

*In the opinion of Co-Bond Counsel, interest on the Bonds is excludable from gross income for purposes of federal income tax, assuming continuing compliance with the requirements of federal tax laws. Interest on the Bonds is not a preference item for purposes of either individual or corporate federal alternative minimum tax; however, interest paid to corporate holders of the Bonds may be indirectly subject to alternative minimum tax under circumstances described under "TAX MATTERS – Federal Tax Matters" herein. Co-Bond Counsel is of the further opinion that the Bonds are exempt from personal property taxes in Pennsylvania and interest on the Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax under the laws of the Commonwealth of Pennsylvania as enacted and construed on the date of initial delivery of the Bonds. For a more complete description of federal and state tax matters pertaining to the Bonds, see "TAX MATTERS" herein.*

**\$178,395,000****PENNSYLVANIA HIGHER EDUCATIONAL FACILITIES AUTHORITY****The Trustees of the University of Pennsylvania****Revenue Bonds, Series A of 2017****Dated: Date of Delivery****Due: August 15, as shown on inside front cover**

The Bonds described above will be issued by the Pennsylvania Higher Educational Facilities Authority (the "Authority") under an Indenture of Trust dated as of January 15, 1987, as previously amended and supplemented and as further amended and supplemented by a Twelfth Supplemental Indenture of Trust dated as of January 1, 2017 (collectively, and as amended and supplemented from time to time, the "Indenture"), between the Authority and The Bank of New York Mellon Trust Company, N.A., Philadelphia, Pennsylvania, as trustee, paying agent and bond registrar (in such capacities, the "Trustee"). The Bonds will be payable from and secured by certain funds held by the Trustee under the Indenture and payments to the Trustee, as assignee of the Authority, under the Loan Agreement dated as of January 15, 1987, as previously amended and supplemented and as further amended and supplemented by a Twelfth Supplemental Loan Agreement dated as of January 1, 2017 (collectively, and as amended and supplemented from time to time, the "Loan Agreement"), between the Authority and



The Trustees of the University of Pennsylvania (the "University"). The Bonds are Additional Bonds (as defined in the Indenture) payable, equally and ratably with all other bonds of the Authority issued and outstanding under the Indenture, solely from the funds under the Indenture and from payments to be received by the Authority pursuant to the Loan Agreement. The Loan Agreement is a general, unsecured obligation of the University. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" herein.

Interest on the Bonds is payable on February 15 and August 15 of each year, commencing August 15, 2017, until maturity or redemption prior to maturity. The principal of and interest on the Bonds will be paid by the Trustee. So long as The Depository Trust Company, New York, New York ("DTC") or its nominee, Cede & Co., is the Bondholder, such payments will be made directly to Cede & Co. Disbursement of such payments to the Beneficial Owners is the responsibility of the Direct Participants and Indirect Participants, as more fully described herein.

The Bonds are subject to optional and mandatory redemption prior to maturity as described herein. See "DESCRIPTION OF THE BONDS" herein.

The Bonds will be issued only as fully registered bonds without coupons and, when issued, will be registered in the name of Cede & Co., as registered owner and nominee for DTC. DTC will act as securities depository for the Bonds. Purchases of beneficial interests in the Bonds will be made in book-entry form, in denominations of \$5,000 or any integral multiple thereof. Purchasers will not receive certificates representing their interest in the Bonds purchased. So long as Cede & Co. is the registered owner, as nominee of DTC, references herein to the Bondholders or registered owners shall mean Cede & Co., as aforesaid and shall not mean the Beneficial Owners of the Bonds. See "BOOK-ENTRY SYSTEM" herein.

**The Bonds are limited obligations of the Authority. Neither the general credit of the Authority nor the credit or the taxing power of the Commonwealth of Pennsylvania or any political subdivision thereof is pledged for the payment of the principal or redemption price of, and interest on, the Bonds, nor shall the Bonds be or be deemed to be general obligations of the Authority or obligations of the Commonwealth of Pennsylvania or any political subdivision thereof, nor shall the Commonwealth of Pennsylvania or any political subdivision thereof be liable for the payment of the principal and redemption price of, and interest on, the Bonds. The Authority has no taxing power.**

**MATURITIES, PRINCIPAL AMOUNTS, INTEREST RATES, PRICES, YIELDS AND CUSIPS**  
(See Inside Front Cover Page)

This cover page contains information for quick reference only. It is not a summary of this issue. Investors must read the entire Official Statement, including the Appendices, to obtain information essential to making an informed investment decision.

The Bonds are offered when, as and if issued by the Authority and received by the Underwriters (as defined herein), subject to the approving legal opinion of Ballard Spahr LLP and Andre C. Dasent, P.C., each of Philadelphia, Pennsylvania, Co-Bond Counsel. Certain legal matters will be passed upon for the University by Wendy S. White, Esquire, Senior Vice President and General Counsel of the University; for the Authority by its counsel, Barley Snyder LLP, Lancaster, Pennsylvania; and for the Underwriters by their counsel, Drinker Biddle & Reath LLP, Philadelphia, Pennsylvania. It is expected that the Bonds in definitive form will be available for delivery through the facilities of DTC on or about January 19, 2017.

**Morgan Stanley**

**BofA Merrill Lynch**  
**Loop Capital Markets LLC**

**Goldman, Sachs & Co.**  
**Wells Fargo Securities**



**PENNSYLVANIA HIGHER EDUCATIONAL FACILITIES AUTHORITY**  
(Commonwealth of Pennsylvania)  
1035 Mumma Road  
Wormleysburg, PA 17043

**BOARD MEMBERS**

Honorable Thomas W. Wolf  
Governor of the Commonwealth of Pennsylvania..... President

Honorable Lloyd K. Smucker  
Designated by the President Pro Tempore of the Senate..... Vice President

Honorable Andrew E. Dinniman  
Designated by the Minority Leader of the Senate ..... Vice President

Honorable Stanely E. Saylor  
Designated by the Speaker of the House of Representatives..... Vice President

Honorable Timothy A. Reese  
State Treasurer..... Treasurer

Honorable Curtis M. Topper  
Secretary of General Services..... Secretary

Honorable Anthony M. DeLuca  
Designated by the Minority Leader of the House of Representatives ..... Board Member

Honorable Eugene A. DePasquale  
Auditor General ..... Board Member

Honorable Pedro A. Rivera  
Secretary of Education ..... Board Member

**Executive Director**

Robert Baccon

**Authority Counsel**

(Appointed by the Office of General Counsel)  
Barley Snyder LLP, Lancaster, Pennsylvania

**Trustee**

The Bank of New York Mellon Trust Company, N.A.  
Philadelphia, Pennsylvania

**Co-Bond Counsel**

(Appointed by the Office of General Counsel)

Ballard Spahr LLP  
Philadelphia, Pennsylvania

Andre C. Dasent, P.C.  
Philadelphia, Pennsylvania

**University Counsel**

Wendy S. White, Esquire  
Senior Vice President and General Counsel of the University

**Counsel to Underwriters**

Drinker Biddle & Reath LLP  
Philadelphia, Pennsylvania

IN CONNECTION WITH THIS OFFERING THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICE OF THE BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

THE BONDS MAY BE OFFERED AND SOLD TO CERTAIN DEALERS (INCLUDING DEALERS DEPOSITING THE BONDS INTO INVESTMENT ACCOUNTS) AND TO OTHERS AT PRICES LOWER THAN THE PUBLIC OFFERING PRICES AND SAID PUBLIC OFFERING PRICES MAY BE CHANGED FROM TIME TO TIME BY THE UNDERWRITERS WITHOUT PRIOR NOTICE TO THE PUBLIC, BUT WITH PRIOR NOTICE TO THE AUTHORITY AND THE UNIVERSITY.

THE ORDER AND PLACEMENT OF MATERIALS IN THIS OFFICIAL STATEMENT, INCLUDING THE APPENDICES, ARE NOT TO BE DEEMED TO BE A DETERMINATION OF RELEVANCE, MATERIALITY, OR IMPORTANCE, AND THIS OFFICIAL STATEMENT, INCLUDING THE APPENDICES, MUST BE CONSIDERED IN ITS ENTIRETY. THE OFFERING OF THE BONDS IS MADE ONLY BY MEANS OF THIS ENTIRE OFFICIAL STATEMENT.

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The information set forth herein has been obtained from the Pennsylvania Higher Educational Facilities Authority (the "Authority") as to information concerning the Authority, and The Trustees of the University of Pennsylvania (the "University"), and other sources which are believed to be reliable, but the information provided by sources other than the Authority is not guaranteed as to accuracy or completeness by the Authority. The information and expressions of opinions 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 any of the information set forth herein since the date hereof.

The Underwriters (as defined herein) have provided the following sentence for inclusion in the Official Statement: The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibilities to investors under the federal securities law as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

No dealer, broker, salesperson or other person has been authorized by the Authority, the Underwriters or the University to give any information or to make any representations with respect to the Bonds, other than those contained in this Official Statement, and if given or made, such other information or representations 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 any offer to buy any of the Bonds in any jurisdiction in which it is unlawful to make such an offer, solicitation, or sale.

The Bonds are not and will not be registered under the Securities Act of 1933 as amended, or under any state securities laws, and the Indenture has not been and will not be qualified under the Trust Indenture Act of 1939, as amended, because of available exemptions therefrom. Neither the Securities and Exchange Commission nor any federal, state, municipal, or other governmental agency will pass upon the accuracy, completeness, or adequacy of the Official Statement.

This Official Statement speaks only as of the date printed on the cover page hereof. The information contained herein is subject to change. The Official Statement will be made available through the Electronic Municipal Market Access system.

