of the Authority of any Series of Bonds authorized thereunder, and if at any time on or after the earliest date specified in such Series Resolution for such redemption the amounts on deposit to the credit of the Interest Account, the Principal Account and the Sinking Fund Account shall be equal to or greater than the amounts then respectively required to be so on deposit with respect to any Series of which Bonds will be redeemed, and if the moneys held in the Optional Redemption Account shall equal or exceed (a) the Redemption Price of all Bonds theretofore called for redemption and not redeemed, plus (b) the Redemption Price payable at the next redemption date of Bonds in the aggregate principal amount or Accreted Amount equal to not less than the smallest authorized denomination of the Bonds subject to redemption, plus (c) all necessary and proper expenses to be incurred in connection with the redemption of Bonds on such date, the Trustee shall, if the Authority shall so direct by Certificate of an Authorized Officer (which certificate shall set forth the Series, maturities and principal amounts or Accreted Amounts of each maturity of the Bonds to be redeemed), call Bonds as set forth in such certificate for redemption on the next available redemption date; provided, however, that the aggregate principal amount and Accreted Amount of Bonds to be redeemed set forth in such certificate shall not be greater than the aggregate principal amount and Accreted Amount which will most nearly exhaust the moneys so held in the Optional Redemption Account; and provided further that Bonds shall not be designated for redemption in such certificate unless such Bonds are subject to redemption on the applicable redemption date. Such call and the redemption of Bonds and portions of Bonds so called shall be made pursuant to the provisions of the Agreement.

Interest on Bonds redeemed from moneys in the Optional Redemption Account shall be paid from moneys on deposit in the applicable subaccount in the Interest Account.

If on the date for application of moneys held in the Principal Account or in the Sinking Fund Account, the moneys so held are less than the amount required for application under whichever applies of clauses (b) or (c) of the first paragraph above in "Debt Service Fund," or if by a Certificate of an Authorized Officer the Authority directs that some or all of the moneys in the Optional Redemption Account be applied to the payment of principal or Sinking Fund Installments due on the Bonds, the Trustee shall apply moneys then held in the Optional Redemption Account (except such moneys as to which notice of redemption has already been given) by transfer to the Principal Account or to the Sinking Fund Account, as the case may be, to the extent of the deficiency therein or as directed by such certificate, whichever is applicable; provided that bond counsel to the Authority delivers an opinion to the effect that such application of such moneys is permitted by the Enabling Act and will not jeopardize the exclusion of interest or the Bonds from gross income for federal income tax purposes.

Notwithstanding any other provision of the Agreement, if and to the extent permitted by the applicable Series Resolution, (a) moneys in any subaccount in the Interest Account, Principal Account or Sinking Fund Account may be applied to reimburse the issuer of a Credit Facility for amounts received by the Trustee pursuant to such Credit Facility to be applied to the payment of, respectively, interest on, principal of or any Sinking Fund

Installment on the Bonds for which such subaccount was established or to pay any amount due from or on account of the Authority under a Derivative for payments made pursuant to such Derivative to be applied to the payment of, respectively, interest on, principal of or any Sinking Fund Installment on the Bonds for which such subaccount was established, and (b) moneys in the Optional Redemption Account may be applied to reimburse the issuer of a Credit Facility for amounts received by the Trustee pursuant to such Credit Facility to be applied to the payment of all or any portion of the Redemption Price of Bonds redeemed on account of moneys in the Optional Redemption Account or to pay any amounts due from or on account of the Authority under any Derivative for payments pursuant to such Derivative to be applied to the payment of all or any portion of the Redemption Price of bonds redeemed on account of moneys in the Optional Redemption Account.

Section 10 Reserve Fund; Other Reserve Funds; Moneys Received Pursuant to the Commonwealth Guaranty or a Credit Facility; Pledged Funds

(a) The moneys in the Section 10 Reserve Fund shall be held in trust and applied as provided below and, pending such application, are pledged to, and shall be subject to a lien and charge in favor of, the Registered Owners of the Guaranteed Bonds Outstanding.

The Trustee shall apply the moneys held from time to time for the credit of the Section 10 Reserve Fund to the payment to the appropriate subaccount in the Debt Service Fund of an amount equal to the excess of (a) the aggregate of amounts required at any Interest Payment Date to pay interest then due on Guaranteed Bonds and, if such date is also a maturity date or a Sinking Fund Installment due date for any Guaranteed Bonds, the principal of all such Guaranteed Bonds then matured or the amount of the Sinking Fund Installment then due with respect to Guaranteed Bonds, as the case may be, over (b) moneys then held for the credit of the appropriate subaccount or subaccounts in the Debt Service Fund, after any transfer thereto from the Optional Redemption Account, or from the Property Fund or from the Rate Stabilization Fund or from all of the foregoing, and available for the payment of such interest, principal or Sinking Fund Installment, respectively. If moneys in the Section 10 Reserve Fund are insufficient to pay in full the amounts specified above, such moneys shall be paid, first, to Guaranteed Bonds constituting Senior Bonds, and second to Guaranteed Bonds constituting Level 2 Bonds, and third to Guaranteed Bonds constituting Level 3 Bonds, and so on in descending level of subordination. If moneys in the Section 10 Reserve Fund are insufficient to pay in full the amounts to be paid with respect to all Guaranteed Bonds constituting Senior Bonds, or all Guaranteed Bonds of any applicable level of subordination, such moneys shall be applied to all Guaranteed Bonds of all Senior Series or all Guaranteed Bonds of all Series of the applicable level of subordination, as the case may be, as described below in “Defaults; Remedies – Application of Funds.”

If on the first day of any calendar year or at any other time the amount on deposit in the Section 10 Reserve Fund exceeds the aggregate of the Annual Series Requirements for the present year and all prior years with respect to all Guaranteed Bonds Outstanding, the Authority may by a certificate of an Authorized Officer direct that all or a portion of such excess (other than any part of such excess consisting of interest received and profits realized in excess of losses from investments of moneys held in the Section 10 Reserve Fund, which shall be applied as described below in “Security for Deposits and Investments of Funds – Investments”) be withdrawn from the Section 10 Reserve Fund and deposited in the Revenue Fund to be applied to the payment of interest coming due in such year on such Guaranteed Bonds, provided that such certificate is accompanied by an opinion of bond counsel to the Authority that such application or payment is permitted by applicable law and will not adversely affect the exemption from gross income for federal income tax purposes of the interest on the Bonds.

At any time when the amount on deposit in the Section 10 Reserve Fund equals or exceeds (a) the aggregate of the twelve Annual Series Requirements to be in effect with respect to any particular Series of Guaranteed Bonds of which Bonds are then Outstanding plus (b) all Annual Series Requirements in effect for all prior years and for the then current year with respect to all Series of Guaranteed Bonds of which Bonds are Outstanding, and when such aggregate plus any other moneys held under the Agreement available for the purpose shall equal or exceed the aggregate amount required to pay in full the principal and Redemption Price of and interest on all Bonds of such particular Series then Outstanding (and, if the Bonds of such particular Series are to be redeemed, the necessary and proper expenses to be incurred in connection with such redemption), the Authority may by a certificate of an Authorized Officer direct the Trustee to apply to such payment an amount from the Section 10 Reserve Fund not exceeding such aggregate; provided, however that moneys “available for the purpose” as such phrase is used above in this paragraph shall mean, (x) as to moneys in the subaccounts applicable to such particular

Series in the Interest Account, Principal Account and Sinking Fund Account, moneys in excess of the amount then required to be on deposit in each of such subaccounts with respect to all outstanding Guaranteed Bonds to which such subaccounts apply other than Guaranteed Bonds of such particular Series and (y) as to moneys in the Optional Redemption Account, any Account in the Property Fund and the Rate Stabilization Fund, moneys in any such Fund or Account described in a Certificate of an Authorized Officer to be so applied (such direction to be in accordance with the provisions of the Agreement with respect to the use of the moneys in any such Fund, Account or subaccount).

All deposits to the Section 10 Reserve Fund shall be apportioned if directed by a certificate of an Authorized Officer to separate Accounts to be created therein, one account for each Series of Guaranteed Bonds Outstanding (the "Section 10 Series Accounts"), for purposes of compliance by the Authority with the Code and to such subaccounts, as so directed, as are necessary or desirable to comply with the Code. The portion of each deposit attributed to the Account of a particular Series will be the proportion of the total deposit that the Annual Series Requirement for such Series bears to the aggregate Annual Series Requirements for all Series of Guaranteed Bonds of the same level (i.e., Senior Bonds, Subordinate Series Level 2, etc.).

Any withdrawal from the Section 10 Reserve Fund shall be made in portions taken from all Section 10 Series Accounts in such proportion from each such Account as each such Account bears to the total balance of the Section 10 Reserve Fund prior to the making of such withdrawal, unless otherwise directed by a certificate of an Authorized Officer accompanied by an opinion of bond counsel to the Authority to the effect that the instructions for withdrawal set forth in such certificate will not adversely affect the exclusion from gross income for federal tax purposes of the interest on the Bonds.

(b) Moneys in any Debt Service Reserve Fund or Multi-Series Debt Service Reserve Fund shall be applied as set forth in the one or more applicable Series Resolutions.

(c) Moneys received pursuant to the Commonwealth Guaranty shall be held in a separate Account and applied as promptly as practicable to the payment of principal and interest due on the Guaranteed Bonds on account of which such moneys were received.

(d) Moneys received by the Trustee pursuant to a Credit Facility shall be held in a separate Account and shall be applied as provided in the one or more applicable Series Resolutions or in such Credit Facility.

(e) Pledged Funds received by the Trustee shall be held in a separate Account and applied as provided in the one or more applicable Series Resolutions.

Property Fund

In addition to the Accounts and subaccounts established in the Property Fund described above in "Funds and Accounts," the Agreement establishes and authorizes to be established Accounts in the Property Fund for such reserves as the Authority may establish as described below in clause (d) in "Particular Covenants – Rate Covenant." Subject to the following paragraph, the Trustee shall credit all moneys deposited in the Property Fund to such Account therein (or, as to the Capital Improvements Reserve Account, to such subaccount or subaccounts therein) as the Authority may by certificate of an Authorized Officer direct and, in the absence of such a certificate, to the General Account.

The Trustee shall deposit in the Insurance Proceeds Account all proceeds of an insurance policy or policies upon any Project paid by reason of any insured casualty, except that if the Project to which the proceeds apply has not yet reached completion, such proceeds shall be deposited to the related Account of the Construction Fund; provided, that any such proceeds which are proceeds of "use or occupancy" insurance, so-called, or any other insurance providing for payments in place of income or for operating expenses, in either case as certified by an Authorized Officer, shall be deemed Revenues and be deposited to the credit of the Revenue Fund.

The moneys held in each Account in the Property Fund shall be held in trust and applied as provided below and, pending such application, are pledged to, and shall be subject to a lien and charge in favor of, the Registered Owners of the Bonds issued and Outstanding under the Agreement.

The Trustee shall apply the moneys held from time to time for the credit of each Account in the Property Fund as follows:

(a) as to any Account created for a reserve as described below in clause (d) in “Particular Covenants - Rate Covenants,” to the payment from time to time of amounts as provided by the pertinent resolution of the Authority and for the purposes therein provided in accordance with a certificate of an Authorized Officer;

(b) as to the General Account, to the payment from time to time as deemed appropriate by the Authority of Maintenance, Repair and Operating Expenses of any Project not otherwise provided for;

(c) as to the Insurance Proceeds Account, to payment, in accordance with the provisions described below in “Particular Covenants - Insurance on Projects,” for the repair, restoration or reconstruction of the damage or destruction on account of which the funds were received, or for the doing of such other work in respect of such Project as the Authority may determine in accordance with the provisions described below under “Particular Covenants - Insurance on Projects”;

(d) as to any subaccount in the Capital Improvements Reserve Account, to the payment from time to time of the costs of capital improvements or capital repairs with respect to any Project to which the applicable subaccount pertains;

(e) as to the Multi-Purpose Reserve Account, to any lawful purpose for which the Authority may expend funds (and the Trustee may rely on a statement to such effect in the certificate of an Authorized Officer directing such application that the amounts set forth in such certificate will be so applied);

(f) to the extent of moneys so held in any Account in the Property Fund which are not the proceeds of any insurance policy or policies or investment earnings on such proceeds, to transfer to any one or more subaccounts in the Interest Account, the Principal Account or the Sinking Fund Account, one or more, as the case may be, in the Debt Service Fund if and to the extent that moneys held in any such subaccount on a date for application thereof, together with money available in the Rate Stabilization Fund, shall be less than the amount then required for application from such subaccount; and

(g) to the extent of moneys so held in any Account in the Property Fund which are not the proceeds of any insurance policy or policies or investment earnings on such proceeds, to the redemption of Bonds as may be directed from time to time by a certificate of an Authorized Officer.

The Authority may, by a certificate of an Authorized Officer approved by the University Trustees and accompanied by an opinion of bond counsel to the Authority to the effect that the instructions in such certificate are permitted by the Enabling Act and will not adversely affect the exclusion of the interest on the Bonds from gross income for federal income tax purposes, direct that amounts be transferred from any one or more subaccounts in the Capital Improvements Reserve Account to any other one or more subaccounts in the Capital Improvements Reserve Account or to one or more Capital Improvements Reserve Accounts or like accounts (or, if applicable, one or more subaccounts in any such Capital Improvements Reserve Account or like account) established under any other trust agreement under which the Authority has issued bonds).

Rate Stabilization Fund

Amounts shall be deposited in the Rate Stabilization Fund from the Revenue Fund in the Authority’s discretion as provided in the Agreement in order to minimize the variation over time in the fees, rents, rates and other charges fixed in accordance with the provisions described below in “Particular Covenants – Rate Covenant.” At any time, upon the direction of the Authority as evidenced by a Certificate of an Authorized Officer, amounts on deposit in the Rate Stabilization Fund may be withdrawn and deposited in the Revenue Fund or applied to the redemption of Bonds.

Notwithstanding the foregoing paragraph, if at any time the amounts on deposit and available therefor in the Debt Service Fund are insufficient to pay the principal and Redemption Price of and interest on the Bonds then

due, the Trustee shall withdraw from the Rate Stabilization Fund and deposit in the appropriate subaccount within the Debt Service Fund the amount necessary to meet such deficiency.

Rebate Fund

For each Series of Bonds subject to the rebate requirements of the Code, there shall be established within the Rebate Fund a separate account, for the benefit of the United States of America, and such subaccounts therein as are provided in the applicable Series Resolution, as amended from time to time, or as may be directed by a certificate of an Authorized Officer.

The Trustee shall deposit in the applicable account in the Rebate Fund such amounts as are required pursuant to such Series Resolution, invest the same as set forth therein, and keep such records as shall enable the Authority to satisfy its rebate obligations for such Series under the Code. The Authority shall direct the Trustee to pay to the United States from the Rebate Fund on the Authority's behalf such amounts as are required to be paid pursuant to the Code, all as set forth in the applicable Series Resolution, provided that any deficiency in the amounts required to be deposited into the Rebate Fund, or in any required payment from the Rebate Fund to the United States, shall be made up by the Authority, and provided further that no amount in the Rebate Fund shall be paid to the Authority or transferred to any other Fund or Account except as permitted by the Agreement, the Series Resolution and the Code.

The provisions described in this paragraph, as modified by the applicable Series Resolution, shall survive the defeasance of the Agreement, or of any Series of Bonds to which such provisions apply, and such provisions and the provisions pertaining to rebate in any Series Resolution shall be subject to amendment without the consent of any Registered Owner to reflect any applicable amendment to the Code with respect to rebate.

SECURITY FOR DEPOSITS AND INVESTMENTS OF FUNDS

Deposits with Trustee

All moneys deposited under the Agreement with the Trustee shall be held in trust and applied in accordance with the provisions of the Agreement, and shall not be subject to lien or attachment by any creditor of the Authority or the Trustee.

All moneys deposited with the Trustee under the Agreement shall be continuously secured, for the benefit of the Authority and the Registered Owners of the Bonds in such manner as may then be required or permitted by applicable state or federal laws and regulations regarding the security for, or granting a preference in the case of, the deposit of trust funds; provided, however, that it shall not be necessary for the Trustee to give security for any moneys which shall be invested in Investment Obligations.

All moneys deposited with the Trustee shall be credited to the particular Fund, Account or subaccount to which such moneys belong.