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# **Official Statement**

**\$178,395,000**

**PENNSYLVANIA HIGHER EDUCATIONAL FACILITIES AUTHORITY**

**The Trustees of the University of Pennsylvania**

**Revenue Bonds, Series A of 2017**

## **INTRODUCTION**

The following introductory statement is subject in all respects to more complete information contained elsewhere in this Official Statement. Capitalized terms used in this Official Statement that are not otherwise defined herein have the meanings given to them in APPENDIX C hereto.

### **Purpose of the Official Statement**

The purpose of this Official Statement, including the cover pages and the Appendices, is to furnish certain information relating to (1) the Pennsylvania Higher Educational Facilities Authority (the “Authority”), (2) the Authority’s The Trustees of the University of Pennsylvania Revenue Bonds, Series A of 2017, in the aggregate principal amount of \$178,395,000 (the “Bonds”); and (3) The Trustees of the University of Pennsylvania (the “University”).

### **The Authority**

The Authority is a body corporate and politic, constituting a public corporation and a governmental instrumentality of the Commonwealth of Pennsylvania (the “Commonwealth”), created by the Pennsylvania Higher Educational Facilities Authority Act of 1967 (Act. No. 318 of the General Assembly of the Commonwealth, approved December 6, 1967, as amended) (the “Act”). The Authority has no taxing power. For additional information concerning the Authority, see “THE AUTHORITY” herein.

### **The University**

The University is an independent non-sectarian research institution of higher education chartered under the laws of the Commonwealth. One of only nine colleges and universities established during the colonial period, the University is the third oldest Ivy League school. It is a privately endowed, gift-supported non-profit institution.

The University has a full-time student body of over 22,500 and a 280-acre campus in West Philadelphia (excluding the Hospital of the University of Pennsylvania) on which over 150 University buildings are situated. In addition, the Morris Arboretum in Northwestern Philadelphia encompasses 92 acres with 30 buildings, and the New Bolton Center in Chester County, Pennsylvania, consists of 600 acres with 77 buildings. The University is comprised of an academic component and a health system component known as the University of Pennsylvania Health System (the “Health System”).

APPENDIX A contains certain information on the history, organization, operations, and financial condition of the University. APPENDIX B contains the audited financial statements of the University for the fiscal years ended June 30, 2016 and June 30, 2015.

## **The Bonds**

The Bonds are authorized by resolution of the Authority adopted on December 8, 2016, and will be issued as Additional Bonds under an Indenture of Trust dated as of January 15, 1987, as previously supplemented and amended and as further supplemented and amended by a Twelfth Supplemental Indenture of Trust dated as of January 1, 2017 (collectively, and as amended and supplemented from time to time, the “Indenture”), each between the Authority and The Bank of New York Mellon Trust Company, N.A., as successor trustee thereunder (the “Trustee”). The Bonds initially will be issued in the form of one registered bond in the aggregate principal amount of each maturity thereof and will be registered in the name of Cede & Co., as nominee for The Depository Trust Company, New York, New York (“DTC”). DTC will maintain a book-entry system for recording ownership interests in the Bonds. See “BOOK-ENTRY SYSTEM” herein.

## **Plan of Financing**

The Bonds are being issued by the Authority to undertake a project (collectively, the “2017 Project”) on behalf of the University, consisting generally of (i) the payment or reimbursement of the University for costs expended in connection with various capital projects of the University, including the acquisition, construction, renovation and equipping of the Perry World House and New College House at Hill Square, construction of the Stephen A. Levin Building and construction of the Perelman Center for Political Science and Economics, and (ii) payment of the costs of issuing the Bonds.

The proceeds of the Bonds will be loaned to the University for the purposes described above pursuant to a Loan Agreement dated as of January 15, 1987, as previously supplemented and amended and as further supplemented and amended by a Twelfth Supplemental Loan Agreement dated as of January 1, 2017 (collectively, and as amended and supplemented from time to time, the “Loan Agreement”), between the Authority and the University. Under the Loan Agreement, the University will be obligated to make loan payments to the Trustee, as assignee of the Authority, in amounts and at times sufficient, among other things, to pay the principal, redemption price of, and interest on, the Bonds when due.

## **Tax Matters**

### Federal Tax Matters

In the opinion of Co-Bond Counsel, interest on the Bonds is excludable from gross income for purposes of federal income tax, assuming continuing compliance with the requirements of federal tax laws. Interest on the Bonds is not a preference item for purposes of either individual or corporate federal alternative minimum tax; however, interest paid to corporate holders of the Bonds may be indirectly subject to alternative minimum tax under circumstances described herein.

### Pennsylvania Taxes

Co-Bond Counsel is of the further opinion that the Bonds are exempt from personal property taxes in Pennsylvania and interest on the Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax under the laws of the Commonwealth of Pennsylvania as enacted and construed on the date of initial delivery of the Bonds.

For a more complete discussion of federal and state income tax matters, see “TAX MATTERS” herein.



## **Security and Sources of Payment for the Bonds**

The Bonds are limited obligations of the Authority, payable on a parity with Prior Bonds described below, and solely from (1) payments to be made by the University under the Loan Agreement and (2) certain funds held by the Trustee under the Indenture, and not from any other fund or source of the Authority. The Authority has previously issued on behalf of the University, and there are currently outstanding under the Indenture, the following series of the Authority's bonds (collectively, the "Prior Bonds"):

- The Trustees of the University of Pennsylvania Revenue Bonds, Series B of 2009, issued in the original aggregate principal amount of \$42,860,000 (of which \$8,570,000 was outstanding as of September 30, 2016);
- The Trustees of the University of Pennsylvania Revenue Bonds, Series C of 2009, issued in the original aggregate principal amount of \$28,755,000 (of which \$11,635,000 was outstanding as of September 30, 2016);
- The Trustees of the University of Pennsylvania Revenue Bonds, Series of 2010, issued in the original aggregate principal amount of \$71,410,000 (of which \$16,935,000 was outstanding as of September 30, 2016);
- The Trustees of the University of Pennsylvania Revenue Bonds, Series A of 2011, issued in the original aggregate principal amount of \$150,000,000 (of which \$11,125,000 was outstanding as of September 30, 2016);
- The Trustees of the University of Pennsylvania Revenue Bonds, Series A of 2015, issued in the original aggregate principal amount of \$205,670,000 (of which \$200,985,000 was outstanding as of September 30, 2016);
- The Trustees of the University of Pennsylvania Revenue Bonds, Series B of 2015, issued in the original aggregate principal amount of \$165,150,000 (of which \$163,795,000 was outstanding as of September 30, 2016);
- The Trustees of the University of Pennsylvania Revenue Bonds, Series C of 2015, issued in the original aggregate principal amount of \$8,020,000 (all of which was outstanding as of September 30, 2016); and
- The Trustees of the University of Pennsylvania Refunding Revenue Bonds, Series A of 2016, issued in the original aggregate principal amount of \$169,635,000 (all of which was outstanding as of September 30, 2016).

The obligation of the University to make payments under the Loan Agreement is a general, unsecured obligation of the University. The Bonds will not be secured by a pledge of gross receipts or other specified revenues of the University or by a mortgage lien on or security interest in any University property.

See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" herein.

## **Definitions and Summaries of Documents**

Definitions of certain words and terms used in the Official Statement and summaries of the Indenture and the Loan Agreement are included in APPENDIX C. Such definitions and summaries do not purport to be comprehensive or definitive. All references herein to such documents are qualified in their entirety by reference to the definitive forms of such documents, copies of which may be viewed at the office of the Trustee in Philadelphia, Pennsylvania, and will be provided to any prospective purchaser requesting the same upon payment by such prospective purchaser of the cost of complying with such request.

## **THE AUTHORITY**

The Authority is a body corporate and politic, constituting a public corporation and a governmental instrumentality of the Commonwealth, created by the Act. The Authority's address is 1035 Mumma Road, Wormleysburg, Pennsylvania 17043.

Under the Act, the Authority consists of the Governor of the Commonwealth, the State Treasurer, the Auditor General, the Secretary of Education, the Secretary of the Department of General Services, the President Pro Tempore of the Senate, the Speaker of the House of Representatives, the Minority Leader of the Senate and the Minority Leader of the House of Representatives. The President Pro Tempore of the Senate, the Speaker of the House of Representatives, the Minority Leader of the Senate and the Minority Leader of the House of Representatives may designate a member of their respective legislative bodies to act as a member of the Authority in his or her stead. The members of the Authority serve without compensation, but are entitled to reimbursement for all necessary expenses incurred in connection with the performance of their duties as members. The powers of the Authority are exercised by a governing body consisting of the members of the Authority acting as a board.

The Authority is authorized under the Act to, among other things, acquire, construct, finance, improve, maintain and operate any educational facility (as therein defined), with the rights and powers, *inter alia*: (1) to finance projects for colleges (including universities) by making loans to such colleges which may be evidenced by, and secured as provided in, loan agreements, security agreements or other contracts, leases or agreements; (2) to borrow money for the purpose of paying all or any part of the cost of construction, acquisition, financing, alteration, reconstruction and rehabilitation of any educational facility which the Authority is authorized to acquire, construct, finance, improve, install, maintain or operate under the provisions of the Act and to pay the expenses incident to the provision of such loans; and (3) to issue bonds and other obligations for the purpose of paying the cost of projects, and to enter into trust indentures providing for the issuance of such obligations and for their payment and security.

As of October 31, 2016, revenue bonds and notes of the Authority issued to finance various projects in the Commonwealth were outstanding in the amount of \$6,086,864,410. None of the revenues of the Authority with respect to its revenue bonds and notes issued for the benefit of other institutions will be pledged as security for any bonds or notes issued for the benefit of the University. Further, no revenue bonds and notes issued for the benefit of other institutions will be payable from or secured by the revenues of the Authority or other moneys securing any bonds or notes issued for the benefit of the University.

The Authority has issued, and may continue to issue, other series of bonds for the purpose of financing other projects, including other educational facilities. Each such series of bonds to the extent issued to benefit educational institutions other than the University is or will be secured by instruments separate and apart from the Indenture securing the Bonds.