Investments

Moneys held for the credit of the Note Payment Fund shall, as nearly as may be practicable, be continuously invested and reinvested by the Trustee in Investment Obligations which shall mature, or which shall be subject to redemption by the holder thereof at the option of such holder, not later than the day or days preceding the date or dates of payment of the notes for the payment of which such moneys in the Note Payment Fund are held.

Moneys held for the credit of each Account within the Construction Fund shall, as nearly as may be practicable, be continuously invested and reinvested by the Trustee in Investment Obligations which shall mature, or which shall be subject to redemption by the holder thereof at the option of such holder, not later than the respective dates as set forth in a schedule furnished by an Authorized Officer of the Authority to the Trustee at the time moneys are first deposited in such Account, as such schedule may thereafter be amended, when moneys held for the credit of such Account will be required for the purposes intended.

Moneys held for the credit of the Revenue Fund shall, as nearly as may be practicable, be continuously invested and reinvested by the Trustee in Investment Obligations which shall mature, or which shall be subject to redemption by the holder thereof at the option of such holder, as to moneys not in excess of the amount then required as the reserve for Current Expenses, not later than the day or days preceding the date or dates upon which moneys are to be applied to the payment of Current Expenses, Maintenance, Repair and Operating Expenses and Section 19C Payments as set forth in a schedule filed by the Authority with the Trustee, or, as to moneys held in the Revenue Fund and to be transferred to other Funds, Accounts and subaccounts as described above in "Establishment and Application of Funds and Accounts – Revenue Fund," not later than the day preceding the date of such transfer.

Moneys held for the credit of each subaccount in the Debt Service Fund shall, as nearly as may be practicable, be continuously invested and reinvested by the Trustee in Investment Obligations which shall mature, or which shall be subject to redemption at the option of the holder thereof, as to moneys so held in any subaccount in the Interest Account in an amount not in excess of the amount payable as interest from such subaccount at the next Interest Payment Date, not later than the day prior to such Interest Payment Date, or, as to moneys so held in any subaccount in the Principal and Sinking Fund Accounts, in amounts not respectively in excess of the amount payable from such subaccount as principal of Bonds maturing at the next maturity date or of the amount of the Sinking Fund Installment next falling due, not later than the day prior to the date of such maturity or such due date, as the case may be, or, as to other moneys, if any, so held, not later than twelve (12) months after the date of any such investment.

Moneys held for the credit of the Section 10 Reserve Fund and the Rate Stabilization Fund shall, as nearly as may be practicable, be continuously invested and reinvested by the Trustee in Investment Obligations, provided that amounts on deposit in the Section 10 Series Account for any Series of Outstanding Guaranteed Bonds, or in any subaccounts, shall not be invested in excess of the yield or yields as set forth in the investment instructions delivered to the Trustee from time to time by an Authorized Officer, except as permitted by an opinion of bond counsel to the Authority to the effect that investments may be made at the yield or yields set forth in such opinion without adversely affecting the exclusion from gross income of the interest on such Series of Guaranteed Bonds or any other Bonds.

Moneys in any Debt Service Reserve Fund or Multi-Series Debt Service Reserve Fund shall be invested as provided in the one or more applicable Series Resolutions.

Moneys held for the credit of each Account or subaccount in the Property Fund shall, as nearly as may be practicable, be continuously invested and reinvested by the Trustee in Investment Obligations which shall mature, or which shall be subject to redemption by the holder thereof at the option of such holder, on the dates specified from time to time in a certificate of an Authorized Officer delivered to the Trustee.

Notwithstanding any other provisions of the Agreement, the Authority may at any time deliver to the Trustee by a certificate of an Authorized Officer additional or different instructions from those set forth above regarding the investment of moneys held under the Agreement, provided that such instructions do not jeopardize the exclusion from gross income for federal income tax purposes of the interest on any Bond (as to which the Authority may rely on an opinion of bond counsel to the Authority), and provided that such additional or different instructions do not violate the requirements of the issuer of any Credit Facility with respect to the moneys to which such instructions apply. The Trustee shall comply with such instructions if (a) the Authority certifies in such certificate that such instructions do not jeopardize the exclusion from gross income for federal income tax purposes of the interest on any Bond; (b) no investment is directed to be made in any investments other than Investment Obligations; (c) the Authority certifies in such certificate that such instructions do not violate the requirements of the issuer of any Credit Facility with respect to the moneys to which such instructions apply; and (d) the Trustee's liability as set forth in the Agreement is not modified.

Investment Obligations purchased as an investment of moneys in any Fund, Account or subaccount may be purchased and held with Investment Obligations purchased as an investment of moneys in any other Fund, Account or subaccount as a part of a single investment fund but shall be deemed at all times to be a part of the Fund, Account or subaccount for which they were purchased, and the interest accruing thereon and any profit or loss realized from such investments shall be charged pro rata to each such Fund, Account or subaccount; provided, however, (a) that interest received and profits realized in excess of losses realized in any fiscal year from investments of moneys held

in the Note Payment Fund shall be deemed to be proceeds of the corresponding Series of Bonds and, except to the extent provided in the Series Resolution authorizing the issuance of such Bonds to be applied to the payment of notes issued by the Authority, shall be transferred, upon the first to occur of (i) payment in full of the pertinent notes or (ii) the end of a fiscal year, to the corresponding Account within the Construction Fund, (b) that, subject to the provisions described above in “Establishment and Application of Funds and Accounts – Rebate Fund,” all such interest and profits from the investment of moneys held in Construction Fund Accounts shall be retained in such Accounts, (c) that, subject to the provisions described above in “Establishment and Application of Funds and Accounts – Rebate Fund,” all such interest and profits from the investment of moneys held in any Debt Service Reserve Fund or Multi-Series Debt Service Reserve Fund shall be applied as provided in the one or more Series Resolutions governing the application of moneys held in the applicable Debt Service Reserve Fund or Multi-Series Debt Service Reserve Fund and (d) that, subject to the provisions described above in “Establishment and Application of Funds and Accounts – Rebate Fund,” such interest and profits from investments of moneys held in any other Fund, Account or subaccount, except as otherwise provided in a Series Resolution or in the Agreement, shall constitute Revenues and shall be transferred to the Revenue Fund. Such interest received and profits realized in excess of losses realized in any calendar year from investments of moneys held in the Section 10 Reserve Fund shall, subject to the provisions described above in “Establishment and Application of Funds and Accounts – Rebate Fund,” and if and only if the amount on deposit to the credit of the Section 10 Reserve Fund on the first day of such calendar year (or on any other date of such calendar year if bond counsel to the Authority delivers an opinion to the effect that such is permitted by the Enabling Act) exceeds the aggregate of all Annual Series Requirements in effect for the Guaranteed Bonds then Outstanding for all calendar years through and including such calendar year, constitute Revenues to the extent of the amount of such excess and shall be transferred as received to the Revenue Fund to be applied to the payment of interest on Guaranteed Bonds, unless a certificate of an Authorized Officer directs that any such interest or profits be held in the Section 10 Reserve Fund. Interest and profits derived from the investment of moneys, which interest and profits are held in the Revenue Fund or which are not subject to being transferred thereto, shall, to the extent available, be deemed to be included among the amounts first requisitioned or otherwise withdrawn and expended from any Fund, Account or subaccount. The Trustee shall sell at the best price obtainable or present for redemption any obligations so purchased whenever it shall be necessary so to do in order to provide moneys to meet any payment or transfer from any such Fund, Account or subaccount. Neither the Trustee nor the Authority shall, in the absence of bad faith, be liable on account of or responsible for the results of any such investment.

In computing the amount in any Fund, Account or subaccount held by the Trustee under the Agreement, Investment Obligations shall be valued at par if purchased at par or at amortized value if purchased at other than par. Amortized value, when used with respect to an obligation purchased at a premium above or a discount below par, means the value as of any given time obtained by dividing the total premium or discount at which such obligation was purchased by the number of days remaining to maturity on such obligation at the date of such purchase and by multiplying the amount thus calculated by the number of days having passed since such purchase; and (1) in the case of an obligation purchased at a premium by deducting the product thus obtained from the purchase price; and (2) in the case of any obligation purchased at a discount by adding the product thus obtained to the purchase price. Valuation on any particular date shall include the amount of interest then earned or accrued to such date on any Investment Obligations.

Investment Advice

The Authority shall direct all investments of moneys held under the Agreement, or the Authority may, at its expense, appoint as an investment adviser a person registered under the federal Investment Advisers Act of 1940 and having a favorable reputation for competence and experience in investing in Investment Obligations to instruct the Trustee with respect to investment and reinvestment of all or a portion of the moneys held under the Agreement. The Trustee shall have no liability of any kind to the Authority, to any Registered Owner or to any other person for or on account of any investment transaction it shall carry out in accordance with investment instructions given as provided in the Agreement. The Trustee may carry out all investment transactions through its own facilities.

PARTICULAR COVENANTS

Rate Covenant

The Authority covenants that it will establish and revise rules and regulations to insure the use and occupancy of, and will fix, revise, adjust and collect fees, rents, rates and other charges for the use of, each Project and of all Other Projects and other property of the Authority the Revenues from which are pledged under the Agreement, in such manner and at such levels as may be necessary so that the aggregate of (i) the proceeds from such fees, rents, rates and other charges for the use of all Projects, Other Projects and other property the Revenues from which are pledged under the Agreement, (ii) all other Revenues from such Project, Other Projects and property and (iii) all appropriations, contributions, gifts and grants received by the Authority or made for the benefit of the Authority or any such Project, Other Project or property and available and applied for the purpose, will provide Revenues sufficient in each fiscal year:

(a) to pay the Maintenance, Repair and Operating Expenses of such Projects, Other Projects and property, provided, that in the case of a Project with respect to which a Contract is in effect that includes undertakings by the University Trustees respecting maintenance, repair and operation thereof, such undertakings shall be deemed to fulfill the covenant of the Authority as to the sufficiency of Revenues therefor;

(b) (i) to provide for making deposits to the credit of the appropriate Accounts in the Debt Service Fund in amounts in such fiscal year equal in the aggregate to the total of (A) all interest becoming due and payable in such fiscal year on all Bonds then Outstanding, (B) the principal amount of all such Bonds maturing in such fiscal year, (C) the Sinking Fund Installments, if any, becoming due in such fiscal year in respect of all such Bonds and (D) other amounts, if any, payable in such fiscal year on the account of all such Bonds or required to be deposited in such Fiscal Year to any Account in the Debt Service Fund and (ii) to provide for the payment of the purchase price of Bonds tendered as provided in the one or more applicable Series Resolutions;

(c) to pay the Current Expenses of the Authority properly allocable to such Projects, Other Projects and property;

(d) to create and maintain such funds, accounts and reserves, if any, as may be provided for in any Series Resolution authorizing the issuance of Bonds or in a resolution thereafter adopted;

(e) to pay the amounts of any Section 19C Payments to be paid in such fiscal year; and

(f) to provide for making deposits to the credit of (i) the Section 10 Reserve Fund in amounts which, together with amounts deposited in the preceding fiscal year for such purpose or to be deposited in the subsequent fiscal year for such purpose will equal in the aggregate the reserve required by Section 10 of the Enabling Act to be established and maintained in such Fund in respect of each calendar year constituting a portion of such fiscal year and (ii) each Debt Service Reserve Fund or Multi-Series Debt Service Reserve Fund in amounts, if any, required by the one or more applicable Series Resolutions;

except that

(g) as to any Project or Other Projects the Bonds or other indebtedness issued by the Authority to finance or refinance which shall have been paid or provided for in full, as described below in "Defeasance," such Revenues need only be sufficient to pay the amounts required under clauses (a), (c), (d) and (e) above;

and, so far as consistent with the foregoing requirements, so as to maintain reasonable uniformity of charges for like rooms or other accommodations, facilities and services at the University whether or not contained in or provided by a Project of the Authority.

The Authority covenants that if the amounts deposited to the credit of any Account in the Debt Service Fund, the Section 10 Reserve Fund and any other reserve fund securing any Bonds in any fiscal year shall be less than the amounts respectively referred to above for such fiscal year, it will revise and adjust the aforesaid fees, rents,

rates and other charges so as to provide funds sufficient, with all other moneys available for the purpose, to provide the payments and deposits specified above to be made from Revenues.

To the extent provided in the Enabling Act, any establishment or revision of said rules and regulations and any fixing, revision or adjustment of said fees, rents, rates or other charges by the Authority shall require the approval of the University Trustees, and the Authority covenants that it will use its best efforts to obtain such approval whenever required.

Annual Schedule of Projected Expenses

The Authority shall file with the Trustee an annual schedule of projected expenses (the “Annual Schedule of Projected Expenses” or “Schedule”) as follows:

(a) With or before the first remittance to the Trustee of moneys to be deposited in the Revenue Fund, the Authority shall file with the Trustee an initial Schedule signed by an Authorized Officer setting forth the amount estimated by the Authority to be payable from the Revenue Fund as Current Expenses, Maintenance, Repair and Operating Expenses and Section 19C Payments during the period commencing with the date thereof and ending on the next following June 30.

(b) On or before each June 15, commencing with the June 15 next preceding the end of the period covered by said initial Schedule, the Authority shall file with the Trustee a Schedule similarly signed setting forth the amount estimated by the Authority to be payable from the Revenue Fund as Current Expenses, Maintenance, Repair and Operating Expenses and Section 20 Payments during the period commencing on the next following July 1 and ending twelve months thereafter.

(c) If at any time prior to June 30 in any period covered by the initial or any subsequent Schedule, as the same may have theretofore been amended, the aggregate of the amounts paid from the Revenue Fund since and including the next preceding July 1 as Current Expenses, Maintenance, Repair and operating Expenses and Section 19C Payments shall exceed the amount set forth in such Schedule, the Authority shall file an amended Schedule similarly signed increasing accordingly the estimated amount to be payable as Current Expenses, Maintenance, Repair and Operating Expenses and Section 19C Payments during the balance of such period. Each amended Schedule filed by the Authority under this clause shall supersede all initial, annual and amended Schedules filed prior thereto.

Debt Service Payments and Payment of Purchase Price

The Authority covenants that it will promptly pay the principal of and the interest on every Bond and the purchase price of every Bond tendered as provided in the applicable Series Resolution at the place, on the dates and in the manner provided in the Agreement and in said Bond and Series Resolution, and any premium required for the retirement of said Bond by purchase or redemption, according to the true intent and meaning thereof. Except as otherwise provided in the Agreement, such principal, interest, purchase price and premium are payable solely from Revenues and Funds pledged under the Agreement.

The Authority covenants that it will perform and observe each and every agreement, condition, covenant and obligation on its part to be performed and observed under each Contract providing for the Commonwealth Guaranty to the end that the Commonwealth Guaranty therein provided and the pledge of the full faith and credit of the Commonwealth for such Commonwealth Guaranty shall remain in full force and effect and binding upon the Commonwealth as authorized by the Enabling Act and provided by such Contract, said Commonwealth Guaranty and pledge being evidenced by the guaranty executed on each applicable Guaranteed Bond by an officer of the University Trustees.

Completion of Projects

The Authority covenants that it will with reasonable expedition complete each Project in conformity with law and all requirements of all governmental authorities having jurisdiction thereover. The Authority further covenants that upon completion or occupancy of each Project financed by a Series of Bonds issued under the

Agreement, if and to the extent that there is no obligation of the University Trustees under a Contract to undertake the operation and maintenance of any such Project, the Authority will thereafter operate and maintain, or otherwise provide for the operation and maintenance of, such Project.

Land Covenant

(a) The Authority covenants that each Project constructed or acquired by it is or will be located on lands as to which either (i) the same are leased by the Authority from the Commonwealth for the purpose by a good and valid lease or leases continuing or renewable at the option of the Authority for a term not shorter than the last maturity of any Bond of the Series pertaining to such Project, or (ii) good and marketable title to which is owned by the Authority in fee simple or the right to use and occupy which is vested in the Authority by valid franchises, licenses, easements, rights of way or other rights expiring not earlier than the last maturity of any such Bond.

(b) The foregoing covenant shall not apply to a Project consisting of the construction, alteration, enlargement, reconstruction, rehabilitation, remodeling and other work on any building, structure or other facility (including without limitation parking lots) not owned or leased by the Authority as lessee or sublessee and not involving the acquisition of such building, structure or facility by the Authority.

Compliance with Contracts

The Authority covenants that it will perform and observe each and every agreement, condition, covenant and obligation on its part to be performed and observed under each Contract, and will use its best efforts to enforce like performance and observation on the part of the Commonwealth and the University Trustees, to the end that the obligation of the Commonwealth and the University Trustees thereunder, among other things, to remit to the Authority or to the Trustee Revenues, to operate and maintain the Project and to make necessary repairs to and restoration and reconstruction of the same shall continue in full force and effect. The Authority covenants that, from and to the extent of, but not in excess of, the Revenues of each Project owned by it and any other funds available to it for the purpose, it will cure any deficiencies in the maintenance of such Project and will make all necessary repairs, restoration and reconstruction not made by the Commonwealth pursuant to the applicable Contract and that it will observe and perform all of the terms and conditions contained in the Enabling Act.

Payment of Lawful Charges

The Authority covenants that it will not create or suffer to be created any lien or charge upon any Project or any part thereof or upon the Revenues therefrom except the lien and charge upon such Revenues under the Agreement, and that, from the same or other available funds, it will pay or cause to be discharged, or will make adequate provision to satisfy and discharge, as promptly as possible after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon any Project or any part thereof or the Revenues therefrom; provided, however, that nothing in the foregoing provisions in this subsection shall (a) require the Authority to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof shall be contested in good faith, or (b) prohibit (i) the University Trustees or the University from using any funds of the University in accordance with law and in compliance with any Contract or any other agreement applicable to the University Trustees or the University or (ii) the Expendable Fund Balance of the University from being used in accordance with law and in compliance with any Contract or any other agreement applicable to the University Trustees; and provided, further, that if on any date the Authority holds or there is held for the account of the Authority Revenues in excess of the Revenues required by the provisions described above in "Rate Covenant" for the remainder of the fiscal year in which such date occurs, the Authority may apply such excess to any lawful purpose of the Authority as the Authority may from time to time determine.

Use of Other Funds for Projects; Sale of Projects

Notwithstanding any other provision of the Agreement, the Authority may permit the Commonwealth or any of its agencies, departments or political subdivisions, to pay the cost of maintaining, repairing and operating any Project out of funds other than Revenues of such Project whether pursuant to the pertinent Contract or otherwise.

The Authority may also, if and to the extent now or hereafter permitted by law, sell any Project owned by the Authority or any portion thereof; provided, that if such sale is of an entire Project, the proceeds therefrom shall be in an amount sufficient, with all other moneys then held by the Trustee hereunder and available for the purpose, (a) to pay or provide for the payment in full at the first date upon which such payment may be made of all amounts then required for the payment of the principal or Redemption Price of and interest on the Bonds then Outstanding issued to finance or refinance the cost of such Project (and the determination of which Bonds of the applicable Series were so issued shall be made by the Authority in any reasonable manner if the Project was financed or refinanced by Bonds issued as part of a Series that financed or refinanced more than one Project and shall be evidenced to the Trustee by a certificate of an Authorized Officer) and (b) to pay all necessary and proper expenses payable in connection with such payment; provided, further, that if such sale is of a portion of a Project, the proceeds therefrom shall be an amount sufficient, with any other moneys then held by the Trustee under the Agreement and available for the purpose, (a) to pay or provide for the payment in full at the first date upon which such payment may be made of the principal or Redemption Price of and interest on a principal amount of Bonds then Outstanding of the Series issued to finance or refinance the Cost of such Project bearing the same proportion to the principal amount of all such Bonds then Outstanding that (as reasonably determined by the Authority and evidenced to the Trustee by a Certificate of an Authorized Officer) the Cost of the portion of such Project to be sold bore to the Cost of the Project and (b) to pay all necessary and proper expenses payable in connection with such payment. The proceeds of any such sale shall be deposited by the Authority with the Trustee and shall be deposited by the Trustee to the credit of the Optional Redemption Account.

Insurance on Projects

The Authority covenants that (a) during the construction, alteration, enlargement, reconstruction, rehabilitation or remodeling of or other work upon each Project it will carry such builder's risk insurance, if any, as it may deem reasonable therefor, and (b) from and after the time when the contractors or any of them engaged in constructing any part of each Project shall cease to be responsible, pursuant to the provisions of the respective contracts for the construction of such part, for loss or damage to such part occurring from any cause, it will insure and at all times keep such part insured with a responsible insurance company or companies, qualified to assume the risk thereof, against physical loss or damage however caused, with such exemptions as are ordinarily required by insurers of buildings, structures or facilities of similar type and in similar locations, in such amount as it shall determine to be reasonable and in any event at least sufficient to comply with any legal or contractual requirement which, if breached, would result in assumption by the Authority of a portion of any loss or damage as a co-insurer; provided, however, that (i) if at any time the Authority shall be unable to obtain such insurance to the extent above required, either as to the amount of such insurance or as to the risks covered thereby, it will not constitute an event of default under the Agreement if the Authority shall maintain such insurance to the extent reasonably obtainable, (ii) such insurance may be provided by a policy or policies covering all insurable portions of such Project as a whole together with other insurable property of the Authority and (iii) the requirements set forth in clause (b) above of this paragraph shall not apply to any Project owned by the Commonwealth (but the Authority may from time to time provide such insurance of the kind described in such clause (b) for any Project owned by the Commonwealth as the Authority may determine in its discretion).

All such policies shall be for the benefit of the Trustee and the Authority as their interests shall appear, shall be made payable to the Trustee (by means of the standard mortgagee clause without contribution, if obtainable) and shall be deposited with the Trustee. The proceeds of any and all such insurance shall be deposited with the Trustee, and the Trustee shall have the sole right to receive the proceeds of such insurance and to collect claims thereunder and receipt therefor. The proceeds of any and all such insurance shall be deposited to the credit of the Insurance Proceeds Account in the Property Fund.

The Authority covenants that, immediately after any damage to or destruction of any part of any Project the estimated cost to repair, restore or reconstruct which exceeds One Hundred Thousand Dollars (\$100,000), it will, if necessary, prepare or cause the Architect or Engineer, as the case may be, for the Project to prepare plans and specifications for repairing, restoring or reconstructing the damaged or destroyed property, and in any event it will proceed with all reasonable promptness as may be required to accomplish such repair, restoration or reconstruction in accordance with the original design or to do such other work as may be advised in writing by the University Trustees.

The proceeds of all insurance referred to in this subsection shall be available for, and shall to the extent necessary be applied to, the repair, restoration or reconstruction of the damaged or destroyed property, or the doing of other work with respect thereto as the Authority may determine by resolution adopted upon advice in writing from the University Trustees, and shall be disbursed by the Trustee upon receipt of copies, certified by an Authorized Officer, of the resolution adopted by the Authority authorizing such repair, restoration and reconstruction and of such written advice and otherwise in the manner and upon the showings provided in the Agreement for payments from the Construction Fund. If such proceeds shall be insufficient for such purpose, the deficiency shall be supplied from any other moneys available for the purpose in the appropriate reserve Account or in the General Account in the Property Fund.

Upon completion of the work authorized by such resolution the Authority shall cause to be filed with the Trustee a notice and a Counsel's Opinion with respect thereto executed, approved and including statements substantially to the same effect as those provided in the Agreement for completion of construction of a Project.

Any balance of such proceeds remaining after such certificate shall have been filed shall be held by the Trustee in the Insurance Proceeds Account in the Property Fund and applied as provided herein or, if the Authority shall so direct by a certificate of an Authorized Officer, shall be transferred to one or more of the Revenue Fund, the Optional Redemption Account in the Debt Service Fund, to any Account within the Construction Fund or to the Multi-Purpose Reserve Account.

Use, Occupancy and Other Insurance

The Authority covenants that it will at all times carry with a responsible insurance company or companies or companies qualified to assume the risk thereof:

(a) use and occupancy insurance covering loss of Revenues from each Project by reason of necessary interruption, total or partial, in the use thereof resulting from damage or destruction of any part thereof however caused, with such exceptions as are ordinarily required by insurers providing similar insurance, in such amount as the Authority shall estimate is sufficient to provide a full equivalent of Revenues for the fiscal year of the Authority respecting which such insurance is carried; provided, that if at any time the Authority shall be unable to obtain such insurance to the extent above required, either as to the amount of such insurance or as to the risks covered thereby, it will not constitute an event of default under the Agreement if the Authority shall carry such insurance to the extent reasonably obtainable; provided, however, that the Authority need not (but may) provide the insurance described in this subparagraph with respect to any Project owned by the Commonwealth; and

(b) such worker's compensation or employers' liability insurance as may be required by law and such public liability and property damage insurance as the Authority shall deem reasonable.

All policies providing use and occupancy insurance shall be made payable to and deposited with the Trustee, and the Trustee shall have the sole right to receive any proceeds of such policies and to collect claims thereunder. Any proceeds of use and occupancy insurance paid to the Trustee shall be deposited by it forthwith to the credit of the Revenue Fund.

Any appraisal or adjustment of any loss or damage under any policy payable to the Trustee and any settlement or payment of indemnity under any such policy shall be agreed upon between the Authority and any insurer and shall be evidenced to the Trustee by a certificate, signed by an Authorized Officer of the Authority, which certificate may be relied upon by the Trustee as conclusive. The Trustee shall in no way be liable or responsible for the collection of insurance moneys in case of any loss or damage.

No Inconsistent Action by Authority

The Authority covenants and agrees that none of the Revenues of any Project will be used for any purpose other than as provided in the Agreement and no contract or contracts will be entered into or any action taken which shall be inconsistent with the provisions of the Agreement.

Further Instruments and Actions

The Authority covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of the Agreement.

Records, Reports and Audits

The Authority covenants that it will keep an accurate record of the total cost of each Project, of the Revenues collected or derived from such Project, and of the application of such Revenues collected or derived from such Project. Such records shall be open at all reasonable times to the inspection of the Trustee. The Authority covenants that it will cause any reports or audits relating to each Project to be made as required by law and that it will furnish to the Trustee a copy of each such report and audit forthwith upon receipt thereof by the Authority.

Release of Land; Sale of Equipment

The Authority may from time to time (a) release to the University Trustees any land leased by the University Trustees to the Authority if permitted by a lease entered into between the University Trustees and the Authority and if such release will not adversely affect Revenues, (b) sell or otherwise dispose of any machinery, fixtures, apparatus, tools, instruments or other movable property acquired by it from the proceeds of Bonds or from the Revenues of a Project, if the Authority shall reasonably determine that such articles are no longer useful or appropriate in connection with the construction or operation and maintenance of such Project, and that such sale or disposition, taking account of the application of any proceeds received from such sale or disposition and any replacement to be made of or any substitution to be made for any of the properties so sold or disposed of, shall not adversely affect the Revenues from such Project.

Covenant as to Exclusion of Interest from Gross Income

The Authority covenants that it will not take any action or fail to take any action that would adversely affect the exclusion of interest on the Bonds from gross income for federal income tax purposes.

Notice of Default; Financial Statements

The Authority covenants that (a) forthwith upon any officer of the Authority's obtaining knowledge of any condition or event which constitutes or, after notice or lapse of time or both, would constitute an "event of default" as defined in the Agreement, it will file with the Trustee a certificate signed by an Authorized Officer specifying the nature and period of existence thereof, and what action the Authority has taken, is taking or proposes to take with respect thereto, (b) on or before the 15th day of each July it will file with the Trustee a certificate signed by an Authorized Officer stating that, so far as is known to the signer of the certificate, the Authority is not in default under any covenant, agreement or condition contained in the Agreement and that no event has occurred which constitutes or, after notice or lapse of time or both, would constitute such an event of default or, if the Authority shall be in default, or any such event has occurred, specifying each such default and event and the nature and period of existence thereof of which the signer may have knowledge and what action, if any, the Authority has taken, is taking or proposes to take with respect thereto and (c) it will cause an examination of its financial statements as of the end of and for each fiscal year during which Bonds shall be Outstanding under the Agreement to be made by independent certified public accountants and within one hundred eighty (180) days after the end of each fiscal year will file with the Trustee a copy of such financial statements together with the signed opinion of such independent certified public accountants with respect thereto.

Defaults; Remedies

Extended Interest

In case the time for the payment of the interest on any Bond shall be extended, whether or not such extension be by or with the consent of the Authority, such interest so extended shall not be entitled in case of default under the Agreement to the benefit or security of the Agreement except subject to the prior payment in full of the

principal of all Bonds then Outstanding and of all interest the time for the payment of which shall not have been extended.

Events of Default

Each of the following events is an “event of default” under the Agreement:

(a) payment of the principal and premium, if any, of any of the Bonds shall not be made when the same shall become due and payable, either at maturity or by required proceedings for redemption or otherwise, or payment of the purchase price of any Bond tendered as provided in the applicable Series Resolution shall not be made when such purchase price shall become due and payable; or

(b) payment of any installment of interest on the Bonds shall not be made when due and payable; or

(c) the Authority shall for any reason be rendered incapable of fulfilling its obligations under the Agreement; or

(d) an order or decree shall be entered, with the consent or acquiescence of the Authority, appointing a receiver or receivers of any Project or any part thereof or of the Revenues thereof, or if such order or decree, having been entered without the consent or acquiescence of the Authority, shall not be vacated or discharged or stayed on appeal within one hundred and twenty (120) days after the entry thereof; or

(e) any proceeding shall be instituted, with the consent or acquiescence of the Authority, for the purpose of effecting a composition between the Authority and its creditors or for the purpose of adjusting the claims of such creditors, pursuant to any federal or state statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable from the Revenues of any Project; or

(f) the Authority shall default in the due and punctual performance of any of the covenants, conditions, agreements and provisions contained in the Bonds or in the Agreement on the part of the Authority to be performed in connection with the Bonds or any Project financed or refinanced by the Bonds, and such default shall continue for thirty (30) days after written notice specifying such default and requiring same to be remedied shall have been given to the Authority by the Trustee, which may give such notice in its discretion and shall give such notice at the written request of the Registered Owners of not less than twenty per cent (20%) in principal amount of the Bonds then Outstanding.

For all purposes of the Agreement, any event of default specified in subparagraph (a) or subparagraph (b) of the preceding paragraph with respect to any one or more Bonds shall be deemed to be such an event of default on all other Outstanding Bonds of the same level or levels as the Bond or Bonds with respect to which such event of default occurred, i.e., any such event of default with respect to one or more Senior Bonds shall be deemed to be such an event of default on all other Outstanding Senior Bonds, any such event of default with respect to one or more Bonds of any Subordinate Series, Level 2 shall be deemed to be such an event of default on all Outstanding Bonds of all Subordinate Series, Level 2, and so on.

No Acceleration

Notwithstanding any other provision of the Agreement to the contrary, the Bonds shall not be subject to acceleration, and all provisions with respect to events of default under the Agreement and with respect to remedies available under the Agreement shall be subject to such prohibition.

Remedies

Upon the happening and continuance of any event of default under the Agreement, then and in every such case the Trustee may proceed, and upon the written request of the Registered Owners of not less than twenty per centum (20%) in principal amount of the Bonds then Outstanding (or, in the case of an event of default under clause (a) or clause (b) above in “Events of Default,” not less than twenty per centum (20%) in principal amount of the Bonds Outstanding as to which such event of default has occurred) shall proceed, subject to being indemnified as

provided in the Agreement, to protect and enforce its rights and the rights of the Registered Owners of the Bonds under the laws of the Commonwealth or under the Agreement by such suits, actions or proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, either for the specific performance of any covenant or agreement contained in the Agreement or in aid or execution of any power herein granted or for the enforcement of any proper legal or equitable remedy, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights.

In the enforcement of any remedy under the Agreement the Trustee shall be entitled to sue for, enforce payment of and receive any and all amounts then or during any default becoming, and at any time remaining, due from the Authority for principal, interest or otherwise under any of the provisions of the Agreement or of the Bonds, with interest on overdue payments at the rate or rates of interest borne by the applicable Bonds, together with any and all costs and expenses of collection and of all proceedings under the Agreement and under the Bonds, without prejudice to any other right or remedy of the Trustee or of the Registered Owners, and to recover and enforce any judgment or decree against the Authority, but solely as provided in the Agreement and in the Bonds, for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect (but solely from moneys in the Debt Service Fund, the Section 10 Reserve Fund, any other reserve fund securing any Bond, the Rate Stabilization Fund and the Property Fund and any other moneys available for such purpose) in any manner provided by law, the moneys adjudged or decreed to be payable.