The Act provides that the Authority is to obtain from the Pennsylvania State Public School Building Authority, for a fee, those executive, fiscal and administrative services which are not available from the colleges and universities, as may be required to carry out the functions of the Authority under the Act. Accordingly, the Authority and the State Public School Building Authority share an executive, fiscal and administrative staff, which currently numbers ten people, and operate under a joint administrative budget.

The following are key staff members of the Authority who are involved in the administration of the financings and projects:

**Robert Baccon**  
**Executive Director**

Mr. Baccon has served as an executive of both the Authority and the State Public School Building Authority since 1984. He is a graduate of St. John's University with a bachelor's degree in management and holds a master's degree in international business from the Columbia University Graduate School of Business. Prior to his present post, Mr. Baccon held financial management positions with multinational U.S. corporations and was Vice President - Finance for a major highway construction contractor.

**David Player**  
**Comptroller & Director of Financial Management**

Mr. Player serves as the Comptroller & Director of Financial Management of both the Authority and the State Public School Building Authority. He has been with the Authority and the State Public School Building Authority since 1999. Prior to his present post, he served as Senior Accountant for both authorities and as an auditor with the Pennsylvania Department of the Auditor General. Mr. Player is a graduate of The Pennsylvania State University with a bachelor's degree in accounting. He is a Certified Public Accountant and Certified Internal Auditor.

**Beverly M. Nawa**  
**Administrative Officer**

Mrs. Nawa has served as the Administrative Officer of both the Authority and the State Public School Building Authority since August 2004. She is a graduate of Alvernia College with a bachelor's degree in business administration. Prior to her present employment, Mrs. Nawa served as an Audit Senior and an Accounting Systems Analyst with the Pennsylvania Department of the Auditor General.

THE AUTHORITY HAS NOT PREPARED OR ASSISTED IN THE PREPARATION OF THIS OFFICIAL STATEMENT, EXCEPT THE STATEMENTS UNDER THIS SECTION AND UNDER THE HEADING "LITIGATION – THE AUTHORITY," AND, EXCEPT AS AFORESAID, THE AUTHORITY DISCLAIMS RESPONSIBILITY FOR THE DISCLOSURES SET FORTH HEREIN MADE IN CONNECTION WITH THE OFFER, SALE, AND DISTRIBUTION OF THE BONDS.

## **PLAN OF FINANCING**

### **2017 Project**

The Bonds are being issued by the Authority to undertake the 2017 Project consisting generally of (i) the payment or reimbursement of the University for costs expended in connection with various capital projects of the University, including the acquisition, construction, renovation and equipping of the

Perry World House and New College House at Hill Square, construction of the Stephen A. Levin Building and construction of the Perelman Center for Political Science and Economics, and (ii) payment of the costs of issuing the Bonds.

### **Estimated Sources and Applications of Funds**

The following sets forth the estimated sources and uses of funds in connection with the 2017 Project:

#### **Sources of Funds:**

Principal Amount of the Bonds .....	\$178,395,000
Net Original Issue Premium.....	<u>22,462,522</u>
Total Estimated Sources of Funds .....	<u>\$200,857,522</u>

#### **Applications of Funds:**

Capital Project Costs .....	\$200,000,000
Costs of Issuance <sup>(1)</sup> .....	<u>857,522</u>
Total Estimated Applications of Funds .....	<u>\$200,857,522</u>

<sup>(1)</sup> Includes Underwriters' discount, counsel fees (including Co-Bond Counsel, Underwriters' counsel and Authority's counsel), rating agency fees, Trustee and paying agent fees, accountant fees and other expenses related to issuance of the Bonds, printing costs, and miscellaneous fees and expenses of the Authority.

### **DESCRIPTION OF THE BONDS**

#### **Description of the Bonds**

The Bonds are dated as indicated on the cover page hereof and will bear interest from such date at the rates set forth on the inside front cover page hereof, payable semiannually on February 15 and August 15 of each year, commencing August 15, 2017, until maturity or prior redemption, and will mature on the dates and in the amounts set forth on the inside front cover page of this Official Statement.

Interest on the Bonds will be paid on each Interest Payment Date by check or draft mailed to the persons in whose name the Bonds are registered on the registration books of the Authority (the "Bond Register") maintained by the Trustee at the address appearing thereon on the close of business on the first day (whether or not a Business Day) of the calendar month immediately preceding any Interest Payment Date (the "Regular Record Date"). Any such interest not so paid or duly provided for shall cease to be payable to the persons who are registered owners of the Bonds as of the Regular Record Date and will be payable to the persons who are registered owners of the Bonds at the close of business on the fifteenth day (the "Special Record Date") preceding the special payment date (the "Special Payment Date"), which will be the date fixed by the Trustee for the payment of defaulted interest whenever moneys become available for such payment. The principal of, premium, if any, and interest on the Bonds are payable in any legal tender which at the time of payment constitutes lawful money of the United States of America.

DTC will act as securities depository under a book-entry system for the Bonds. Unless such system is discontinued, the provisions described below under "BOOK-ENTRY SYSTEM" (including provisions regarding payments to and transfers by the owners of beneficial interests in the Bonds) will be applicable to the Bonds. See "BOOK-ENTRY SYSTEM" below.

The Indenture and the Loan Agreement and all provisions thereof are incorporated by reference in the text of the Bonds, and the Bonds provide that each registered owner, beneficial owner and Direct or Indirect Participant (as hereinafter defined) in DTC, by acceptance of a Bond (including receipt of a book-entry credit evidencing an interest therein), assents to all of the provisions of the Indenture and the Loan Agreement as an explicit and material part of the consideration running to the Authority to induce it to issue the Bonds. Copies of the Indenture and the Loan Agreement, including the full text of the form of the Bonds, are on file at the corporate trust office of the Trustee in Philadelphia, Pennsylvania.

### **Optional Redemption**

The Bonds maturing on and after August 15, 2027, are subject to optional redemption prior to maturity by the Authority, at the direction of the University, at any time on or after February 15, 2027, in whole or in part, at a redemption price equal to one hundred percent (100%) of the principal amount thereof, plus interest accrued to the redemption date. Any partial redemption of the Bonds may be in any order of maturity within and in any principal amount (in authorized denominations) within a maturity as designated by the University.

### **Mandatory Redemption**

The Bonds maturing on August 15, 2041, and August 15, 2046, will be subject to mandatory sinking fund redemption at a redemption price equal to 100% of the principal amount thereof on August 15 of the years and in the amounts set forth below.

<u>Bonds Maturing August 15, 2041</u>		<u>Bonds Maturing August 15, 2046</u>	
<u>Year</u>		<u>Year</u>	
<u>(August 15)</u>	<u>Amount</u>	<u>(August 15)</u>	<u>Amount</u>
2037	\$8,285,000	2042	\$10,080,000
2038	8,615,000	2043	10,585,000
2039	8,960,000	2044	11,115,000
2040	9,320,000	2045	11,670,000
2041*	9,690,000	2046*	12,250,000

\* Final maturity date.

The principal amount of the Bonds otherwise required to be redeemed by mandatory sinking fund redemption as described above may be reduced by the principal amount of the Bonds previously called for optional redemption or theretofore delivered to the Trustee by the University in lieu of cash payments under the Loan Agreement or purchased by the Trustee out of moneys in the Bond Fund established under the Indenture and which have not theretofore been applied as a credit against any sinking fund installment, in either case in such order of sinking fund installments as the University may direct.

### **Notice of Redemption**

Notice of any redemption, identifying the Bonds or portions thereof to be redeemed, will be given not less than 30 days nor more than 45 days prior to the redemption date, by first class (postage paid) to the registered owners of the Bonds to be redeemed at their registered addresses as shown on the Bond Register. Failure to mail any such notice or any defect in the mailed notice or the mailing thereof to any registered owner of a Bond will not affect the validity of the redemption proceedings as to the registered owner of any other Bond. No further interest will accrue on the principal of any Bonds called for redemption after the date fixed for redemption if payment of the redemption price thereof has been duly

provided for, and the registered owners of such Bonds will have no rights with respect to such Bonds except to receive payment of the redemption price thereof and unpaid interest accrued to the date fixed for redemption.

If at the time of mailing of any notice of redemption, the Authority shall not have deposited with the Trustee monies sufficient to redeem all the Bonds called for redemption, such notice may state that such redemption is conditional, that is, is subject to the deposit of the redemption monies with the Trustee not later than the opening of business on the date fixed for redemption and shall be of no effect unless such monies are so deposited.

So long as DTC or its nominee is the registered owner of the Bonds, any failure on the part of DTC or failure on the part of a nominee of a Beneficial Owner (having received notice from a Participant or otherwise) to notify the Beneficial Owner affected by any redemption of such redemption shall not affect the validity of the redemption.

### **Selection of Bonds to be Redeemed**

If less than all of the Bonds of a particular maturity are called for redemption, the Trustee shall select the Bonds of such maturity to be redeemed from the Bonds of such maturity Outstanding and not previously called for redemption by lot; provided, however, that, if the Bonds are registered in book-entry only form and so long as DTC or a successor securities depository is the sole Holder of such Bonds, if less than all of the Bonds of a particular maturity are called for redemption, the selection for redemption of such Bonds shall be made in accordance with the operational arrangements of DTC then in effect.

For a discussion of the operational arrangements of DTC, see “BOOK-ENTRY SYSTEM” below.

### **Defeasance**

If the Authority deposits with the Trustee funds, evidenced by moneys and/or Defeasance Investments (as defined in APPENDIX C) the principal of and interest on which, when due, will be sufficient to pay the principal or redemption price of any Bonds, by call for redemption or otherwise, together with interest accrued to the due date or the redemption date, as appropriate, in accordance with the terms of the Indenture, such Bonds shall no longer be deemed to be Outstanding under the Indenture. Interest on such Bonds, as appropriate, will cease to accrue on the due date or the redemption date, as appropriate, and from and after the date of such deposit of funds with the Trustee the holders of the Bonds will be restricted to the funds so deposited as provided in the Indenture.