Application of Funds

(a) Anything in the Agreement to the contrary notwithstanding, if at any time the moneys in the Debt Service Fund, in the Section 10 Reserve Fund, in any other reserve fund securing any Bond, in the Rate Stabilization Fund and in the Property Fund, and any other moneys available for the purpose shall not be sufficient to pay the principal and Redemption Price of or the interest on the Bonds as the same shall become due and payable or the purchase price of any Bond tendered as provided in the applicable Series Resolution, such moneys, together with any moneys then available or thereafter becoming available for such purpose, whether through the exercise of the remedies described in this section of this Summary or otherwise, shall be applied as provided in paragraph (b) below, any such application to be made, first to all Outstanding Senior Bonds, until all principal, Redemption Price and interest then due on such Senior Bonds have been paid, and second, to all Outstanding Level 2 Bonds, until all principal, Redemption Price and interest then due on such Level 2 Bonds have been paid, and third, to all Outstanding Level 3 Bonds, until all principal, Redemption Price and interest then due on such Level 3 Bonds have been paid, and so on in descending order of subordination. Any such application shall also be subject to the following:

(i) moneys received under the Commonwealth Guaranty shall be applied only to the Guaranteed Bonds on account of which such moneys are received and shall not be applied to the payment of the fees and expenses of the Trustee;

(ii) moneys in the Section 10 Reserve Fund shall be applied only to Guaranteed Bonds and shall not be applied to fees and expenses of the Trustee;

(iii) moneys received under any Credit Facility or Derivative shall be applied only to the payment of amounts which are due on the Bonds secured by such Credit Facility or to which such Derivative applies and to which moneys received under such Credit Facility or such Derivative are permitted to be applied and shall be applied to the fees and expenses of the Trustee only if such application is explicitly permitted under the applicable Credit Facility or the applicable Derivative and only in amounts not in excess of the amounts permitted by such Credit Facility or such Derivative to be so applied;

(iv) moneys in any reserve fund other than the Section 10 Reserve Fund shall be applied only as provided in the one or more applicable Series Resolutions and shall be applied to fees and expenses of the Trustee only if such application is explicitly permitted by the applicable Series Resolution;

(v) amounts due to the issuer of a Credit Facility for reimbursement of any amount paid under such Credit Facility for payment of principal or Redemption Price of or interest on any Bond or the purchase price of any Bond tendered as provided in the applicable Series Resolution (but not including

interest on any such amount) shall, to the extent and under the conditions set forth in the applicable Series Resolution or reimbursement agreement with the issuer of such Credit Facility, be deemed for purposes of paragraph (b) below to be payments of principal or Redemption Price of or interest on such Bond and shall be paid to such issuer in connection with the application of moneys under such paragraph and

(vi) amounts due from or on account of the Authority under a Derivative for amounts paid under such Derivative for payment of principal or Redemption Price of or interest on any Bond (but not including interest on any such amount) shall, to the extent and under the conditions set forth in the applicable Series Resolution or in such Derivative, be deemed for purposes of paragraph (b) below to be payments of principal or Redemption Price of or interest on such Bond and shall be paid as provided in such Derivative in connection with the application of moneys under such paragraph.

(b) All such moneys shall be applied (subject to paragraph (a) above):

First: to the payment to the Trustee of its unpaid fees and expenses, to the extent of moneys available therefor as provided in paragraph (a) above;

Second: to the payment to the persons entitled thereto of all installments of interest on Bonds then due, in the order of the maturity of the installments of such interest, and, if the amounts available shall not be sufficient to pay in full any particular installment, then to the payment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds and except as provided in paragraph (a) above;

Third: to the payment to the persons entitled thereto of the unpaid principal and Redemption Price of any of the Bonds which shall have become due (other than Bonds called for redemption for the payment of which moneys are held pursuant to the provisions of the Agreement), in the order of their due dates, with interest upon such Bonds from the respective dates upon which they became due, and the unpaid purchase price of any Bond tendered in accordance with the applicable Series Resolution, and, if the amount available shall not be sufficient to pay in full the principal and Redemption Price of Bonds due on any particular date, together with such interest, and such purchase price, then to the payment first of such interest, ratably according to the amount of such interest due on such date, and then to the payment of such principal, Redemption Price and purchase price, ratably according to the amount of such principal and purchase price due on such date, to the persons entitled thereto, and in either case without any discrimination or preference, except as provided in paragraph (a) above and

Fourth: to the payment of the interest on and the principal and Redemption Price of the Bonds, to the purchase and retirement of Bonds and to the redemption of Bonds, all in accordance with the provisions described above under "Establishment and Application of Funds and Accounts" (and as provided in paragraph (a) above).

(c) Whenever moneys are to be applied by the Trustee pursuant to the above provisions, such moneys shall be applied by the Trustee at such times, and from time to time, as the Trustee in its sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future; and the Trustee shall incur no liability whatsoever to the Authority, to any Registered Owner or to any other person for any delay in applying any such moneys, so long as the Trustee acts with reasonable diligence, having due regard to the circumstances, and ultimately applies the same in accordance with such provisions of the Agreement as may be applicable at the time of application by the Trustee. Whenever the Trustee shall exercise such discretion in applying such moneys, it shall fix the date (which shall be an Interest Payment Date unless the Trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue.

The Trustee shall give such notice as it may deem appropriate of the fixing of any such date, and shall not be required to make payment to the Registered Owner of any Bond until such Bond shall be surrendered to the Trustee for appropriate endorsement, or for cancellation if fully paid.

Discontinuance of Proceedings

In the event that any proceeding taken by the Trustee on account of any default under the Agreement shall have been discontinued or abandoned for any reason, then and in every such case the Authority, the Trustee and the Registered Owners shall be restored to their former positions and rights under the Agreement, respectively, and all rights, remedies, powers and duties of the Trustee shall continue as though no such proceeding had been taken.

Control of Proceedings

Anything in the Agreement to the contrary notwithstanding, the registered Owners of a majority in principal amount of the Bonds then Outstanding (or, with respect to an event of default described in clause (a) or clause (b) above in "Events of Default," the Registered Owners of a majority in principal amount of the Bonds Outstanding as to which such event of default has occurred) shall have the right, subject to the Trustee's being indemnified as provided in the Agreement, by an instrument or concurrent instruments in writing executed and delivered to the Trustee, to direct the method of conducting all remedial proceedings to be taken by the Trustee under the Agreement in connection with the Bonds, provided that such direction shall not be otherwise than in accordance with law or the provisions of the Agreement.

Restrictions upon Actions by a Registered Owner

No Registered Owner shall have any right to institute any suit, action or proceeding in equity or at law for the execution of any trust under the Agreement or for any other remedy under the Agreement unless such Registered Owner previously shall have given to the Trustee written notice of the event of default on account of which such suit, action or proceeding is to be instituted, and unless also the Registered Owners of not less than twenty per cent (20%) in principal amount of the Bonds then Outstanding (or, with respect to an event of default described in clause (a) or clause (b) above in "Events of Default," the Registered Owners of not less than twenty per cent (20%) principal amount of the Bonds Outstanding as to which such event of default has occurred) shall have made written request of the Trustee after the right to exercise such powers of right of action, as the case may be, shall have accrued, and shall have afforded the Trustee a reasonable opportunity either to proceed to exercise the powers granted by the Agreement or to institute such action, suit or proceeding in its or their name, and unless, also, there shall have been offered to the Trustee reasonable security and indemnity against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee shall have refused or neglected to comply with such request within a reasonable time; and such notification, request and offer of indemnity are hereby declared in such every case, at the option of the Trustee, to be conditions precedent to the execution of the powers and trusts of the Agreement or for any other remedy under the Agreement. No one or more Registered Owners of the Bonds shall have any right in any manner whatever by action of such Registered Owner or Owners to affect, disturb or prejudice the security of the Agreement, or to enforce any right under the Agreement except in the manner provided in the Agreement, that all proceedings at law or in equity shall be instituted, had and maintained in the manner provided in the Agreement and for the benefit of all Registered Owners of the Outstanding Bonds, and that any individual rights of action or other right given to one or more of such Registered Owners by law are restricted by the Agreement to the rights and remedies provided in the Agreement.

Nothing in the Agreement or in the Bonds shall, however, affect or impair the absolute, unconditional and unalterable obligation of the Authority to pay when due (whether due on account of stated maturities, scheduled payments, call for redemption or otherwise) the principal and Redemption Price of and interest on the Bonds and the purchase price of any Bond tendered as provided in the applicable Series Resolution, or affect the right of any Registered Owner of a Bond to institute or require the institution of any action or proceeding against the Authority for the enforcement of such payment, or against the Commonwealth for the enforcement of its guaranty of Guaranteed Bonds.

Actions by Trustee

All rights of action under the Agreement or under any of the Bonds, enforceable by the Trustee, may be enforced by it without the possession of any of the Bonds or the production thereof on the trial or other proceeding relative thereto, and any such suit, action or proceeding instituted by the Trustee shall be brought in its name for the benefit of all of the Registered Owners, subject to the provisions of the Agreement.

No Remedy Exclusive

No remedy conferred by the Agreement upon or reserved to the Trustee or to the Registered Owners is intended to be exclusive of any other remedy or remedies provided by the Agreement, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given under the Agreement.

No Delay or Omission Construed as Waiver

No delay or omission of the Trustee or of any Registered Owner to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default or an acquiescence therein; and every power and remedy given by the Agreement to the Trustee and the Registered Owners of the Bonds, respectively, with respect to events of default, may be exercised from time to time as often as may be deemed expedient.

The Trustee may, and upon written request of the Registered Owners of not less than a majority in principal amount of the Bonds then Outstanding shall, waive any default which in its opinion shall have been remedied before the entry of final judgment or decree in any suit, action or proceeding instituted by it under the provisions of the Agreement or before the completion of the enforcement of any other remedy under the Agreement, but no such waiver shall extend to or affect any other existing or any subsequent default of defaults or impair any rights or remedies consequent thereon.

Notice of Default

The Trustee shall mail to all Registered Owners of Bonds then Outstanding at their addresses as they appear on the registration books written notice of the occurrence of any event of default described in clause (a) or clause (b) above in "Events of Default" promptly upon the occurrence thereof and of any other event of default described under "Events of Default" within thirty (30) days after the Trustee shall have received written notice that any such event of default has occurred and any applicable grace period shall have expired. The Trustee shall not, however, be subject to any liability to any Registered Owner by reason of its failure to mail any such notice.

CONCERNING THE TRUSTEE

Indemnity

The Trustee shall be under no obligation to institute any suit, or to take any remedial proceeding under the Agreement, or to enter any appearance or in any way defend in any suit in which it may be made defendant, or to take any steps in the execution of the trusts created by the Agreement or in the enforcement of any rights and powers under the Agreement, until it shall be indemnified to its satisfaction against any and all costs and expenses, outlays and counsel fees and disbursements and other reasonable disbursements, and against all liability; the Trustee may, nevertheless, begin suit, or appear in and defend suit, or do anything else in its judgment proper to be done by it as such Trustee, without indemnity, and in such case the Authority shall reimburse the Trustee from the Revenues of any Project for all costs and expenses, outlays and counsel fees and disbursements and other reasonable disbursements properly incurred in connection therewith. If the Authority shall fail to make such reimbursement, the Trustee may reimburse itself from any moneys in its possession under the provisions of the Agreement from which the payment of fees and expenses of the Trustee is not prohibited by the Agreement and shall have a first and prior lien on such moneys for that purpose over any of the Bonds Outstanding under the Agreement.

Limitation on Obligations

The Trustee shall be under no obligation to effect or maintain insurance or to renew any policies of insurance or to inquire as to the sufficiency of any policies of insurance carried by the Authority, or to report, or make or file claims or proof of loss for, any loss or damage insured against or which may occur, or to keep itself informed or advised as to the payment of any taxes or assessments, or to require any such payment to be made. The Trustee shall have no responsibility in respect of the construction or operation of any Project, the validity or sufficiency of the Agreement or the due execution or acknowledgment thereof, or in respect of the validity of the

Bonds or the due execution or issuance thereof except as represented by its own authentication, or in respect of the validity or enforceability of the guaranty by the Commonwealth executed on any Guaranteed Bond. The Trustee shall be under no obligation, except as otherwise expressly required in the Agreement, to see that any duties herein imposed upon the Authority, the Architect, the Engineer, any investment adviser appointed by the Authority, or any party other than itself, or any covenants in the Agreement on the part of any party other than itself to be performed, shall be done or performed, and the Trustee shall be under no obligation for failure to see that any such duties or covenants are so done or performed.

Notice of Default

In addition to any other notices required to be given by the Trustee under the Agreement, if on the fifteenth day of the month (or, if such fifteenth day is not a business day, on the next succeeding business day) before the date which shall be one or more of a due date for a payment of interest on Guaranteed Bonds or of a Sinking Fund Installment respecting Guaranteed Bonds or a maturity date for Guaranteed Bonds then Outstanding, the moneys held by the Trustee for or to be deposited prior to such due date to the credit of any subaccount of the Interest Account, any subaccount of the Sinking Fund Account or any subaccount of the Principal Account shall be less than the amount required on such date respectively to pay in full such interest then due, to pay such Sinking Fund Installment then due or to pay the principal of all such Guaranteed Bonds then maturing, all as the case may be, the Trustee shall on such fifteenth day (or next succeeding business day) deliver or cause to be delivered to the offices of the Secretary of Administration and Finance and of the Treasurer and Receiver-General of the Commonwealth a notice addressed to said officials and shall give copies thereof to the Authority and to the purchasers in the manner provided in the Agreement. Such notice shall state (a) the amount or amounts to become due, the nature thereof and the due date, (b) the amount or amounts of moneys held by the Trustee on such business day for the credit of the pertinent Account or Accounts and subaccount or subaccounts, (c) the amount or amounts of moneys held by the Trustee on such business day for the credit of the Section 10 Reserve Fund, each Debt Service Reserve Fund or Multi-Series Debt Service Reserve Fund, the Optional Redemption Account, the Rate Stabilization Fund and any Account in the Property Fund which are available for the payment of such interest, such Sinking Fund Installment or such maturing principal amount, all as the case may be.

If the University Trustees shall be obligated to pay any such amount from Pledged Funds, the Trustee shall include in its notice a request that the University Trustees transfer or cause to be transferred applicable Pledged Funds forthwith, unless such request is otherwise required to be made by any applicable Series Resolution. If (a) the University Trustees shall be obliged by the Contract respecting Outstanding Guaranteed Bonds to give a notice respecting the availability of moneys for said purposes by said dates and (b) such notice has been given and (c) such notice states that moneys are not expected to be available by said dates in amounts sufficient to meet such purposes in full and (d) the moneys held by the Trustee as stated in the last sentence of the first paragraph above in "Notice of Default" are not sufficient, when added to whatever available amount is stated in such notice from the University Trustees, to meet such purposes in full, then the Trustee shall include in the notice to be given by it a request that the Commonwealth make funds available to honor the Commonwealth Guaranty under all such Contracts.

Except as provided above, the Trustee shall not be obliged to take notice or be deemed to have notice of any prospective event of default under the Agreement. The Trustee shall not be obliged to take notice or be deemed to have knowledge of any event of default under the Agreement, except for events of default described in clause (a) or clause (b) above in "Defaults; Remedies – Events of Default," unless an officer in the corporate trust department of the Trustee has received written notice of such event of default by the Authority or the Registered Owners of not less than twenty per cent (20%) in principal amount of the Bonds Outstanding.

Resignation

The Trustee may resign at any time and thereby become discharged from the trusts created by the Agreement by notice in writing to be given to the Authority and the Registered Owners at least thirty (30) days before such resignation is to take effect, but such resignation shall take effect immediately upon the appointment of a new Trustee under the Agreement, if such new Trustee shall be appointed before the time limited by such notice and shall then accept the trusts of the Agreement.

Removal

The Trustee may be removed at any time by an instrument or concurrent instruments in writing, signed by the Registered Owners of not less than a majority in principal amount of the Bonds then Outstanding and filed with the Authority (and the Authority shall promptly deliver to the Trustee a reproduction copy of each such instrument) or by resolution of the Authority.

The Trustee may also be removed at any time for any breach of trust or violation of the Agreement by any court of competent jurisdiction upon application by the Registered Owners of not less than five per cent (5%) in principal amount of the Bonds then Outstanding.

Appointment of Successor Trustee

If at any time the Trustee shall resign, be removed, be dissolved or otherwise become incapable of acting, or the bank or trust company acting as Trustee shall be taken over by any governmental official, agency, department or board, the position of Trustee shall thereupon become vacant. If at any time moneys on deposit with the Trustee shall not be secured as required by the Agreement, a vacancy in the position of Trustee may be declared by a resolution duly passed by the Authority. If the position of Trustee shall become vacant for any of the foregoing reasons or for any other reason, the Authority shall appoint a Trustee to fill such vacancy. The Authority shall send written notice of any such appointment to the Registered Owners, and the Trustee whose position is being filled shall make available to the Authority at all times during normal business hours its registration books and permit the Authority to copy such registration books.

At any time within one year after any such vacancy shall have occurred, the Registered Owners of a majority in principal amount of the Bonds then Outstanding, by an instrument or concurrent instruments in writing, signed by such Registered Owners or their attorneys in fact or legal representatives and filed with the Authority, may appoint a successor Trustee which shall supersede any Trustee theretofore appointed by the Authority. Copies of such instrument shall be delivered promptly by the Authority to the predecessor Trustee and to the Trustee so appointed by the Registered Owners.

If no appointment of a successor Trustee shall be made pursuant to the foregoing provisions, the Registered Owner of any Outstanding Bond or any retiring Trustee may apply to any court of competent jurisdiction to appoint a successor Trustee. Such court may thereupon, after such notice, if any, as such court may deem proper and prescribe, appoint a successor Trustee.

Any Trustee hereafter appointed shall be a bank or trust company within the Commonwealth (as the words "within the Commonwealth" are used in the Enabling Act) duly authorized to exercise corporate trust powers and subject to examination by federal or state authority, of good standing, having a combined capital and surplus aggregating not less than One Hundred Million Dollars (\$100,000,000).

The Trustee shall not be required to be "within the Commonwealth" if the Enabling Act no longer contains such requirement.

SUPPLEMENTAL AGREEMENTS

Supplemental Agreements without Consent of Registered Owners

The Authority and the Trustee may, from time to time and at any time, without the consent of the Registered Owners, enter into agreements supplemental to the Agreement as shall not be inconsistent with the terms and provisions of the Agreement (which supplemental agreements shall thereafter form a part of the Agreement)

(a) to cure any ambiguity or formal defect or omission in the Agreement or in any supplemental agreement,
or

(b) to grant to or confer upon the Trustee for the benefit of the Registered Owners any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Registered Owners or the Trustee, or

(c) to add to the covenants and agreements of the Authority other covenants and agreements thereafter to be observed by the Authority which shall not be inconsistent with the terms and provisions of the Agreement or to surrender any right or power reserved to or conferred upon the Authority in the Agreement, or

(d) to add any amendment described in “Establishment and Application of Funds and Accounts – Rebate Fund,” or

(e) for any other purpose, provided that (i) such supplemental agreement (A) does not adversely affect the interest of any Registered Owner and (B) does not make any change in the Agreement prohibited by clauses (a) through (e) below in “Modification of Agreement” and (ii) the Authority and the Trustee receive an opinion of bond counsel to the Authority to the effect that such supplemental agreement complies with subclauses (A) and (B) of this clause.

If the interest on obligations issued in bearer form should at any time qualify for exclusion from gross income for federal income tax purposes, or if the Authority desires to issue obligations the interest on which is not excludable from gross income for federal income tax purposes, and if in either case applicable law permits the issuance by the Authority of obligations in bearer form, the Agreement may be amended without the consent of the registered Owners to permit the issuance under the Agreement of obligations in such form; provided that the Authority and the Trustee receive an opinion of bond counsel to the Authority to the effect that applicable law permits the issuance by the Authority of obligations in bearer form and that such amendment will not affect the exclusion from gross income for federal income tax purposes of the interest on any Bond previously issued under the Agreement.

Any provision of the Agreement with respect to any Series of Bonds secured by a Credit Facility may be amended by the Series Resolution authorizing such Series to take into account the requirements or reasonable requests of the issuer of such Credit Facility. Such amendments may include, but not be limited to, amendments with respect to the exercise of rights of the Registered Owner of the Bonds of such Series by the issuer of such Credit Facility and subrogation of the issuer of such Credit Facility to the rights of such Registered Owners.

Modification of Agreement

The Registered Owners of not less than fifty-one percent (51%) in aggregate principal amount of the Bonds then Outstanding shall have the right, from time to time, to consent to and approve the execution by the Authority and the Trustee of such agreement or agreements supplemental to the Agreement as shall be deemed necessary or desirable by the Authority for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in the Agreement or in any supplemental agreement; provided, however, that nothing contained in the Agreement shall permit, or be construed as permitting (a) an extension of the maturity of the principal of, the due date of any Sinking Fund Installment or respecting the due date of any interest payment due on any Bond, or (b) a reduction in the principal amount of any Bond or the Redemption Price thereof or the rate of interest thereon, or (c) the creation of a lien or pledge of Revenues ranking prior to or on a parity with the lien or pledge created by the Agreement, or (d) a preference or priority of any Bond or Bonds over any other Bond or Bonds other than as provided in the Agreement or (e) a reduction in the aggregate principal amount of the Bonds required for consent to such supplemental agreement. Nothing contained in the Agreement, however, shall be construed as making necessary the approval by Registered Owners of the execution of any supplemental agreement or agreements described above in “Supplemental Agreements without Consent of Registered Owners.”

If the Registered Owners of not less than fifty-one per cent (51%) in aggregate principal amount of the Bonds Outstanding at the time of the execution of such supplemental agreement shall have consented to and approved the execution thereof as provided in the Agreement, no Registered Owner shall have any right to object to the execution of such supplemental agreement, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the execution thereof, or to enjoin or restrain the Trustee or the Authority from executing the same or from taking any action pursuant to the provisions thereof.

Responsibilities of Trustee

In each and every case provided for in this section “Supplemental Agreements,” the Trustee shall be entitled to exercise its discretion in determining whether or not any proposed supplemental agreement, or any term or provision therein contained, is proper or desirable, having in view the purposes of such instrument, the needs of the Authority, the rights and interests of the Registered Owners and the rights, obligations and interests of the Trustee, and the Trustee shall not be under any responsibility or liability to the Authority or to any Registered Owner or to anyone whomsoever for its refusal in good faith to enter into any such supplemental agreement if such agreement is deemed by it to be contrary to the provisions of this section. The Trustee shall be entitled to receive, and shall be fully protected in relying upon, the opinion of any counsel approved by it, who may be counsel for the Authority, as conclusive evidence that any such proposed supplemental agreement does or does not comply with the provisions of the Agreement, and that it is or is not proper for it under the applicable provisions of the Agreement, to join in the execution of such supplemental agreement.

DEFEASANCE

Release of Agreement

If the Authority shall pay or cause to be paid, or there shall otherwise be paid, to the Registered Owners of all Bonds the principal or Redemption Price, if applicable, and interest due or to become due thereon, at the times and in the manner stipulated therein and in the Agreement, or if all Outstanding Bonds shall be deemed to be paid as provided in the following paragraph, and if all other sums, if any, then payable to the Trustee under the shall be paid, or the payment of such sums shall be provided for to the reasonable satisfaction of the Trustee, then the pledge of any Revenues and other moneys and securities pledged under the Agreement and all covenants, agreements and other obligations of the Authority to the Registered Owners, shall thereupon cease, terminate and become void and be discharged and satisfied. In such event, the Trustee shall cause an accounting for such period or period as shall be requested by the Authority to be prepared and filed with the Authority and, upon the request of the Authority, shall execute and deliver to the Authority all such instruments as may be desirable to evidence such discharge and satisfaction, and the Trustee shall pay over or deliver to the Authority all moneys or securities held by it pursuant to the Agreement which are not required for the payment of principal or Redemption Price, if applicable, of or interest on Bonds not theretofore surrendered for such payment or redemption, and for the payment of such other amounts. If the Authority shall pay or cause to be paid, or there shall otherwise be paid, to the Registered Owners of any Outstanding Bonds the principal or Redemption Price, if applicable, and interest due or to become due thereon, at the times and in the manner stipulated therein and in the Agreement, or if any Outstanding Bonds shall be deemed to be paid as provided in the following paragraph, such Bonds shall cease to be entitled to any lien, benefit or security under the Agreement, and all covenants, agreements and obligations of the Authority to the Registered Owners of such Bonds shall thereupon cease, terminate and become void and be discharged and satisfied.

Any Outstanding Bonds shall prior to the maturity or redemption date thereof be deemed to have been paid within the meaning and with the effect expressed in the previous paragraph if (a) in case any of said Bonds are to be redeemed on any date prior to their maturity, the Authority shall have given to the trustee in form satisfactory to it irrevocable instructions to give notice of redemption of such Bonds on said date, (b) there shall have been deposited with the Trustee either moneys in an amount which shall be sufficient, or Investment Obligations (including any Investment Obligations issued or held in book-entry form on the books of the Department of the Treasury of the United States, which are irrevocably payable to the Trustee and in form satisfactory to the Trustee) the principal of and the interest on which when due will provide the Trustee with moneys which, together with the moneys, if any, deposited with the Trustee at the same time, shall be sufficient, to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on said Bonds on and prior to the redemption date or maturity date thereof, as the case may be, and (c) in the event said Bonds will not be redeemed within the next succeeding sixty (60) days, the Authority shall have given the Trustee in form satisfactory to it irrevocable instructions to give notice, in the manner and at the time specified in the Agreement, that the deposit required by (b) above has been made with the Trustee and that said Bonds are deemed to have been paid in accordance with this paragraph and stating such maturity or redemption date or dates upon which moneys are to be available for the payment of the principal or Redemption Price, if applicable, on said Bonds. None of Investment Obligations, moneys deposited with the Trustee pursuant to this paragraph or principal or interest payments on any such Investment Obligations shall be withdrawn

or used for any purpose other than, and shall be held in trust for, the payment of the principal or Redemption Price, if applicable, and interest on said Bonds; provided that any cash received from such principal or interest payments on such Investment Obligation deposited with the Trustee, if not needed for such purpose, shall, to the extent practicable, be reinvested in Investment Obligation maturing at times and in amounts sufficient to pay when due the principal or Redemption Price, if applicable, and interest to become due on said Bonds on and prior to such redemption date or maturity date, as the case may be, and interest earned from such reinvestment shall be paid over to the Authority, as received by the Trustee, free and clear of any trust, lien or pledge. For the purposes of this paragraph, Investment Obligations shall mean and include only such securities as are described in clause (a) of the definition of "Investment Obligations" in "Definitions" which shall not be subject to redemption prior to their maturity.

Anything in the Agreement to the contrary notwithstanding, the Trustee shall notify the Authority in writing of any moneys held by the Trustee in trust for the payment and discharge of any of the Bonds which remain unclaimed six months prior to the date when such moneys would escheat under applicable law and shall, at the written request of the Authority, pay such moneys to the Authority as its absolute property and free from trust, or, if the Authority does not so request in writing, or if such payment is not permitted under applicable escheat law, shall apply such moneys as provided by such applicable law, and the Trustee shall upon such payment or application be released and discharged with respect thereto and the Registered Owners shall look only to the Authority or as such applicable law may provide for the payment of such Bonds, the Authority or any other entity being liable only to the extent of funds received from the Trustee (without regard to any interest thereon received from the Trustee) and having no liability for interest on any such funds.

MISCELLANEOUS PROVISIONS

Rights under Agreement

Except as otherwise expressly provided in the Agreement, nothing in the Agreement expressed or implied is intended or shall be construed to confer upon any person, firm or corporation other than the parties hereto and the Registered Owners any right, remedy or claim, legal or equitable, under or by reason of the Agreement or any provisions hereof, the Agreement and all its provisions being intended to be and being for the sole and exclusive benefit of the parties hereto and the Registered Owners.

Effect of Partial Invalidity

In case any one or more of the provisions of the Agreement or of the Bonds shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of the Agreement or of the Bonds, but the Agreement and the Bonds shall be construed and enforced as if such illegal or invalid provision has not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in the Agreement shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the Authority to the full extent permitted by law.

Effect of Covenants, etc.

All covenants, stipulations, obligations and agreements of the Authority contained in the Agreement shall be deemed to be covenants, stipulations, obligations and agreements of the Authority to the full extent permitted by law. No covenant, stipulation, obligation or agreement contained in the Agreement shall be deemed to be a covenant, stipulation, obligation or agreement of any present or future member, officer, agent or employee of the Authority in his individual capacity, and neither any member of the Authority nor any officer thereof executing the Bonds shall be liable personally on the Bonds or be subject to any personal liability by reason of the issuance thereof. No member, officer, agent or employee of the Authority shall incur any liability in acting or proceeding or in not acting or not proceeding, in good faith, reasonably and in accordance with the terms of the Agreement and the Enabling Act.

The Agreement is executed with the intent that the laws of the Commonwealth shall govern its construction.

Reference to Interest as Excludable from Gross Income

All references in the Agreement with respect to the exclusion, excludability, inclusion or includability or the like of interest from gross income for federal income tax purposes shall apply only to Bonds and the interest thereon as to which an opinion of counsel has been rendered to the effect that interest on such Bonds is excludable from gross income for federal income tax purposes.

SUMMARY OF CERTAIN PROVISIONS OF THE CONTRACT

Except as otherwise expressly provided herein, capitalized terms shall be used as defined in the Trust Agreement dated as of November 1, 2000 by and between the Authority and the trustee named therein or its successor (the "Project Trust Agreement") or the Trust Agreement dated as of December 1, 2000 by and between the Authority and the trustee named therein or its successor (the "Facilities Trust Agreement" and together with the Project Trust Agreement, the "Trust Agreements"). Bonds issued pursuant to the Project Trust Agreement are referred to herein as "Project Revenue Bonds," and bonds issued pursuant to the Facilities Trust Agreement are referred to herein as "Facilities Revenue Bonds." The trustees named in each Trust Agreement are referred to herein as the "Bond Trustee."

PROJECTS

General

From time to time, upon the request of the University, the Authority undertakes Projects on behalf of the Commonwealth and the University. The Prior Projects are listed in the Contract. Additional Projects will become subject of the terms of the Contract upon designation thereof by the Authority and the University, as evidenced by the listing of such Projects on a Certificate delivered by the Authority and the University. Delivery of the Certificate makes the Projects listed thereon, in addition to the Prior Projects, subject to the terms of the Contract, so long as any bonds or notes of the Authority remain outstanding.

Undertaking and Completion of Projects by the Authority and the University

The Authority shall proceed with all reasonable speed to undertake, acquire, plan, construct, and complete the Projects in accordance with the written requests authorized by the University of Massachusetts Board of Trustees (the "University Trustees"), subject to such further approvals by the University Trustees and other officials as may be required by the Act or the Contract. The Authority may use any mode of procurement of acquisition, design and construction with regard to each Project that is from time to time permitted by the Act or other applicable law.

The Authority may engage such consulting architects, engineers, and other experts as it deems advisable in connection with the Projects. The plans and specifications for each of the Projects shall comply, or provide for compliance, with all applicable building codes, laws relating to health, safety and access and other applicable laws, and with all applicable rules and regulations promulgated thereunder by any governmental authority including without limitation executive orders issued by the Governor of the Commonwealth. Upon award of a contract or contracts for the doing of any work included in, or in connection with any acquisitions of, the Projects, as applicable, the Authority shall provide and maintain competent and adequate architectural and engineering observation of the Projects as the Authority deems appropriate until acceptance thereof by the University Trustees for occupancy. The Authority and the University Trustees shall permit each other free access to the Projects at all times. The Authority shall permit the University Trustees to examine such records of the Authority pertaining to the Projects as the University Trustees may desire, and the University Trustees shall permit the Authority to examine such records of the University and the Commonwealth pertaining to the Projects as the Authority may desire.

The Authority and the University Trustees shall use their best efforts to cause the Projects to be completed or acquired, as applicable, so as to be ready for use (and, where applicable, occupancy) as promptly as reasonably possible and, upon completion of all work in connection with any of the Projects, the Authority shall furnish or cause to be furnished to the University Trustees a certificate or certificates to the effect that such work has been completed free from defects and inadequacies and otherwise in conformity with the working drawings and detail specifications as amended or modified by any change order or additional work authorizations, that no mechanics', laborers', materialmen's or other liens exist or can be created on the Projects on account of such work, and that the Authority has made payment or cause such payment to be made in full for the doing of the work or acquisition in question, or has made other proper arrangements so that it is no longer liable for any claims for payment for such work or materials or supplies furnished to such portion of the Projects; or that the Authority is disputing any such claims.