## **BOOK-ENTRY SYSTEM**

The Bonds will be issued in book-entry form. DTC 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 the Bonds of each maturity thereof in the aggregate principal amount thereof, and will be deposited with DTC.

The University and the Authority cannot and do not give any assurances that DTC will distribute to Direct Participants or that Direct Participants or others will distribute to the Beneficial Owners payments of principal of and interest and premium, if any, on the Bonds or any redemption or other notices or that they will do so on a timely basis or will serve and act in the manner described in this

Official Statement. Neither the University nor the Authority is responsible or liable for the failure of DTC or any Direct Participant or Indirect Participant to make any payments or give any notice to a Beneficial Owner with respect to the Bonds or any error or delay relating thereto.

DTC, the world's largest 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. 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 ("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 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](http://www.dtcc.com).

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 a 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 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 which 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. Beneficial Owners of Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Bond documents. For example,

Beneficial Owners of Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of the notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Bonds of a particular maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in the Bonds to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to 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. consenting or voting right to those Direct Participants to whose accounts Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, premium 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 the 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 Participants and not of DTC, the Trustee, the University or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, premium and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Authority, the University or 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 the Trustee. Under such circumstances, in the event that a successor securities 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 and the University believe to be reliable, but neither the Authority nor the University take responsibility for the accuracy thereof.

**The Authority and the University cannot and do not give any assurances that DTC will distribute to Direct Participants or that Direct Participants or others will distribute to the Beneficial Owners payments of principal of and interest and premium, if any, on the Bonds paid or any redemption or other notices or that they will do so on a timely basis or will serve and act in the manner described in this Official Statement. Neither the Authority nor the University is responsible or liable for the failure of DTC or any Direct Participant or Indirect Participant to make any payments or give any notice to a Beneficial Owner with respect to the Bonds or any error or delay related thereto.**



None of the Authority, the Underwriters, the Trustee, or the University will have any responsibility or obligations to any Direct Participants or Indirect Participants or to any Beneficial Owner with respect to (i) the accuracy of any records maintained by DTC, any Direct Participant, or any Indirect Participant; (ii) the payment by DTC, any Direct Participant, or any Indirect Participant of any amount with respect to the principal of or premium, if any, or interest on the Bonds; (iii) any notice that is permitted or required to be given to holders of the Bonds under the Indenture, (iv) the selection by DTC, any Direct Participant, or any Indirect Participant of any person to receive payment in the event of a partial redemption of the Bonds; (v) any consent given or other action taken by DTC as holder of the Bonds; or (vi) any other procedures or obligations of DTC, Direct Participants or Indirect Participants under the book-entry system.

## **SECURITY AND SOURCES OF PAYMENT FOR THE BONDS**

### **Limited Obligations**

The Bonds are limited obligations of the Authority. Neither the general credit of the Authority nor the credit or the taxing power of the Commonwealth or any political subdivision thereof is pledged for the payment of the principal of, premium, if any, or interest on the Bonds, nor shall the Bonds be or be deemed to be general obligations of the Authority or obligations of the Commonwealth or any political subdivision thereof, nor shall the Commonwealth or any political subdivision thereof be liable for the payment of the principal of, premium, if any, or interest on the Bonds. The Authority has no taxing power.

### **The Indenture**

The Bonds will be issued under and pursuant to the Indenture and will be payable thereunder equally and ratably with the Prior Bonds. Additional Bonds may be issued under the Indenture, payable thereunder equally and ratably secured with the Prior Bonds and the Bonds, to pay the cost of any capital additions or to refund bonds or other indebtedness. The Indenture provides that all bonds issued thereunder are limited obligations of the Authority, payable only from and secured by sums payable under the Loan Agreement and amounts held in funds and accounts created under the Loan Agreement or the Indenture. The Authority has pledged to the Trustee the payments received or receivable by the Authority from the University pursuant to the Loan Agreement, and all income and receipts earned on funds held by the Trustee under the Indenture and the Loan Agreement, as security for the performance of the obligations of the Authority under the Indenture, including payments due on the Bonds, the Prior Bonds and any Additional Bonds.

See APPENDIX C hereto for a description of the Indenture.

### **The Loan Agreement**

Under the Loan Agreement, the Authority will loan the proceeds of the Bonds to the University for the purpose of undertaking the 2017 Project. The Loan Agreement is an unsecured general obligation of the University to which the full faith and general credit of the University are pledged. Such pledge shall remain in full force and effect until the Prior Bonds, the Bonds and all Additional Bonds and the interest thereon have been duly paid or otherwise discharged. The University will pay in immediately available funds to the Trustee, as assignee of the Authority as to the loan payments under the Loan Agreement, for deposit into the Bond Fund established under the Indenture, on or before each Interest Payment Date, an amount which, together with other available funds on deposit with the Trustee in the Bond Fund, is sufficient to pay the interest and principal or redemption price on the Bonds due and

payable on such date. The Loan Agreement provides that the University shall pay all loan payments and additional payments without notice or demand, and without abatement, deduction, set-off, counterclaim, recoupment or defense or any right of termination or cancellation arising from any circumstances whatsoever.

The Bonds will not be secured by a pledge of gross receipts or other specified revenues of the University or by a mortgage lien on or security interest in any University property.

The Loan Agreement does not limit or restrict the ability of the University to incur future indebtedness, nor does it limit or restrict the ability of the University to grant any liens or to pledge or assign any property of the University, including its future revenues, as security for the payment of future indebtedness. Accordingly, the University may incur debt in the future without limit and may secure the payment of such future debt with all or any part of the University's assets, including its future revenues. In the event the University were to incur secured debt in the future, upon a default by the University with respect to the Bonds, holders of the Bonds would have no claim upon or right to payment from any property securing any future secured debt unless such secured debt were first paid in full. Currently, none of the existing long-term, general obligation debt of the University is secured by a lien on any assets or a pledge of any revenues or other property of the University with the exception of various capital equipment leases and certain mortgage loans incurred by affiliated entities of the University. However, most of the long-term debt of the Health System is secured by a pledge of the gross revenues of the Health System. For a more complete discussion of the University's outstanding long-term debt, see "INDEBTEDNESS OF THE UNIVERSITY" in APPENDIX A hereto.

See APPENDIX C hereto for a description of the Loan Agreement.

### **University of Pennsylvania Health System**

The University of Pennsylvania Health System consists of certain operating divisions of the University and affiliated entities, including the Presbyterian Medical Center of the University of Pennsylvania Health System d/b/a Penn Presbyterian Medical Center, Pennsylvania Hospital of the University of Pennsylvania Health System, The Chester County Hospital and Health System, The Lancaster General Hospital, Wissahickon Hospice, Clinical Care Associates of the University of Pennsylvania Health System, Lancaster General Health and other health-related enterprises. The University and other members of the Health System have entered into a Master Trust Indenture securing certain indebtedness issued for the benefit of the operating divisions and entities comprising the Health System. The indebtedness issued under the Master Trust Indenture is payable solely from, and secured by a pledge of, the revenues of the "Obligated Group" established under the Master Trust Indenture, and the general credit of the University is not pledged to its payment. As of September 30, 2016, the principal amount of the total long-term debt of the Health System was \$1,503,614,000 generally representing obligations limited to one or more components of the Health System, including \$1,253,214,000 principal amount of debt secured by notes issued under the Master Trust Indenture.

For a more complete description of the Health System, see "THE UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEM" in APPENDIX A hereto.

### **No Recourse Against Members of the Authority**

No recourse shall be had for payment of the principal of or interest or premium, if any, on the Bonds, or for any claims based on the Bonds or on the Indenture or any indenture supplemental thereto, against any member, officer or employee, past, present or future, of the Authority, or of any successor corporation, as such, either directly or through the Authority or any such successor corporation, whether

by virtue of any constitutional provision, statute or rule of law, or by the enforcement of any assessment or penalty, or otherwise, all such liability of such members, officers or employees being released as a condition of and as consideration for the execution of the Indenture and the issuance of the Bonds.

## **TAX MATTERS**

### **Federal Tax Matters**

General. Concurrently with the issuance of the Bonds, Co-Bond Counsel will deliver its opinion to the effect that, under existing law as enacted and construed on the date of initial delivery of such Bonds, interest on the Bonds is excludable from gross income for purposes of federal income tax, assuming the accuracy of the certifications of the Authority and the University and continuing compliance by the Authority and the University with the requirements of the Internal Revenue Code of 1986, as amended (the "Code"). Interest on the Bonds is not a tax preference for purposes of either individual or corporate federal alternative minimum tax; however, interest on the Bonds held by a corporation (other than an S corporation, regulated investment company, or real estate investment trust) may be indirectly subject to federal alternative minimum tax because of its inclusion in the adjusted current earnings of a corporate holder. Co-Bond Counsel expresses no opinion regarding other federal tax consequences relating to ownership or disposition of, or the accrual or receipt of interest on, the Bonds.

The Code establishes requirements that must be complied with subsequent to the issuance of the Bonds for interest thereon to be and remain excluded from gross income pursuant to Section 103 of the Code. Failure to comply with these requirements could cause the interest on the Bonds to be included in gross income, retroactive to the date of issue of the Bonds or at some later date. The requirements include, but are not limited to, the provisions of Section 148 of the Code which prescribes yield and other limits within which the proceeds of the Bonds are to be invested and may require that certain investment earnings on the foregoing be rebated on a periodic basis to the United States. The University and the Authority have covenanted to comply with the provisions of the Code.

Original Issue Premium. The initial public offering prices of the Bonds indicated on the inside front cover page hereof are greater than the principal amount thereof (the "Premium Bonds"). The difference between the stated principal amount of any Premium Bond and the public offering price thereof is "original issue premium." For federal income tax purposes, original issue premium is amortizable periodically over the term of a Premium Bond through reductions in the holder's tax basis for such Bond for determining taxable gain or loss from sale or from redemption prior to maturity. Amortization of premium does not create a deductible expense or loss. Holders should consult their tax advisors for an explanation of the amortization rules.

Information Reporting and Backup Withholding. A person making payments of tax-exempt interest to a bondholder is generally required to make an information report of the payments to the Internal Revenue Service and to perform "backup withholding" from the interest if the bondholder does not provide an IRS Form W-9 to the payor. "Backup withholding" means that the payor withholds tax from the interest payments at the backup withholding rate, currently 28%. Form W-9 states the bondholder's taxpayer identification number or basis of exemption from backup withholding.

If a holder purchasing a Bond through a brokerage account has executed a Form W-9 in connection with the account, as generally can be expected, there should be no backup withholding from the interest on the Bond.

If backup withholding occurs, it does not affect the excludability of the interest on the Bonds from gross income for Federal income tax purposes. Any amounts withheld pursuant to backup withholding would be allowed as a refund or a credit against the owner's Federal income tax once the required information is furnished to the Internal Revenue Service.

### **Pennsylvania Tax Exemption**

Co-Bond Counsel will also deliver an opinion to the effect that, under existing law as enacted and construed on the date of initial delivery of the Bonds, the Bonds are exempt from personal property taxes in Pennsylvania, and interest on the Bonds is exempt from the Pennsylvania personal income tax and the Pennsylvania corporate net income tax.

### **Changes in Federal and State Tax Law**

From time to time, there are legislative proposals in the Congress and in the states that, if enacted, could alter or amend the federal and state tax matters referred to herein or adversely affect the market value of the Bonds. It cannot be predicted whether or in what form any such proposal might be enacted or whether if enacted it would apply to bonds issued prior to enactment. In addition, regulatory actions are from time to time announced or proposed and litigation is threatened or commenced which, if implemented or concluded in a particular manner, could adversely affect the market value of the Bonds. It cannot be predicted whether any such regulatory action will be implemented, how any particular litigation or judicial action will be resolved, or whether the Bonds or the market value thereof would be impacted thereby. Purchasers of the Bonds should consult their tax advisors regarding any pending or proposed legislation, regulatory initiatives or litigation.

### **Other**

The foregoing summary is included herein for general information only and does not discuss all aspects of United States federal taxation that may be relevant to a particular holder of Bonds in light of the holder's particular circumstances and income tax situation. Prospective investors are urged to consult their own tax advisors as to any tax consequences to them from the purchase, ownership and disposition of Bonds, including the application and effect of state, local, non-U.S., and other tax laws.

## **LEGAL MATTERS**

Legal matters incident to the authorization, issuance, and sale of the Bonds will be passed upon by Ballard Spahr LLP and Andre C. Dasent, P.C., each of Philadelphia, Pennsylvania, Co-Bond Counsel. The proposed form of Co-Bond Counsel's opinion with respect to the Bonds is included in APPENDIX D hereto. Certain legal matters will be passed upon for the Authority by its counsel, Barley Snyder LLP, Lancaster, Pennsylvania; for the University by Wendy S. White, Esquire, Senior Vice President and General Counsel of the University; and for the Underwriters by their counsel, Drinker Biddle & Reath LLP, Philadelphia, Pennsylvania.

Ballard Spahr LLP, which is acting as Co-Bond Counsel in connection with the Bonds, and Drinker Biddle & Reath LLP, which is acting as counsel to the Underwriters in connection with the Bonds, each periodically provide general legal services to the University unrelated to the issuance of the Bonds.

## **INDEPENDENT ACCOUNTANTS**

The financial statements of the University as of June 30, 2016 and June 30, 2015 and for the fiscal years then ended included in APPENDIX B to this Official Statement have been audited by PricewaterhouseCoopers LLP, independent accountants, as stated in their report appearing in APPENDIX B hereto.

## **RATINGS**

Moody's Investors Service ("Moody's") and S&P Global Ratings ("S&P") have assigned the Bonds long-term municipal bond ratings of "Aa1" and "AA+", respectively. Any explanation of the significance of any ratings may only be obtained from the rating agency furnishing the same.

The University has furnished to the rating agencies certain information and material concerning the Bonds and itself. Generally, rating agencies base their ratings on this information and materials and on investigations, studies and assumptions made by the rating agencies themselves. There is no assurance that the ratings initially assigned to any of the Bonds will be maintained for any given period or time or that such ratings may not be revised downward or withdrawn entirely by a rating agency if, in its judgment, circumstances so warrant. None of the University, the Authority or the Underwriters have undertaken any responsibility to bring to the attention of the holders of the Bonds any proposed revision or withdrawal of the rating of the Bonds or to oppose any such proposed revision or withdrawal. Any downward change in or the withdrawal of any such rating might have an adverse effect on the market price or marketability of the Bonds to which it applies.

## **UNDERWRITING**

Pursuant to the provisions of a bond purchase contract among the Authority, the University and Morgan Stanley & Co. LLC, as representative, on behalf of itself and the underwriters listed on the cover page of this Official Statement (the "Underwriters"), the Underwriters have agreed, subject to certain conditions, to purchase the Bonds from the Authority at an aggregate discount of \$456,492.60 from the initial public offering prices indicated on the inside front cover page of this Official Statement. The Underwriters will be obligated to purchase all of the Bonds if any are purchased. The public offering prices may be changed, from time to time, by the Underwriters. The Bonds may be offered and sold to certain dealers (including the Underwriters and other dealers depositing the Bonds into investment trusts) at prices lower than such public offering price.

The bond purchase contract for the Bonds requires the University to indemnify the Authority and the Underwriters against certain liabilities relating to this Official Statement.

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 activities. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for 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 their respective 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 University.

Morgan Stanley, parent company of Morgan Stanley & Co. LLC, one of the Underwriters of the Bonds, has entered into a retail distribution with its affiliate Morgan Stanley Smith Barney LLC. As part of this arrangement, Morgan Stanley & Co. LLC may distribute municipal securities to retail investors through the financial advisor network of Morgan Stanley Smith Barney LLC. As part of this arrangement, Morgan Stanley & Co. LLC may compensate Morgan Stanley Smith Barney LLC for its selling efforts with respect to the Bonds.

Loop Capital Markets LLC ("LCM"), one of the Underwriters of the Bonds, has entered into a distribution agreement ("LCM Distribution Agreement") with UBS Financial Services Inc. ("UBSFS") for the retail distribution of certain securities offerings at the original issue prices. Pursuant to the LCM Distribution Agreement, UBSFS will purchase Bonds from LCM at the original issue prices less a negotiated portion of the selling concession applicable to any Bonds that UBSFS sells.

Wells Fargo Securities is the trade name for certain securities-related capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Bank, National Association ("WFBNA"), which conducts its municipal securities sales, trading and underwriting operations through the Wells Fargo Bank, NA Municipal Products Group, a separately identifiable department of WFBNA, registered with the Securities and Exchange Commission as a municipal securities dealer pursuant to Section 15B(a) of the Securities Exchange Act of 1934. WFBNA, acting through the Municipal Products Group, the senior underwriter of the Bonds, has entered into an agreement (the "WFA Distribution Agreement") with its affiliate, Wells Fargo Advisors, LLC ("WFA"), for the distribution of certain municipal securities offerings, including the Bonds. Pursuant to the WFA Distribution Agreement, WFBNA will share a portion of its underwriting or remarketing agent compensation, as applicable, with respect to the Bonds with WFA. WFBNA has also entered into an agreement (the "WFSLLC Distribution Agreement") with its affiliate Wells Fargo Securities, LLC ("WFSLLC"), for the distribution of municipal securities offerings, including the Bonds. Pursuant to the WFSLLC Distribution Agreement, WFBNA pays a portion of WFSLLC's expenses based on its municipal securities transactions. WFBNA, WFSLLC, and WFA are each wholly-owned subsidiaries of Wells Fargo & Company.

## **LEGALITY OF THE BONDS FOR INVESTMENT AND DEPOSIT**

Under the Act, the bonds of the Authority (including the Bonds) are made securities in which all officers of the Commonwealth and its political subdivisions and municipal officers and administrative departments, boards and commissions of the Commonwealth, all banks, bankers, savings banks, trust companies, savings and loan associations, investment companies, and other persons carrying on a banking business, all insurance companies, insurance associations, and other persons carrying on an insurance business, and all administrators, executors, guardians, trustees and other fiduciaries, and all other persons whatsoever who are authorized to invest in bonds or other obligations of the Commonwealth, may properly and legally invest any funds, including capital belonging to them or within their control, and the bonds of the Authority (including the Bonds) are made securities which may properly and legally be deposited with, and received by, any State or municipal officers or agency of the Commonwealth for any purpose for which the deposit of bonds or other obligations of the Commonwealth is authorized by law.

## **NEGOTIABILITY**

Under the Act, the Bonds have all the qualities of negotiable instruments under the law merchant and the laws of the Commonwealth relating to negotiable instruments.

## **LITIGATION**

### **The Authority**

There is no litigation of any nature pending or, to the Authority's knowledge, threatened against the Authority at the date of this Official Statement to restrain or enjoin the issuance, sale, execution or delivery of the Bonds, or in any way contesting or affecting the validity of the Bonds or any proceedings of the Authority taken with respect to the issuance or sale thereof, or the pledge or application of any moneys or the security provided for the payment of the Bonds or the existence or powers of the Authority.

### **The University**

There are various legal actions pending against the University, which have arisen in the ordinary course of the University's business. In the opinion of University's management, any adverse decisions will not have a material adverse effect on the University's current business, financial position or operations. See "LITIGATION" in APPENDIX A hereto.