During the period the Projects are being undertaken and completed the University Trustees shall also furnish to the site thereof (a) steam or other sources for temporary heating purposes, (b) electricity for temporary light and power and (c) water for construction purposes, such utilities to be furnished at such points and in such manner as is set forth in the working drawings and detail specifications approved by the University Trustees for the doing of work upon the Projects.

Operation, Maintenance and Repair of Projects

The Authority and the University, as applicable, shall administer and operate each of the Projects in accordance with the Act, the Contract and the applicable Trust Agreement.

The University acknowledges that use of the Projects or portions thereof by any individual or entity that is not a state, a political subdivision thereof or an integral part of a state or political subdivision thereof may jeopardize the tax-exempt status of interest on the tax-exempt bonds or notes issued by the Authority. The University will avoid such private use of the Projects, which would jeopardize the tax-exempt status of the tax-exempt bonds or notes. During the time that any tax-exempt bond or note is outstanding, the University will consult with the Authority and with bond counsel to the Authority regarding the impact of any private use of the Projects on the tax-exempt status of such bonds or notes and will not enter into any transaction which might result in a private use without notifying the Authority.

Fees, Rents, Rates and Other Charges for Projects

The Authority or the University, as applicable, shall establish and revise rules and regulations to ensure the use (and, where applicable, occupancy) of, and fix and revise fees, rents, rates and other charges allocable to the Projects as set forth in the Contract.

Such rules and regulations and such fees, rents, rates and other charges shall be so fixed and adjusted in respect of the aggregate of all revenues from or allocable to the Projects (collectively, the "Revenues") (x) so as to maintain, so far as consistent with the requirements of the Contract, a reasonable uniformity in charges for like rooms and other accommodations at the University whether or not contained in a project of the Authority and (y) so as to provide Revenues sufficient to:

- (i) pay the cost of maintaining, repairing and operating the Projects;
- (ii) pay the fees and expenses of the Bond Trustee, fees and expenses of any paying or fiscal agent appointed by the Authority in connection with the issuance of notes or bonds secured or provided for under the Trust Agreements or other instruments, premiums of insurance maintained by the Authority with respect to the Projects and such other projects and property and rentals payable by the Authority under any lease or leases of land on which the Projects or any other such project or property may be located;
- (iii) pay the principal of (including Sinking Fund Installments) and the interest on notes and bonds issued to finance or refinance the Projects, as such principal and interest shall become due and payable;
- (iv) pay such portions of the operating and administrative expenses of the Authority (which shall include any amount (the "Rebate Amount") required by the Internal Revenue Code of 1986, as amended or other applicable law to be rebated by the Authority with respect to tax-exempt bonds or notes to the United States of America and not provided from other funds of the Authority) as the Authority shall deem properly allocable to the Projects;
- (v) pay amounts payable by the Authority under the Series Resolutions, any Derivatives, any Liquidity Facility, any Credit Facility or any other contract or other arrangement with respect to bonds or notes;
- (vi) create or maintain reserves, if any, for such of the foregoing purposes as may be provided for in any resolution of the Authority as required or permitted by either the Trust Agreement or the Contract; and

(vii) pay the amount, if any, required by Section 19C of the Enabling Act to be paid to the Treasurer and Receiver-General of the Commonwealth out of such revenues.

Other Obligations of the University for Projects

The University Trustees shall make available to the Authority the services of officers and employees of and facilities in the University for the performance of any and all activities with respect to the Projects as necessary to operate them in furtherance of the purposes of the University and to maintain the Projects in good order and repair, as determined by the University.

In performing the foregoing services the University Trustees may act in the name of the Commonwealth or in their name, as may be consistent with law, and in their discretion as to the manner, method and time of performance.

The obligation of the University Trustees under the Contract to operate the Projects, keep them in good order and repair and maintain them shall include, but not be limited to, the furnishing of all supplies and materials needed or desirable for such operation, keeping in good order and repair, and maintenance, the making of all interior and exterior repairs to the buildings and structures included in the Projects and all repairs to other improvements and to equipment and furnishings included in the Projects, the maintenance of the Projects and the replacement, restoration and reconstruction of any structure, improvement or item of equipment or furnishings or portion thereof worn out, damaged or destroyed by whatever cause.

Other Obligations of the Authority for Projects

The Authority shall at all times conduct its business and affairs in such manner that:

(i) each of the Projects will be separately and distinctly accounted for relative to any other project or enterprise developed, administered or engaged in by the Authority; and

(ii) such portion of the office and general administrative expenses of the Authority as is charged to each of the Projects and the basis upon which the same is apportioned can be readily determined.

The Authority shall account separately for all revenues, income, reserves and funds, from whatever source, received or held by the Authority for:

- (i) the undertaking, acquisition, completion, operation or maintenance of the Projects;
- (ii) for any of the purposes set forth in any resolution authorizing the issue of bonds or notes or in the Trust Agreements or other instruments;
- (iii) received by or for the account of the Authority as proceeds of insurance upon or as damages award for the taking or condemnation of any of the Projects or any portion thereof;
- (iv) for Projects and property of the Authority for which the Authority has issued notes or bonds;
- (v) for bonds and notes to be refunded by bonds issued under either Trust Agreement;

provided that the Authority may, except as otherwise provided in the Trust Agreements or other instrument or any Authority resolution relating to bonds or notes to be refunded by bonds to be issued under the Trust Agreements, mingle all revenues, income, reserves and funds, from whatever source, received or held by the Authority for the purposes of or in connection with the undertaking, completion, operation or maintenance of any Project financed or to be financed or refinanced by bonds or notes secured by the Trust Agreements or for like purposes of or in connection with any other Project or property of the Authority the revenues from which are pledged or assigned by the Trust Agreements.

Pursuant to the Contract, the Authority authorizes and directs the University Trustees to make and revise rules and regulations concerning the conduct of persons while on or in the Projects and the bringing into or onto, keeping in or on and removal from the Projects of property of others than the Authority, to enforce such rules and regulations and to establish and impose penalties for violation of the same. All such rules, regulations and penalties shall be subject to the approval of the Authority, which shall not be reasonably withheld, shall comply with the Act, the Contract, any other contract or agreement between the Authority and the University Trustees relating to the Projects and the Trust Agreements, and, shall be made and revised so as to be nearly identical as possible with rules, regulations and penalties from time to time promulgated by the Trustees respecting other like facilities under their control.

Insurance

The Authority shall purchase and maintain in effect with respect to each of its Projects policies of insurance and fidelity bonds against such risks and losses and in such amounts as it shall deem to be reasonable.

ISSUANCE OF BONDS OR NOTES

General

From time to time, the Authority shall issue bond or notes to achieve its corporate purposes in undertaking Projects on behalf of the Commonwealth and the University and paying related expenses or to refund prior indebtedness of the Authority or other indebtedness with respect to the University, all as set forth in the Act. The bonds or notes shall be issued pursuant to the Trust Agreements or other instruments permitted by the Act. Prior Bonds subject to the terms of the Contract are listed in the Contract. Additional bonds or notes will become subject to the terms of the Contract upon designation thereof by the Authority and the University, as set forth in the Certificate related to such bonds or notes. The Certificate shall set forth (i) whether the bonds or notes constitute Facility Revenue Bonds, Project Revenue Bonds or other bonds or notes issued under the Trust Agreements or other instrument, and (ii) the aggregate principal amount of such indebtedness. The Authority shall apply the proceeds of the bonds or notes as set forth in the Act, the applicable Trust Agreement, the applicable Series Resolution and the Certificate with respect to such bonds or notes.

Commonwealth Guaranty for Certain Bonds and Notes

In accordance with the Act, certain bonds and notes of the Authority will be guaranteed by the Commonwealth with the approval of the University Trustees, acting on behalf of the Commonwealth. Prior Bonds of the Authority guaranteed by the Commonwealth are listed in the Contract (the "Prior Guaranteed Bonds"). From time to time, the Authority may issue additional bonds or notes guaranteed by the Commonwealth, as determined by the Authority and the University Trustees, on behalf of the Commonwealth, as set forth in the Certificate with respect to such bonds or notes.

With respect to the Prior Guaranteed Bonds and other guaranteed bond or notes so designated in a Certificate, the Commonwealth agrees to guarantee to the Owners thereof and to the Bond Trustee, as trustee for such Owners, the payment of the principal of and interest on all of the guaranteed bonds or notes as the same become due and payable, and in case the Authority shall default in making any such payment as and when the same shall be due and payable, the Commonwealth agrees to make such payment as the same becomes due and payable and pledges its full faith and credit for the performance of this guaranty, provided that the total outstanding amount of bonds and notes issued by the Authority and guaranteed by the Commonwealth under the Act shall not exceed the amount from time to time authorized by the Act to be so guaranteed.

Such guaranteed bonds or notes shall include a guaranty in the form of Exhibit B to the Contract executed by the University Trustees, on behalf of the Commonwealth.

No provision of the Contract shall create or be deemed to create any obligation by the Commonwealth to appropriate funds for any purposes under the Contract other than performance of the Commonwealth Guaranty on the guaranteed indebtedness.

In accordance with the Act, the Section 10 Reserve Account shall be funded in connection the issuance of guaranteed bonds or notes in an amount determined in accordance with the Act and the Trust Agreement. Moneys in the Section 10 Reserve Fund may be applied as set forth in the Trust Agreements and Series Resolutions.

Special Provisions for Facilities Revenue Bonds

A Capital Improvements Reserve Account shall be funded in connection the issuance of Facilities Revenue Bonds in an amount determined by the Authority, in consultation with the University. Moneys in the Capital Improvements Reserve Account may be applied to any lawful purpose of the Authority, all as set forth in the Trust Agreements and Series Resolutions.

Special Provisions for Derivatives

In connection with any Derivatives related to bonds or notes issued by the Authority, the Authority shall establish a General Reserve Fund. The Authority shall deposit into the General Reserve Fund from time to time, amounts received by the Authority on account of the Derivatives related to the bonds or notes, initially based on an amount equal to 0.19875% per annum of the notional amounts thereof or such other amount as determined by the Authority and set forth in a Series Resolution with respect the bonds or notes related to the Derivative. Amounts on deposit in the General Reserve Fund may be invested in any investment by which the Authority is from time to time permitted by law to invest its moneys. Moneys and investments in the General Reserve Fund shall be held separately from all other moneys and investments of the Authority. Moneys in the General Reserve Fund may be applied to any lawful purpose of the Authority. Moneys may be withdrawn from the General Reserve Fund by any authorized officer of the Authority.

SECURITY FOR PAYMENT OF BONDS AND NOTES

General Obligation of the University

Pursuant to the Contract, the University Trustees pledge all funds of the University permitted by law to be applied thereto, to the making of all payments required under the Contract, including without limitation all payments of debt service on bonds or notes issued by the Authority under the Act and the Trust Agreements or other instruments and payments with respect to any Liquidity Facility, Credit Facility or Derivatives. **Notwithstanding the foregoing, this pledge does not apply to payments with respect to bonds or notes issued for Specific Revenue Projects under the Facilities Trust Agreement.**

Without limiting the generality of the foregoing, the University Trustees, in the name and on behalf of the Commonwealth, pledge to the making of payments required by the Contract the Unrestricted Net Assets, Authority Eligible Gifts, University Eligible Gifts and Trust Funds, each as defined in Exhibit C to the Contract.

Pledge of the University for Bonds and Notes Related to Specific Revenue Projects

Pursuant to the Contract, the University Trustees pledge to the making of all payments required under the Contract with respect to bonds or notes issued for Specific Revenue Projects under the Facilities Trust Agreement, revenues generated from the rates and charges established by the University for such Specific Revenue Project, including amounts which constitute Authority Eligible Gifts, University Eligible Gifts and Trust Funds. Amounts payable under the Contract with respect to Specific Revenue Projects are not secured by the general obligation of the University, including without limitation Unrestricted Net Assets.

General Provisions Related to Pledged Funds

All Revenues collected or received by the Commonwealth or the University, from whatever source, as payment of fees, rents, rates or other charges for the use and occupancy of a Project, including without limitation Revenues from Specific Revenue Projects and from the Unrestricted Net Assets, and needed to pay the Certified Amount shall be held in trust by the University for the Authority and paid to the Authority, as applicable, separate from all other moneys held by the University or the Commonwealth. Such amounts (“Pledged Funds”) shall be

applied solely as provided in the Act, the Contract, the Series Resolutions or the Trust Agreements and shall be remitted by the University Trustees to the Bond Trustee under the Trust Agreements or the Authority, as applicable, at such times and in such amounts as may be directed in writing by the Authority in accordance with the Authority's annual certification process described below.

Pledged Funds are and will be free and clear of any pledge, lien, charge or encumbrance thereon or with respect thereto prior to the pledge created by the Contract and the University Trustees shall take all actions necessary to protect and effectuate such pledge provided, however, that nothing in this Section shall be deemed to limit the right of the University Trustees, to the extent permitted by law, to create a pledge, lien or other charge on any or all such Pledged Funds to other Projects and bonds and notes issued for such Projects in accordance with the Contract or on a basis junior and subordinate to the pledge created by the Contract.

The University shall cause to be available in the Unrestricted Net Assets at all times amounts sufficient to pay such portion of the Certified Amount (hereinafter defined) required to be paid therefrom and to provide for any other payments required under the HEFA Financing Agreements.

Authority Certification of Amounts Due under the Contract

On or before March 1 of each year for the twelve-month period commencing the next succeeding November 1, the Authority shall certify in writing to the University Trustees (and provide a copy to the Bond Trustee) the amount estimated for each component of the Projects, detailing (i) the Authority's projected debt service costs and fees and expenses related to the bonds or notes, including without limitation any payments with respect to any Liquidity Facility, Credit Facility or Derivatives, (ii) the Authority's projected operating and administrative costs, (iii) any projected required deposits to reserves, including without limitation the Section 10 Reserve Fund, Capital Improvements Reserve Fund and the General Reserve Fund, (iv) any projected payments to the Commonwealth pursuant to Section 19C of the Act, (v) any additional reserves it may propose to create or augment consistent with the Trust Agreements and (vi) the amount, if any, payable to the University Trustees to reimburse Specific Revenue Project expenses incurred by the University Trustees (collectively, the "Certified Amount"). Such certificate, which may be revised from time to time as necessary, shall state the dates within such period when any portion of the Certified Amount shall be due, the portion of the Certified Amount due on such dates, the payee of such amount and payment instructions, the source of such payments and the amount payable from each source. The Certified Amount shall also detail the fees, rents, rates and other charges proposed for the use of the Projects, which shall be fixed so as to be sufficient, in the aggregate, together with other available moneys, to cover all of the costs and transfers to reserves as aforesaid allocable to the Projects.

University Certification of Unrestricted Net Assets

On or before April 1 of each year, the University shall certify in writing to the Authority whether or not there are sufficient funds in the Unrestricted Net Assets to pay the Certified Amounts and, if so, that such funds will be held in trust in the Unrestricted Net Assets for the equal and ratable benefit of the Authority and each other person or entity for whose benefit amounts will be applied to the payment of amounts required to be paid therefrom and will not be expended for any other purpose. Such funds will be so held and not expended for any other purpose; provided, however, that if any portion of the Certified Amount is paid from University Eligible Gifts, Authority Eligible Gifts, other Authority revenues or Revenues from Specific Revenue Projects, then after any such payment an amount equal to such portion so paid need no longer be held in the Unrestricted Net Assets.

The University Trustees authorize and, pursuant to Chapter 3A of Chapter 75 of the Massachusetts General Laws and other applicable law or resolution, delegate power to the President of the University, the Senior Vice President for Administration and Finance & Treasurer of the University and any such other officer to deliver the certificate described in the preceding paragraph and to do all other acts and things necessary or desirable to cause the University to comply with its obligations under the Contract.

If such certification states that sufficient funds are not available in the Unrestricted Net Assets to pay such amounts, such certification shall state the amount of funds in the Unrestricted Net Assets that are available to pay a portion of such amounts and a ratable portion of such funds in the Unrestricted Net Assets shall be held in trust for the benefit of the Authority to be applied to the payment pro rata of all amounts payable to or for the account of the

Authority from the Unrestricted Net Assets. The University will continue to be obligated to pay any portion (or, if applicable, all) of the Certified Amount payable from all funds of the University permitted by law to be applied thereto notwithstanding any shortfall in amounts available in the Unrestricted Net Assets.