## **CONTINUING DISCLOSURE**

At the time of issuance of the Bonds, the University will enter into a Continuing Disclosure Agreement (the "Disclosure Agreement") with the Trustee for the benefit of the holders of the Bonds as required to enable the Underwriters to comply with their obligations under Rule 15c2-12 of the Securities and Exchange Commission (the "Rule"). Under the Disclosure Agreement, the University will covenant to provide, through the Electronic Municipal Market Access ("EMMA") system of the Municipal Securities Rulemaking Board ("MSRB"), the following:

- within 150 days of the end of each fiscal year of the University, a copy of its annual financial statements prepared in accordance with generally accepted accounting principles and audited by a certified public accountant, together with an update of the financial information and operating data set forth in Appendix A hereto under the following headings: "Undergraduate Student Applications and Enrollment;" "Tuition and Fees;" "Student Financial Aid;" "Contributions;" "Sponsored Research;" "Endowment;" "Endowment Spending Policy;" "Investment Policy;" "Investment Performance;" and "Health System's Financial and Operating Summary;" and
- in a timely manner, but not in excess of ten business days after the occurrence of the event, notice of the occurrence of any of the following events with respect to the Bonds: principal and interest payment delinquencies; nonpayment related defaults, if material; unscheduled draws on debt service reserves reflecting financial difficulties; unscheduled draws on credit enhancements reflecting financial difficulties; substitution of credit or liquidity providers, or their failure to perform; adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, or a Notice of Proposed Issue (IRS Form 5701-TEB) or other material notices of determinations with respect to tax status of the Bonds, or other events affecting the tax status of the Bonds; modifications to rights of registered owners of the Bonds, if

material; bond calls (excluding mandatory sinking fund redemptions) and tender offers; defeasances; release, substitution or sale of property securing repayment of the Bonds, if material; rating changes; bankruptcy, insolvency, receivership, or similar proceeding by the University; consummation of a merger, consolidation, acquisition involving the University, or sale of all or substantially all of the assets of the University, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and appointment of an additional or a successor trustee, or the change in name of a trustee, if material.

The Disclosure Agreement may be amended by the University, in its discretion, in any particular way permitted by the Rule. In addition, the University reserves the right (i) to modify from time to time the specific types of information provided or the format of the presentation of its annual financial information and other operating data, to the extent necessary or appropriate in the judgment of the University, and (ii) upon prior written notice to EMMA to amend or terminate any or all of its continuing disclosure covenants for any reason if permitted to do so under the Rule. Any such amendment or modification must be supported by an opinion of counsel expert in federal securities law addressed to the University and the Trustee, to the effect that such amendment or modification would not, in and of itself, cause the undertaking of the University under the Disclosure Agreement to violate the Rule if such amendment or modification had been effective on the date of the Disclosure Agreement but taking into account any subsequent change in an official interpretation of the Rule.

In the event of a breach or default by the University of its covenants to provide information and notices as specified in the Disclosure Agreement, the Trustee or any record or beneficial owner of the Bonds may, but is not be required, to bring an action in a court of competent jurisdiction to compel specific performance by the University. No monetary damages may be recovered under any circumstances for any breach or default by the University of its covenants under the Disclosure Agreement. A breach or default under the Disclosure Agreement shall not constitute an event of default with respect to the Bonds or the Indenture or the Loan Agreement.

The University has entered into similar disclosure agreements in accordance with the Rule in connection with prior debt obligations issued on behalf of the University, including bonds issued on behalf of the University of Pennsylvania Health System. Such information may be available to investors so long as the University is obligated to provide such information as part of its other undertakings.

In connection with the University becoming the sole corporate member of The Chester County Hospital and Health System ("TCCHHS") effective September 1, 2013 and TCCHHS becoming a member of the Obligated Group of the University of Pennsylvania Health System on June 12, 2014, the University filed an event notice with EMMA on February 12, 2015, which was more than the required 10 business days after the underlying event if the University considered the event material for purposes of various continuing disclosure agreements entered into with respect to bonds issued for the benefit of the University and the Health System. In the event notice for the above-described acquisition, the University did not express a view as to whether the transaction was material. The University is currently in compliance in all material respects with its previous undertakings with regard to continuing disclosure for prior obligations issued. Further, the University has reviewed its disclosure policies and procedures to ensure that the University will be in compliance with continuing disclosure undertakings in the future.

The Authority is not a party to the Continuing Disclosure Agreement, and is not required to provide disclosure regarding its financial condition because, among other things, its financial condition is not material to an investment in the Bonds. In addition, the Authority has no responsibility for the



University's compliance with the Disclosure Agreement or for the information provided by the University thereunder.

### **CERTAIN RELATIONSHIPS**

Certain Trustees of the University have affiliations with firms participating in the issuance and sale of the Bonds, as follows:

- Hon. Thomas W. Wolf, Governor of the Commonwealth of Pennsylvania and an *ex officio* Trustee of the University, is a Board Member and President of the Pennsylvania Higher Educational Facilities Authority.
- Mr. Mark O. Winkelman is an Emeritus Trustee of the University. Mr. Winkelman was formerly a Senior Director of Goldman, Sachs & Co, from 1999 to 2014, and currently serves on the board of directors of The Goldman Sachs Group, Inc.

For a description of the University's comprehensive conflict-of-interest policy, see "THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA -- Transactions between the University and Members of its Board of Trustees" in APPENDIX A hereto.

### **MISCELLANEOUS**

The distribution of this Official Statement in connection with the offering of the Bonds has been duly approved by the Authority and the University. This Official Statement is not to be construed as a contract or agreement between the Authority or the University and the purchasers or holders of any Bonds.

All of the summaries of the provisions of the Act, the Indenture, the Loan Agreement and of the Bonds set forth herein are only brief outlines of certain provisions thereof and are made subject to all of the detailed provisions thereof, to which reference is hereby made for further information, and do not purport to be complete statements of any or all such provisions of such document.

The Bonds have not been recommended by any federal or state securities commission or regulatory authority. Furthermore, the foregoing authorities have not confirmed the accuracy or determined the adequacy of this document. Any representation to the contrary is a criminal offense.

Information concerning the University and the 2017 Project to be financed by the Bonds has been provided by the University. All estimates, projections, and assumptions herein have been made on the best information available and are believed to be reliable, but no representations whatsoever are made that such estimates, projections, or assumptions are correct or will be realized. So far as any statements herein involve matters of opinion, whether or not expressly so stated, they are intended merely as such and not as representations of fact.

The Authority has not assisted in the preparation of this Official Statement, except for the statements under the sections captioned "THE AUTHORITY" and "LITIGATION - The Authority" herein and, except for those sections, the Authority is not responsible for any statements made in this Official Statement. Except for the authorization, execution, and delivery of documents required to effect the issuance of the Bonds, the Authority assumes no responsibility for the disclosures set forth in this Official Statement.

PENNSYLVANIA HIGHER EDUCATIONAL  
FACILITIES AUTHORITY

By: /s/ Robert Baccon  
Robert Baccon  
Executive Director

**Approved:**

THE TRUSTEES OF THE UNIVERSITY  
OF PENNSYLVANIA

By: /s/ MaryFrances McCourt  
MaryFrances McCourt  
Vice President for Finance and Treasurer

**APPENDIX A**

**INFORMATION CONCERNING  
THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA**

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### CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements included or incorporated by reference in this Appendix A constitute projections or estimates of future events, generally known as forward-looking statements. These statements are generally identifiable by the terminology used such as “plan,” “expect,” “estimate,” “budget” or other similar words. These forward-looking statements include, among others, the information under the caption “UNIVERSITY FINANCIAL DATA” in this Appendix A.

The achievement of certain results or other expectations in these forward-looking statements involves known and unknown risks, uncertainties and other factors which may cause actual results, performance or achievements described to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. The University does not plan to issue any updates or revisions to those forward-looking statements if or when changes in its expectations, or events, conditions or circumstances on which these statements are based occur.

## THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

*The information set forth in this Appendix A is intended to provide certain information regarding The Trustees of the University of Pennsylvania (the “University”) and the University of Pennsylvania Health System.*

### General

The Trustees of the University of Pennsylvania (the “University” or “Penn”) is an independent non-sectarian research institution of higher education chartered under the laws of the Commonwealth of Pennsylvania (the “Commonwealth”). One of only nine colleges and universities established during the colonial period, the University is the third oldest Ivy League school. It is a privately endowed, gift-supported non-profit corporation and is exempt from federal income taxes as an organization described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (the “Code”).

The University has a long history of innovation. Unique among its colonial peers in its departure from the traditional ecclesiastical curriculum, the University established the first liberal arts curriculum, combining for the first time a scientific and classical education and offering such new fields of study as modern languages, physics, mathematics, history, and economics. As the nation’s first university, it introduced the concept of a multi-disciplinary education. It founded the nation’s first School of Medicine in 1765, marking the beginning of formal medical education in North America, and the nation’s first hospital established by a medical school.

The first professorships in botany and chemistry in the United States were established at the University. Benjamin Rush, a chemistry professor, joined the medical faculty in 1769 and published the first book on insanity in the United States, pioneering the study of mental disease. The Wharton School of Finance and Commerce, the first collegiate school of business, opened in 1881. In 1896, the world’s first psychology clinic opened at the University. During World War II, ENIAC, the original large-scale, all-electronic digital computer, which was the forerunner of the computer industry, was designed and built at the Moore School of Electrical Engineering. The Piersol Rehabilitation Center, founded in 1959, was the first rehabilitation center in the City of Philadelphia (the “City”).

The University continues this pioneering tradition today in fields as diverse as cancer research, genomics, gene therapy, digital media design, cognitive science, materials science, aging, biotechnology, bioethics, neuroscience, demography, management and technology, bioinformatics and computational biology, nanotechnology, translational research and public policy. The Penn Compact – a mission statement articulated at the 2004 inauguration of President Amy Gutmann – has propelled the University from excellence to eminence by advancing its core endeavors of teaching, research and service. It focused on increasing access to the University’s exceptional intellectual resources; integrating knowledge across academic disciplines with emphasis on innovative understanding and discovery; and engaging locally, nationally, and globally to bring the benefits of Penn’s research, teaching, and service to individuals and communities at home and around the world. The University’s Making History Campaign, begun in 2007 and concluded in 2013, achieved remarkable success, engaging the entire Penn community on an unprecedented level. The new Penn Compact 2020 mission statement renews Penn’s fundamental priorities, emphasizing inclusion, innovation, and impact as the University’s core values.

The University has a full-time student body of over 22,500 and a 280-acre campus in West Philadelphia (excluding the Hospital of the University of Pennsylvania) on which over 150 University buildings are situated. In addition, the University owns two properties that are not adjacent to the campus. The Morris Arboretum, located in Chestnut Hill, Pennsylvania, encompasses 92 acres with 30 buildings. The Morris Arboretum conducts four major activities: education, research, outreach and

horticultural display. As the official Arboretum of the Commonwealth, it provides research and outreach services to state agencies, community institutions and to citizens of Pennsylvania and beyond. The New Bolton Center, in Kennett Square, Pennsylvania, consists of 600 acres with 77 buildings. Opened in 1954, the New Bolton Center comprises the George D. Widener Hospital for Large Animals, the University of Pennsylvania School of Veterinary Medicine's teaching hospital for large animals, featuring one of the world's largest equine surgical facilities, the Marshak Dairy, the Laboratory of Aquatic Animal Medicine and Pathology and one of Pennsylvania's three Animal Diagnostic Laboratories.

In July 2007, the University acquired from the United States Postal Service two properties adjacent to the eastern edge of the University's main campus. These properties include 2.5 acres of land and associated buildings which the University has leased for redevelopment to a private developer under a long term ground lease, and 14 acres of property which the University developed, together with adjacent property of the University, to form a 24-acre urban park now known as Penn Park. Penn Park is the centerpiece of "Penn Connects," the University's long-term master land use and urban design campus plan. Penn Park brings 20% more green space to the urban campus of the University and creates a new gateway uniting University City with Center City in Philadelphia.

In September 2010, the University acquired 23 acres of land and facilities located across the Schuylkill River from the University's main campus in Philadelphia. More than 250,000 square feet of laboratory, office and warehouse space remains on the property that formerly comprised the DuPont Marshall Laboratory. The site is intended to be repurposed with light industrial, flex-use, and buildings scaled to fit the need for practical commercialization and business opportunities in the region. The site has also been designated as the home for the Penn Center for Innovation, a new initiative that will provide the infrastructure, leadership and resources needed to transfer promising Penn inventions, know-how and related assets into the marketplace for the public good. As of June 30, 2016, nearly 108,300 square feet of space was leased to University tenants, small research and technology businesses, and for storage for the University and other entities.

The University is comprised of an academic component (see "Programs- Academic" below) and a Health System component (more particularly described in "THE UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEM" below).

## **Governance**

The University is governed by its Board of Trustees (the "University Trustees"). The Executive Committee of the University Trustees (the "Executive Committee") is elected annually and can act on behalf of the full University Trustees in most matters. Under the bylaws of the University, the University Trustees may consist of a maximum of 14 Charter Trustees, 28 Term Trustees, 14 Alumni Trustees, including the President of the Alumni Society, and four Commonwealth Trustees. The Governor of the Commonwealth and the President of the University are Ex-Officio Trustees. Charter Trustees are elected by the University Trustees from among persons who have served as University Trustees for a period of not less than five years. Term Trustees are elected by the University Trustees for terms of five years. Alumni Trustees are elected by Penn Alumni for terms of five years from among those persons who have received degrees from the University. The Commonwealth Trustees are each appointed by one of the following members of the Pennsylvania legislature: the President Pro Tempore of the Senate, the Minority Leader of the Senate, the Speaker of the House of Representatives, and the Minority Leader of the House of Representatives. Under normal circumstances, Charter, Term and Alumni Trustees must retire at the age of 70, or following 10 years' service per the Statutes, at which time Charter Trustees are designated by the University Trustees as Trustees Emeriti. Term and Alumni Trustees who have been elected to two five-year terms in any class are eligible for election by the University Trustees as Trustees Emeriti. Trustees Emeriti and Ex-Officio Trustees are non-voting University Trustees.

In addition, the University has an Investment Board, which can include members who are not University Trustees. The Investment Board oversees the investment of endowment and similar funds, and all other investment funds of the University.

The members of the University Trustees as of December 1, 2016 are listed below:

Ex-Officio Trustees:

Dr. Amy Gutmann  
Hon. Thomas W. Wolf

Executive Committee:

David L. Cohen, Esq., Chair  
Mrs. Lee Spelman Doty  
Perry Golkin, Esq.  
Mr. James H. Greene, Jr.  
Dr. Amy Gutmann  
Dr. Janet F. Haas  
Mr. Andrew R. Heyer  
Mr. Robert M. Levy  
Mr. Marc F. McMorris  
Ms. Andrea Mitchell, Vice Chair  
Mrs. Julie Beren Platt  
Mr. Andrew S. Rachleff  
Mrs. Ann Reese

Charter Trustees:

Scott L. Bok, Esq.  
David L. Cohen, Esq., Chair  
Mrs. Lee Spelman Doty  
Mr. Andrew R. Heyer  
Mr. William P. Lauder  
Mr. Robert M. Levy  
Dr. Deborah Marrow  
Ms. Andrea Mitchell, Vice Chair  
Mr. Richard C. Perry  
Mrs. Julie Beren Platt  
Mr. Andrew S. Rachleff

Commonwealth Trustees:

Mr. Chris Franklin  
Mr. Michael F. Gerber  
Mr. John P. Shoemaker  
Amb. Martin J. Silverstein

Term Trustees:

Mrs. Judith L. Bollinger  
Mr. David Brush  
William W.M. Cheung, DMD  
Mr. James G. Dinan  
Mr. David Ertel  
Mrs. Sarah Fuller  
Perry Golkin, Esq.  
Mr. Joel M. Greenblatt  
Mr. James H. Greene, Jr.  
Dr. Janet F. Haas  
Gov. Jon M. Huntsman, Jr.  
Mr. Robert S. Kapito  
Mr. Michael J. Kowalski  
Mrs. Andrea Berry Laporte  
Mr. Charles B. Leitner III  
M. Claire Lomax, Esq.  
Mr. Marc F. McMorris  
Mr. Kenneth D. Moelis  
Mr. Daniel S. Och  
Mr. Simon D. Palley  
Mr. Marc J. Rowan  
Mr. Michael J. Price  
Mrs. Julie Breier Seaman  
Dr. Krishna P. Singh  
Mr. Richard W. Vague

Alumni Trustees:

Mrs. Bonnie Miao Bandeen  
Allan C. Bell, Esq.  
Mr. Alberto J. Chamorro  
Mrs. Connie K. Duckworth  
Osagie O. Imasogie, Esq.  
James C. Johnson, Esq.  
Susanna E. Lachs, Esq.  
Mr. Ofer Nemirovsky  
Mr. Dhananjay M. Pai  
Mr. Ramanan Raghavendran  
Mrs. Ann Reese  
Mrs. Jill Topkis Weiss  
Mr. Mark B. Werner

Trustees Emeriti:

Mrs. Madlyn K. Abramson  
Richard P. Brown, Jr., Esq.  
Gilbert F. Casellas, Esq.  
Mrs. Susan W. Catherwood  
Dr. Gloria Twine Chisum  
Mr. L. John Clark  
Mr. Robert A. Fox  
Mr. Stephen J. Heyman  
Mr. Jon M. Huntsman  
Mr. Paul K. Kelly  
Mr. James J. Kim  
Mr. Leonard A. Lauder  
Mr. Robert P. Levy  
Paul S. Levy, Esq.  
Mr. William L. Mack  
Mr. A. Bruce Mainwaring  
Mr. Howard S. Marks  
Mr. Edward J. Mathias  
Mr. Paul F. Miller, Jr.  
Mr. John B. Neff  
Mr. Russell E. Palmer  
Mr. Ronald O. Perelman  
Mr. Egbert L. J. Perry  
Mr. James S. Riepe  
Mrs. Katherine Stein Sachs  
Mrs. Adele K. Schaeffer  
Mr. Alvin V. Shoemaker  
Dr. P. Roy Vagelos  
Mr. George A. Weiss  
Dr. Charles K. Williams II  
Mr. Paul Williams  
Mr. Mark O. Winkelman

## **Transactions Between the University and Members of its Board of Trustees**

The University has a comprehensive conflict-of-interest policy that was formally adopted by the University Trustees in June 2000. The policy applies to University Trustees, officers and members of the

Investment Board (“Covered Persons”), and is intended to address any real, potential, or apparent conflicts of interest that might call into question a person's duty of undivided loyalty to the University. The policy, which is in conformity with the Intermediate Sanctions regulations of the Internal Revenue Service (“IRS”) applicable to tax-exempt organizations, adopts the IRS standard for approval of a transaction between a Covered Person and the University. The standard requires that a Covered Person seeking to enter into a transaction with the University recuse himself or herself from the decision-making process, that any payments made are at fair market value, and that the transaction, as a whole, is fair, reasonable and in the best interests of the University.

The relationships of certain Trustees of the University with certain Underwriters in connection with the offering of the Bonds are described under the “CERTAIN RELATIONSHIPS” in the forepart of the Official Statement.