If such certification states that sufficient funds are not available in the Unrestricted Net Assets to pay such amounts, or if the Authority has not received such certificate as required by the Contract, the Authority will promptly adopt or revise mandatory fees, rates, rents and other charges for the use of the Projects and any portion thereof to be charged and billed to and collected from students in the University and provide for the billing, collection and remittance of such fees rates, rents and other charges by the University Trustees at such times and in such manner as in the judgment of the Authority will produce moneys sufficient and available to meet the requirements of the Contract. The Authority shall promptly notify the University Trustees in writing of the matters set forth in the foregoing sentence. Pursuant to the Contract, the University Trustees approve, and agree to confirm such approval from time to time, all fees, rents, rates and other charges adopted or revised by the Authority pursuant to this paragraph and agree to cause the same to be billed to and collected from students in the University as the Authority may provide and remitted as the Authority may provide.

Payments from Pledged Funds

The University Trustees on behalf of the University will transfer to the Authority or the Bond Trustees, as applicable, amounts required to pay the Certified Amount (defined in *Authority Certification of Amounts Due under the Contract* above), including but not limited to the amounts necessary to pay principal of, premium if any, and interest on the bonds and notes issued by the Authority from all funds of the University legally permitted to be applied thereto, including, but not limited to University Eligible Gifts, Authority Eligible Gifts, other available Revenues of the University, including without limitation, amounts available in the University's Unrestricted Net Assets.

Expenses incurred by the University Trustees in connection with the repair and maintenance of the Projects shall be paid for or reimbursed to the University Trustees from the Pledged Funds. The Authority, in its discretion, may (a) authorize the University Trustees to deduct from the Pledged Funds, prior to remittance thereof to the Bond Trustee, amounts equal to amounts budgeted by the Authority for such expenses, or (b) instruct the University Trustees to certify to the Authority the amount of such expenses, if any, incurred by the University Trustees and not authorized to be deducted, such amounts to be reimbursed to the University Trustees from Pledged Funds transmitted to the Bond Trustee. Any amount deducted by the University Trustees pursuant to (a) and not expended for such expenses during the period for which it was budgeted by the Authority shall be certified to the Authority by the University Trustees within 30 days and shall be retained by the University Trustees and used solely for expenses of repair and maintenance of the Projects. In the event the Authority incurs an expense for repair or maintenance of the Projects, the University Trustees shall remit to the Authority such portion of the Pledged Funds deducted under (a) as is necessary to reimburse the Authority.

DEFAULTS AND RIGHTS

Upon the failure of the Authority to pay debt service on any bond or note issued by the Authority (other than as a result of the failure of the University Trustees under the Contract) or to observe or perform any other agreement or condition under the Contract (or failure to cure the same), after 15 days notice thereof to the Authority by the University Trustees, the Authority shall be deemed to be in default under the Contract. Thereupon, the Commonwealth may, acting by and through the University Trustees, assume the rights and obligations of the Authority under the Contract until such time as the University Trustees may declare the default to be cured.

Upon the failure of the Authority or the University Trustees to make any payment required under the provisions of the Contract, or to observe any other covenant or requirement imposed by the Contract, the Authority or the University Trustees, as the case may be, shall be deemed in default under the Contract. Thereupon, the Authority or the Trustee may institute legal proceedings to enforce such covenant or requirement or to enforce the pledge and lien granted under the provisions of the Contract and may take such other actions or exercise such other remedies as may be available at law or in equity to enforce the provisions of the Contract, including without limitation and upon agreement of the parties, mediation or arbitration. Without limiting the generality of the foregoing, in the case of an Authority default, the Commonwealth may, acting by and through the University Trustees, assume the rights and obligations of

the Authority under the Contract until such time as the University Trustees may declare the default to be cured, and, in the case of the University Trustees default, the Authority may itself undertake to perform such obligations, and may employ such persons or entities and make such expenditures as are reasonably necessary for the performance thereof, until such time as the Authority may declare the default to be cured.

No action by the Authority to enforce the Contract, or any other action of the Authority under the Contract, and no default or breach by the University Trustees, shall in any way affect the obligations of the University Trustees under the Contract. No action by the University Trustees under the Contract, and no default or breach by the Authority, shall in any way affect the obligations of the Commonwealth under the Contract. Whenever a breach of the Contract, whether substantial or otherwise, and whether before or after notice of the breach has been given to the Authority or the University Trustees, has been corrected, the obligations and rights under the Contract shall be reinstated and performance of the Contract shall continue as if such breach had never occurred.

The University Trustees, the University or the Authority may, to the extent authorized by law, act under the Contract or authorize an officer or officers to act in their name thereunder, and the action of any duly authorized officer or committee of the University Trustees, the University or the Authority shall be deemed to be the action of the Commonwealth, acting by and through the University Trustees, the University or the Authority, as the case may be.

No member, officer or employee of the University Trustees or the University shall be individually liable on any obligation assumed by the Commonwealth or the University Trustees under the Contract. No member, officer or employee of the Authority shall be individually liable on any obligation assumed by the Authority under the Contract, and neither the carrying out of a Project nor the ownership of a Project by the Authority shall impose any liability on any such member, officer or employee.

NOTICES AND DEMANDS

Any notice or demand permitted or required under the Contract to be given or served by any of the parties to the Contract to or upon another party to the Contract shall be in writing and shall be signed in the name of the party giving or serving the same. Such notice or demand shall be mailed by registered mail (postage and registry charges prepaid) or served on the President of the University, if such notice is to the Commonwealth or the University Trustees, or otherwise on the Executive Director of the Authority. Notice shall be deemed to have been received at the time of actual service or three days after the date of the mailing by registered mail properly addressed. The principal office of the President of the University and the Authority, respectively, shall be deemed to be One Beacon Street, 31st Floor, Boston, Massachusetts 02108 or such other place as the University Trustees may designate by written notice to the Authority or as the Authority may designate by written notice to the President of the University.

NON-ASSIGNABILITY

The Contract is not assignable except that if by act of the General Court the powers, functions, duties and property of the University or the Authority are transferred to another political subdivision, agency, board, commission, department, authority or institution of the Commonwealth, the rights and obligations of the Contract shall be deemed to have been assigned thereby to such transferee, and provided further that the Authority's rights to receive moneys under the Contract and to enforce the provisions of the Contract may be assigned to the Bond Trustee.

AMENDMENTS

The Contract may be amended only by the execution of an Amendment in writing by the Authority, the University Trustees and the Commonwealth, acting by and through the University Trustees, or their successors.

PROPOSED FORM OF OPINIONS OF BOND COUNSEL

MINTZ LEVIN

One Financial Center
Boston, MA 02111
617-542-6000
617-542-2241 fax
www.mintz.com

[Closing Date]

University of Massachusetts Building Authority
One Beacon Street, 31st Floor
Boston, Massachusetts 02108

Re: University of Massachusetts Building Authority (the “Authority”) Project Revenue Bonds, Senior Series 2017-1 (the “Series 2017-1 Bonds”), Project Revenue Bonds, Senior Series 2017-2 (Federally Taxable)(the “Series 2017-2 Bonds”) and Refunding Revenue Bonds, Senior Series 2017-3 (the “Series 2017-3 Bonds and together with the Series 2017-1 Bonds and the Series 2017-2 Bonds, the “Bonds”)

We have acted as bond counsel to the Authority in connection with the issuance by the Authority of the Bonds pursuant to (i) Chapter 773 of the Acts of 1960, as amended (the “Act”), (ii) the Trust Agreement dated as of November 1, 2000 (the “Trust Agreement”) between the Authority and U.S. Bank National Association, as successor trustee (the “Trustee”), and (iii) the Series Resolution Authorizing the Issuance of the Series 2017-1 Bonds adopted by the Authority on September 8, 2016 (the “2017-1 Series Resolution”), the Series Resolution Authorizing the Issuance of the Series 2017-2 Bonds adopted by the Authority on September 8, 2016 (the “2017-2 Series Resolution”) and the Series Resolution Authorizing the Issuance of the Series 2017-3 Bonds adopted by the Authority on September 8, 2016 (the “2017-3 Series Resolution” and together with the 2017-1 Series Resolution and the 2017-2 Series Resolutions, the “Series Resolutions”). In such capacity, we have examined the law and such certified proceedings and other documents as we have deemed necessary to render this opinion, including without limitation the Amended and Restated Master Contract for Financial Assistance, Management and Services dated as of February 25, 2014 (the “Master Contract”), among the Authority, the University of Massachusetts, acting by and through the Board of Trustees (the “University Trustees”), and The Commonwealth of Massachusetts (the “Commonwealth”), acting by and through the University Trustees, and the Certificate Making Bonds Subject to Master Contract dated as of the date hereof (the “Certificate,” and together with the Master Contract, the “Contract”). Capitalized terms used herein shall, unless otherwise specified, have the meanings set forth in the Trust Agreement and the Series Resolutions.

Under the Trust Agreement, the Authority has pledged certain revenues (the “Revenues”) for the payment of the principal of and interest on the Bonds when due.

As to questions of fact material to our opinion, we have relied upon the representations of the Authority contained in the Trust Agreement and in the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify the same by independent investigation. In addition, we have relied, among other things, on the opinion of counsel to the Edward M. Kennedy Institute for the United States Senate (the “Institute”) regarding the current qualification of the Institute as an organization described in Section 501(c)(3) of the Code.

Based upon and subject to the foregoing, we are of the opinion that, under existing law:

1. The Authority is validly existing as a body politic and corporate and public instrumentality of the Commonwealth with the power to enter into the Trust Agreement and the Series Resolutions, perform the agreements on its part contained therein and issue the Bonds.

2. The Trust Agreement, the Series Resolutions and the Contract have been duly authorized, executed and delivered by the Authority and constitute valid and binding obligations of the Authority enforceable upon the Authority.

3. The Contract has been duly authorized, executed and delivered by the Commonwealth and constitutes a valid and binding obligation of the Commonwealth enforceable upon the Commonwealth.

4. Pursuant to the Act, the Trust Agreement creates a valid lien on the Revenues and other funds pledged by the Trust Agreement for the security of the Bonds issued thereunder on a parity with other bonds issued under the Trust Agreement.

5. The Bonds have been duly authorized, executed and delivered by the Authority and are valid and binding limited obligations of the Authority, payable solely from the Revenues and other funds provided therefor in the Trust Agreement. Neither the Commonwealth nor any political subdivision or instrumentality thereof, including the Authority, is obligated to pay the principal of or redemption premium, if any, or interest on the Bonds except from the Revenues and other funds provided therefor as aforesaid in the Trust Agreement and the Series Resolutions, and neither the faith and credit nor the taxing power of the Commonwealth nor of any political subdivision or instrumentality thereof, including the Authority, is pledged to the payment of the principal of or redemption premium, if any, or interest on the Bonds.

For the Series 2017-1 Bonds and the Series 2017-3 Bonds only:

6. Interest on the Series 2017-1 Bonds and the Series 2017-3 Bonds will not be included in the gross income of the holders of such Bonds for federal income tax purposes. This opinion is expressly conditioned upon the Authority's compliance with certain requirements of the Internal Revenue Code of 1986, as amended, which must be satisfied subsequent to the date of issuance of the Bonds in order that interest thereon is and continues to be excluded from gross income for federal income tax purposes. Failure to comply with certain of such requirements could cause interest on the Series 2017-1 Bonds and the Series 2017-3 Bonds to be included in the gross income of holders of such Bonds retroactive to the date of issuance of the Bonds. Interest on the Series 2017-1 Bonds and the Series 2017-3 Bonds will not constitute a preference item for purposes of computation of the alternative minimum tax imposed on certain individuals and corporations but will be included in the "adjusted current earnings" when calculating corporate alternative minimum taxable income under section 56(g) of the Code in the computation of the alternative minimum tax applicable to certain corporations. We express no opinion as to other federal tax consequences resulting from holding the Series 2017-1 Bonds and the Series 2017-3 Bonds.

For the Series 2017-2 Bonds only:

6. Interest on the Series 2017-2 Bonds will be included in the gross income of the holders of the Series 2017-2 Bonds for federal income tax purposes. We express no opinion as to other federal tax consequences resulting from holding the Series 2017-2 Bonds.

The federal tax advice contained herein is not intended or written to be used, and cannot be used, by any taxpayer for the purpose of avoiding penalties that may be imposed on the taxpayer, such federal tax advice is written to support the promotion or marketing of the Series 2017-2 Bonds, and each purchaser of a Series 2017-2 Bond should seek advice based on such purchaser's particular circumstances from an independent tax advisor.

For the Bonds:

7. Interest on the Bonds, and any profit made on the sale thereof, are exempt from Massachusetts personal income taxes, and the Bonds are exempt from Massachusetts personal property taxes. We express no opinion as to other Massachusetts tax consequences arising with respect to the Bonds nor as to the taxability of the Bonds or the income therefrom under the laws of any state other than Massachusetts.

It is to be understood that the rights of the holders of the Bonds and the enforceability of the Bonds, the Trust Agreement and the Contract may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

This opinion is given as of the date hereof, and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

Very truly yours,

[Intentionally Left Blank]

SUMMARY OF CONTINUING DISCLOSURE UNDERTAKINGS

In the Authority and University Continuing Disclosure Agreement, the University will undertake to provide to the Authority no later than 270 days after the end of each fiscal year of the University, commencing with the fiscal year ending June 30, 2017, the annual financial information described below, together with audited financial statements of the University for such fiscal year if audited financial statements are then available; provided, however, that if audited financial statements of the University are not then available, such audited financial statements shall be delivered to the Authority when they become available (but in no event later than 350 days after the end of such fiscal year (the “prior fiscal year”)). The University’s annual financial statements for each fiscal year will be prepared on an accrual basis in accordance with generally accepted accounting principles as in effect from time to time (or as otherwise may be required or permitted by law) and will consist of a combined balance sheet, a combined statement of changes in net assets and a combined statement of current net assets, revenues, expenses and other changes (or such other items as may be required or permitted by law or by generally accepted accounting principles as in effect from time to time or by other accounting principles as in effect from time to time in accordance with which the financial statements of the University may be prepared). Such financial statements will be audited by a group of certified public accountants appointed by the University. The annual financial information regarding the University to be provided to the Authority shall consist of financial and operating data, in each case updated through the last day of the prior fiscal year unless otherwise noted, relating to the following information in Appendix A – “Letter from the University” to this Official Statement and in each case substantially in the same level of detail as is found under the subheading under such caption referenced in parentheses after each item:

- (a) number of full-time equivalent undergraduates and graduates at each campus of the University as of the fall of the prior fiscal year (“University Campuses – Amherst Campus,” “– Boston Campus,” “– Dartmouth Campus,” “– Lowell Campus,” “– Worcester Campus” and “– UMassOnline”);
- (b) degrees and programs offered at each campus of the University (“University Campuses – Amherst Campus,” “– Boston Campus,” “– Dartmouth Campus,” “– Lowell Campus,” “– Worcester Campus” and “– UMassOnline”);
- (c) organizations related to the University (“University Related Organizations”);
- (d) number and members of the Trustees or other chief governing body of the University and general governmental structure (“Governance – Board of Trustees”);
- (e) number of faculty members and the number of full-time faculty members, the percentage of tenured faculty members and the full-time equivalent student to the full-time equivalent faculty ratios for each campus of the University (except the Worcester campus)(“Governance – Faculty and Staff”);
- (f) academic programs (to the extent not covered under (b) above) and accreditation (“Academic Programs and Accreditation”);
- (g) applicants, acceptances and matriculations for the fall of the prior fiscal year and total head count enrollment and total full-time equivalent enrollment (“Enrollment”);
- (h) tuition and fees for the prior fiscal year for each campus of the University (“Tuition and Fees”);
- (i) student financial aid amounts (“Tuition and Fees – Student Financial Aid”);

- (j) sources of revenues of the University (“University Revenues and Budgeting – Budget Process”);
- (k) modifications to the University’s five-year capital plan and status of completion of the University’s five-year capital plan (“Current and Future Capital Plans”);
- (l) modifications to the budget process (“University Revenues and Budgeting – Budget Process”);
- (m) management of appropriated funds, including appropriations received by the University shown on a five-year comparative basis and management of non-appropriated funds (“University Revenues and Budgeting – Appropriated Funds” and “– Management of Non-Appropriated Funds”);
- (n) combined statement of revenues and expenses, including current fund revenues and expenditures and other changes (accrual basis) for the prior fiscal year (“Summary of Operations” and “Summary of Financial Results, Fiscal Years 2014 Through 2016”);
- (o) University and Foundation endowment assets shown on a five-year comparative basis (“Endowment and Fundraising”);
- (p) indebtedness of the University (“Indebtedness of the University”);
- (q) unrestricted net assets (formerly expendable fund balances) (“Indebtedness of the University – Unrestricted Net Assets”);
- (r) additional indebtedness (“Indebtedness of the University – Additional Indebtedness”);
- (s) capitalized leases (“Indebtedness of the University – Capitalized Leases”);
- (t) insurance (“Insurance”);
- (u) technological initiatives (“Technological Initiatives”);
- (v) litigation (“Litigation”); and
- (w) employee relations (“Employee Relations”).

The Authority and University Continuing Disclosure Agreement also requires the Authority to transmit the financial statements of the University and the annual financial information regarding the University to the MSRB through its EMMA system promptly upon the receipt thereof from the University and will give notice to EMMA of any failure by the University to provide such financial statements or annual financial information by the dates set forth in the Authority and University Continuing Disclosure Agreement.

In the Authority and University Continuing Disclosure Agreement, the Authority will undertake to provide to EMMA no later than 270 days after the end of each fiscal year of the Authority, commencing with the fiscal year ending June 30, 2017, the annual financial information described below, together with audited financial statements of the Authority for such fiscal year if audited financial statements are then available; provided, however, that if audited financial statements of the Authority are not then available, such audited financial statements shall be delivered to the MSRB via EMMA when they become available (but in no event later than 350 days after the end of such fiscal year (the “prior fiscal year of the Authority”). The Authority’s annual financial statements for each fiscal year will be prepared using the economic resources measurement focus and the accrual basis of accounting in

accordance with generally accepted accounting principles as in effect from time to time (or as otherwise may be required or permitted by law) and will consist of a statement of net assets, a statement of revenues, expenses and changes in net assets and a statement of cash flows (or such other items as may be required or permitted by law or by accounting principles as in effect from time to time in accordance with which the financial statements of the Authority may be prepared). Such financial statements will be audited by a group of certified public accountants appointed by the Authority. The annual financial information to be provided by the Authority shall consist of financial and operating data, updated through the last day of the prior fiscal year of the Authority unless otherwise noted, relating to the following information contained in this Official Statement and substantially in the same level of detail as is found in the section of this Official Statement referenced in parentheses after each item:

- (a) any material change in the provisions of the Contract (“Security and Sources of Payment for the Bonds – Contract” and “– Pledge of Revenues under the Project Trust Agreement”);
- (b) annual debt service requirements on the Series 2017-1 Bonds, the Series 2017-2 Bonds and the Series 2017-3 Bonds (the “Bonds”) (“Security and Sources of Payment for the Bonds – Annual Debt Service Requirements”);
- (c) any material change in the Enabling Act or other law of the Commonwealth with respect to the Authority (“The Authority – General”);
- (d) members, officers and staff of the Authority (“The Authority – Members, Officers and Staff”); and
- (e) any amendment to the Project Trust Agreement made with the consent of the registered owners of the Bonds and any other amendment to the Project Trust Agreement which, in the opinion of the firm of attorneys serving as bond counsel to the Authority at the time the Authority submits the information required by the University and Authority Continuing Disclosure Agreement, is material to the interests of the registered owners of Bonds (“Appendix D – Summary of Legal Documents”).

The Authority and University Continuing Disclosure Agreement will also require the Authority to submit in a timely manner, not in excess of ten business days of the event, to the MSRB via EMMA, notice of any of the following events with respect to the Bonds, as applicable:

- (a) principal and interest payment delinquencies;
- (b) non-payment related defaults;
- (c) unscheduled draws on debt service reserves reflecting financial difficulties;
- (d) unscheduled draws on credit enhancements, if any, reflecting financial difficulties;
- (e) substitution of credit or liquidity providers, if any, or their failure to perform;
- (f) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax-exempt status of the Bonds; or events affecting the tax-exempt status of the Bonds;
- (g) modifications to rights of holders of the Bonds, if material;
- (h) bond calls, if material, and tender offers;

- (i) defeasances;
- (j) release, substitution or sale of property, if any, securing payment of the Bonds, if material;
- (k) rating changes;
- (l) bankruptcy, insolvency, receivership or similar event of the Authority (For the purposes of this event, the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer of the Authority in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Authority, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all the assets or business of the Authority);
- (m) the consummation of a merger, consolidation, or acquisition involving the Authority or the sale of all or substantially all of the assets of the Authority, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and
- (n) appointment of a successor or additional trustee or the change of name of a trustee, if material.

To the extent permitted by law, the provisions of the Authority and University Continuing Disclosure Agreement shall be enforceable against the University with respect to the obligations of the University thereunder, and against the Authority with respect to the obligations of the Authority thereunder, in accordance with the terms thereof by any owner of a Bond, including any beneficial owner acting as a third party beneficiary (upon proof of its status as a beneficial owner reasonably satisfactory to the University or the Authority, as the case may be). To the extent permitted by law, any such owner shall have the right, for the equal benefit and protection of all owners of the Bonds, by mandamus or other suit or proceeding at law or in equity, to enforce its rights against the University or the Authority, as applicable, and to compel the University or the Authority as applicable, and any of the officers, agents or employees of, as applicable, the University or the Authority, to perform and carry out their duties under such provisions of the Authority and University Continuing Disclosure Agreement; provided, however, that the sole remedy for a violation of the Authority and University Continuing Disclosure Agreement shall be limited to an action to compel specific performance of the obligations of the University or the Authority, as applicable, under the Authority and University Continuing Disclosure Agreement and shall not include any rights to monetary damages. The Authority and University Continuing Disclosure Agreement shall terminate if no Bonds remain outstanding (without regard to an economic defeasance) or if the provisions of the Rule concerning continuing disclosure are no longer in effect, whichever occurs first.

The Authority and University Continuing Disclosure Agreement may be amended, changed or modified by the parties thereto, without the consent of, or notice to, any owners of the Bonds, (a) to comply with or conform to the provisions of the Rule or any amendments thereto or authoritative interpretations thereof by the SEC or its staff (whether required or optional), (b) to add a dissemination agent for the information required to be provided pursuant to the Authority and University Continuing Disclosure Agreement by the University or the Authority and to make any necessary or desirable provisions with respect thereto, (c) to add to the covenants of the University or the Authority for the benefit of the owners of the Bonds, (d) to modify the contents, presentation and format of the annual

financial information of the University or the Authority from time to time as a result of a change in circumstances that arises from a change in legal requirements, or (e) to otherwise modify the duties of the University or the Authority in the Authority and University Continuing Disclosure Agreement in a manner consistent to the requirements of the Rule concerning continuing disclosure; provided, however, that in the case of any amendment pursuant to clause (d) or (e), (i) the duties of the University or the Authority, as amended, would have complied with the requirements of the Rule at the time of the offering of the Bonds, after taking into account any amendments or authoritative interpretations of the Rule, as well as any change in circumstances, and (ii) the amendment does not materially impair the interests of the owners of the Bonds, as determined either by a party unaffiliated with the University or the Authority (such as the firm serving at the time as bond counsel to the Authority) or by the vote or consent of the Registered Owners of a majority in outstanding principal amount of the Bonds affected thereby at or prior to the time of such amendment, which consent shall be obtained as provided in the Trust Agreement with respect to consents of Registered Owners. Any amendment, change or modification to the Authority and University Continuing Disclosure Agreement shall be in writing.

If the Authority and University Continuing Disclosure Agreement is amended with respect to the annual financial information to be submitted by the Authority or the University thereunder, the annual financial information containing the amended financial information will explain, in narrative form, the reasons for the amendment and the impact of the change in the type of financial information being provided. If the Authority and University Continuing Disclosure Agreement is amended with respect to the accounting principles to be followed in preparing financial statements of the University or the Authority, the annual financial information of the University or the Authority as applicable, for the year in which the change is made will present a comparison between the financial statements or information prepared on the basis of the new accounting principles and the financial statements or information prepared on the basis of the former accounting principles. Such comparison will include a qualitative discussion of the differences in the accounting principles and the impact of the change in the accounting principles on the presentation of the financial information, in order to provide information to investors to enable them to evaluate the ability of the University or the Authority, as applicable, to meet its obligations with respect to the Bonds. To the extent reasonably feasible, the comparison will also be quantitative. The University will give notice of any change in its accounting principles to the Authority as promptly as practicable after such change has been determined and the Authority will submit such information to EMMA promptly upon the receipt thereof. The Authority will give notice of any change in its accounting principles to the MSRB via EMMA as promptly as practicable after such change has been determined.

[Intentionally Left Blank]

BOOK-ENTRY ONLY SYSTEM**DTC**

The Depository Trust Company (“DTC”), New York, New York, will act as securities depository for the Bonds. The Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully registered Bond certificate will be issued for each stated maturity of each Series of the Bonds, in the aggregate principal amount of the applicable stated maturity, and will be deposited with DTC.

DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“Participants” or “Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). DTC has a Standard & Poor’s rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com and www.dtc.org.

Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC’s records. The ownership interest of each actual purchaser of each Bond (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Bonds, except in the event that use of the book-entry system for the Bonds is discontinued.

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC’s partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds. DTC’s records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the Bonds are being redeemed, DTC’s practice is to determine by lot the amount of the interest of each Direct Participant in such Bonds to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, redemption premium, if any, and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Authority or Trustee on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the Bonds at any time by giving reasonable notice to the Authority or Paying Agent. Under such circumstances, in the event that a successor depository is not obtained, Bond certificates are required to be printed and delivered.

The Authority may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Bond certificates will be printed and delivered to DTC.

THE INFORMATION IN THIS SECTION CONCERNING DTC AND DTC'S BOOK-ENTRY SYSTEM HAS BEEN OBTAINED FROM SOURCES THAT THE AUTHORITY BELIEVES TO BE RELIABLE, BUT THE AUTHORITY TAKES NO RESPONSIBILITY FOR THE ACCURACY THEREOF.

No Responsibility of the Authority or the Trustee

NEITHER THE AUTHORITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATIONS TO DIRECT PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE PAYMENTS TO OR THE PROVIDING OF NOTICE FOR DIRECT PARTICIPANTS, INDIRECT PARTICIPANTS, OR BENEFICIAL OWNERS.

SO LONG AS CEDE & CO. IS THE REGISTERED OWNER OF THE BONDS, AS NOMINEE OF DTC, REFERENCES HEREIN TO THE HOLDERS OR REGISTERED OWNERS OF THE BONDS SHALL MEAN CEDE & CO. AND SHALL NOT MEAN THE BENEFICIAL OWNERS OF THE BONDS.

Certificated Bonds

DTC may discontinue providing its services as securities depository with respect to the Bonds at any time by giving reasonable notice to the Authority and the Trustee. In addition, the Authority may determine that continuation of the system of book-entry transfers through DTC (or a successor securities depository) is not in the best interests of the Beneficial Owners of the Bonds. If for either reason the Book-Entry Only system is discontinued, Bond certificates will be delivered as described in the Agreement and the Beneficial Owner, upon registration of certificates held in the Beneficial Owner's name, will become the holder of such Bond. Thereafter, the Bonds may be exchanged for an equal aggregate principal amount of the Bonds in other authorized denominations and of the same maturity, upon surrender thereof at the principal corporate trust office of the Trustee. The transfer of the Bonds may be registered on the books maintained by the Trustee for such purpose only upon the assignment in the form satisfactory to the Trustee. For every exchange or registration of transfer of the Bonds, the Authority and the Trustee may make a charge sufficient to reimburse them for any tax or other governmental charge required to be paid with respect to such exchange or registration of transfer, but no other charge may be made to the holder of such Bond for any exchange or registration of transfer of the Bonds. The Trustee will not be required to transfer or exchange the Bonds during the notice period preceding any redemption if such Bonds (or any part thereof) are eligible to be selected or have been selected for redemption.

REFUNDED BONDS

Massachusetts Health and Educational Facilities Authority Revenue Bonds,
University of Massachusetts Issue, Series D (2007)

Maturity or Sinking Fund Installment (October 1)	Interest Rate	Par Amount	Redemption Date	Redemption Price	CUSIP
2017	3.875%	\$ 410,000	March 1, 2017	100%	57586CRX5
2018	4.000	425,000	March 1, 2017	100	57586CRY3
2019	4.000	440,000	March 1, 2017	100	57586CRZ0
2020	4.000	460,000	March 1, 2017	100	57586CSA4
2021	4.000	480,000	March 1, 2017	100	57586CSB2
2022	4.000	495,000	March 1, 2017	100	57586CSC0
2023	4.125	515,000	March 1, 2017	100	57586CSD8
2024	4.250	540,000	March 1, 2017	100	57586CSE6
2025	4.250	565,000	March 1, 2017	100	57586CSF3
2026	4.250	590,000	March 1, 2017	100	57586CSG1
2031	4.250	3,330,000	March 1, 2017	100	57586CSH9

Massachusetts Health and Educational Facilities Authority Revenue Bonds,
Worcester City Campus Corporation Issue (University of Massachusetts Project),
Series E (2007)

Maturity or Sinking Fund Installment (October 1)	Interest Rate	Par Amount	Redemption Date	Redemption Price	CUSIP
2017	4.000%	\$ 815,000	March 1, 2017	100%	57586CSZ9
2018	4.000	850,000	March 1, 2017	100	57586CTA3
2019	4.000	885,000	March 1, 2017	100	57586CTC9
2020	4.000	920,000	March 1, 2017	100	57586CTE5
2021	4.000	955,000	March 1, 2017	100	57586CTG0
2022	4.000	990,000	March 1, 2017	100	57586CTJ4
2023	4.000	1,030,000	March 1, 2017	100	57586CTL9
2024	4.000	2,365,000	March 1, 2017	100	57586CTN5
2025	4.250	2,460,000	March 1, 2017	100	57586CTQ8
2026	4.250	2,560,000	March 1, 2017	100	57586CTS4
2031	4.500	14,605,000	March 1, 2017	100	57586CTU9

Massachusetts Health and Educational Facilities Authority Revenue Bonds,
Worcester City Campus Corporation Issue (University of Massachusetts Project),
Series F (2007)

Maturity or Sinking Fund Installment (October 1)	Interest Rate	Par Amount	Redemption Date	Redemption Price	CUSIP
2017	4.250%	\$ 2,370,000	March 1, 2017	100%	57586CUQ6
2018	4.250	2,470,000	March 1, 2017	100	57586CUS2
2019	4.250	2,575,000	March 1, 2017	100	57586CUT0
2020	4.250	2,685,000	March 1, 2017	100	57586CUU7
2021	4.500	2,800,000	March 1, 2017	100	57586CUV5
2022	4.500	2,925,000	March 1, 2017	100	57586CUW3
2023	4.500	3,060,000	March 1, 2017	100	57586CUI9
2024	4.375	3,195,000	March 1, 2017	100	57586CVA0
2025	4.500	3,335,000	March 1, 2017	100	57586CVC6
2026	4.500	3,485,000	March 1, 2017	100	57586CVE2
2031	4.500	19,925,000	March 1, 2017	100	57586CVG7

University of Massachusetts Building Authority Project Revenue Bonds,
Senior Series 2008-2

Maturity or Sinking Fund Installment (May 1)	Interest Rate	Par Amount	Redemption Date	Redemption Price	CUSIP
2019	5.000%	\$ 3,220,000	May 1, 2018	100%	914440HR6
2029	4.800	5,215,000	May 1, 2018	100	914440JB9
2032	4.750	17,195,000	May 1, 2018	100	914440JC7
2038	5.000	31,380,000	May 1, 2018	100	914440JD5

University of Massachusetts Building Authority Project Revenue Bonds,
Senior Series 2009-1

Maturity or Sinking Fund Installment (May 1)	Interest Rate	Par Amount	Redemption Date	Redemption Price	CUSIP
2020	5.000%	\$15,890,000	May 1, 2019	100%	914440JU7
2021	4.250	1,250,000	May 1, 2019	100	914440JV5
2026	4.250	2,660,000	May 1, 2019	100	914440KB7
2027	4.250	2,770,000	May 1, 2019	100	914440KC5
2028	4.250	2,890,000	May 1, 2019	100	914440KD3
2029	4.375	3,010,000	May 1, 2019	100	914440KE1
2034	4.500	1,305,000	May 1, 2019	100	914440KF8
2034	5.000	13,150,000	May 1, 2019	100	914440QT2
2039	5.000	22,140,000	May 1, 2019	100	914440KH4

[Intentionally Left Blank]

[Intentionally Left Blank]



Printed by: ImageMaster, LLC
www.imagemaster.com