### **Officers of the University**

The officers of the University are the President, the Provost, the Executive Vice Presidents, the Senior Vice President and General Counsel, the Vice Presidents, the Secretary, the Treasurer and the Comptroller. Subject to the policies of the University, all officers except the President are elected by the University Trustees upon nomination by the President. The President is elected by the University Trustees upon nomination by the Executive Committee. The principal officers of the University are as follows:

Dr. Amy Gutmann	<i>President</i>
Dr. Vincent Price	<i>Provost</i>
Mr. Craig R. Carnaroli	<i>Executive Vice President</i>
Dr. J. Larry Jameson	<i>Executive Vice President for the Health System and Dean of the Perelman School of Medicine</i>
Wendy S. White, Esquire	<i>Senior Vice President and General Counsel of the University and Health System</i>
Ms. MaryFrances McCourt	<i>Vice President for Finance and Treasurer</i>
Ms. Anne Papageorge	<i>Vice President for Facilities and Real Estate Services</i>
Mr. John H. Zeller	<i>Vice President for Development and Alumni Relations</i>
Ms. Leslie Laird Kruhly	<i>Vice President and University Secretary</i>
Mr. John F. Horn	<i>Comptroller</i>

Dr. Vincent Price has announced that he will be resigning as Provost of the University, effective June 30, 2017, to become president of Duke University.

## **PROGRAMS**

### **Academic**

The University is comprised of the twelve schools listed below, four of which, marked by an asterisk (\*), offer undergraduate degrees. Graduate and professional degrees are offered by all twelve schools:



School of Arts and Sciences \*  
School of Engineering and Applied Science \*  
School of Nursing \*  
Wharton School \*  
Annenberg School for Communication  
Graduate School of Education

School of Design  
School of Dental Medicine  
School of Law  
Perelman School of Medicine  
School of Social Policy and Practice  
School of Veterinary Medicine

The quality and success of the programs offered by the University have been consistently recognized around the world. The University was ranked eighth in the 2017 *U.S. News and World Report* National Universities Ranking and eleventh on the Best Values Schools. In these same rankings, the University's Wharton School was ranked first for undergraduate business students, the School of Nursing was ranked second among nursing schools, and the Law School, the Perelman School of Medicine, and the School of Graduate Education – as well as departments across the School of Arts and Sciences, the School of Design, and the Perelman School of Medicine – were all ranked in the top ten among the survey's wide range of specific academic areas. From a global perspective, the University is ranked among the top 18 institutions around the world in all three of the major international university rankings: the Academic Ranking of World Universities of the Center for World-Class Universities at the Shanghai Jiao Tong University, the QS World University Rankings, and the *Times Higher Education* World University Rankings. In 2014, the Middle States Commission on Higher Education reaffirmed the University's accreditation, following a rigorous, two-year process in which the University first prepared an in-depth, campus-wide Self-Study Report and was then reviewed by an external evaluation team of faculty members and senior administrators from peer institutions.

The proximity of all twelve of the University's schools on a single campus has stimulated a number of renowned multi-disciplinary enterprises aimed at solutions to major problems of global society. Among them are: the Center for Public Health Initiatives, Penn Institute for Urban Research, Leonard Davis Institute of Health Economics, Laboratory for Research on the Structure of Matter, David Mahoney Institute for Neurological Sciences, Lauder Institute, Abramson Family Cancer Research Institute, and Institute for Regenerative Medicine, as well as new globally-focused initiatives such as the Perry World House and the Penn Wharton China Center.

The twelve schools also combine their expertise in campus-wide academic theme years, which bring together a wide range of perspectives to illuminate critical global issues such as health, food, evolution, water, and the role of art in urban settings.

## **Faculty**

For the 2017 Academic Year, there are 2,581 standing faculty at the University, approximately one for every four full-time undergraduates on campus. Approximately 78% of the faculty, excluding clinician educators in the Perelman School of Medicine, is tenured. All of the University's full-time faculty has earned a doctorate and/or other terminal professional degree.

The faculty of the University is actively engaged in teaching and research. Honors and awards received by members of the faculty include the Nobel Prize, Pulitzer Prize, Bancroft Prize, Carnegie Fellowship, Guggenheim Fellowship, National Medal of Science, MacArthur Foundation Fellowship, Sloan Research Fellowship, Wolf Prize in Medicine, and Presidential Early Career Award for Scientists and Engineers.

Members of the faculty hold memberships and leadership positions in such prestigious professional and learned societies as the American Academy of Arts and Sciences, American Association

for the Advancement of Science, American Philosophical Society, National Academy of Engineering, National Academy of Medicine, National Academy of Science, and Royal Society of London.

### Undergraduate Student Applications and Enrollment

The following table sets forth certain information regarding undergraduate applicants, acceptances and matriculants for the academic years indicated:

<b>Applicants, Acceptances and Matriculants</b>					
<b>Academic Year</b>	<b>Applicants</b>	<b>Acceptances</b>	<b>Acceptance Percentage</b>	<b>Matriculants</b>	<b>Matriculation Percentage</b>
2012-2013	31,218	3,935	12.6%	2,461	62.5%
2013-2014	31,282	3,830	12.2%	2,421	63.2%
2014-2015	35,866	3,718	10.4%	2,425	65.2%
2015-2016	37,268	3,787	10.2%	2,435	64.3%
2016-2017	38,918	3,674	9.4%	2,491	67.8%

The Admissions Office received 38,918 applications for the entering class for fall of 2016. This is an increase of 4.4 percent from the number for the 2015-2016 academic year.

The following is a five year analysis of the mean college entrance examination scores achieved by entering freshmen:

<b>Mean SAT Scores</b>			
<b>Academic Year</b>	<b>SAT 1 Critical Reading</b>	<b>SAT 1 Writing</b>	<b>SAT 1 Math</b>
2012-2013	707	720	728
2013-2014	710	725	728
2014-2015	715	733	733
2015-2016	718	728	739
2016-2017	723	731	740

The full-time equivalent enrollment at the University for the academic years indicated is as follows:

Full-Time Equivalent Enrollment					
Academic Year	Undergraduate	Graduate	Professional	Full-Time Equivalent Enrollment	Total Degrees Awarded
2012-2013	10,775	3,238	8,505	22,518	8,003
2013-2014	10,721	3,220	8,498	22,439	7,812
2014-2015	10,787	3,209	8,567	22,563	7,867
2015-2016	10,800	3,175	8,692	22,667	8,021
2016-2017	10,884	3,156	8,519	22,559	N/A

Notes:

1. Graduate students are all non-undergraduate students pursuing degrees in Research Masters (AM, MS), PhD, or dual degree PhD (PhD and MD/VMD/DMD/JD), and Professional students are all non-undergraduate students pursuing degrees other than Research Masters, PhD, or dual degree PhD.

2. Standard Part-time = 1/3 FTE is applied.

### Tuition, Fees and Other Charges

The cost of education at the University is covered by tuition and fees, gifts, grants, income derived from investments and other sources. The University believes that its tuition, fees and other related student expenses are competitive with other major private institutions.

The University's total undergraduate tuition and fees and the standard undergraduate room and board charges are set forth in the table below. Graduate and professional schools set their own tuition rates and fees annually. Tuition and fees for full-time programs range from \$29,142 to \$102,134 per year. The University offers substantial financial assistance to both residential and non-residential students.

Undergraduate Tuition, Fees and Other Charges		
	2015-16 Academic Year	2016-17 Academic Year
Academic Year Tuition & Fees for a Full-Time Undergraduate (excluding room & board)	\$49,536	\$51,464
Academic Year Room & Board Charges	<u>13,990</u>	<u>14,536</u>
Total	<u>\$63,526</u>	<u>\$66,000</u>

### Student Financial Aid

The University's undergraduate admissions policy reflects the philosophy that admission is need-blind. For the 2015-2016 academic year, approximately 61% of all University students received some type of financial assistance. Approximately 47% of undergraduate students received need-based grants from the University.

For the fiscal years listed below, the components of student financial aid were as follows:

<b>Scholarships, Grants and Institutional Loans</b>					
	<b>Fiscal Year Ended June 30,</b>				
	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Grants - Unrestricted revenues	\$131,869,000	\$142,785,000	\$148,734,000	\$155,912,000	\$157,021,000
Grants- Endowment income	47,004,000	52,232,000	59,529,000	63,568,000	74,208,000
Endowed & University Admin. Fed. Loans <sup>(1)</sup>	10,502,000	13,953,000	15,657,000	17,497,000	17,066,000
Federal, State & private grants <sup>(2)</sup>	44,017,000	47,927,000	50,292,000	52,658,000	51,796,000
Tuition remission <sup>(3)</sup>	<u>125,480,000</u>	<u>131,402,000</u>	<u>132,613,000</u>	<u>133,544,000</u>	<u>143,121,000</u>
<b>Total</b>	<b><u>\$358,872,000</u></b>	<b><u>\$388,299,000</u></b>	<b><u>\$406,825,000</u></b>	<b><u>\$423,179,000</u></b>	<b><u>\$443,212,000</u></b>

<sup>(1)</sup> Includes Federal Perkins, Nursing and Health Profession Loans, and University endowed loans administered by the University.

<sup>(2)</sup> Includes gifts and payments from third parties.

<sup>(3)</sup> Includes tuition remission for faculty/staff attending the University as well as research fellowships, research assistantships, teaching fellowships, and departmental grants. Does not include stipends.

Commencing with the 2009-2010 academic year, the University implemented a policy of meeting dependent undergraduate students' needs without expecting them to take out student loans. Under this policy, a student from a typical family with an income of less than \$90,000 will not pay tuition, and a student from a typical family with income less than \$40,000 will not be expected to pay tuition, room, or board.

### **The Penn Plan (Tuition Stabilizer Plan) and Penn Guaranteed Loan Program**

The University has long been a leader in financing higher education for students and parents. The Penn Plan, a program of alternative payment options, was initiated in 1984. The program is made available to families of undergraduates, graduate degree candidates and students in the professional schools. The program is a partnership among the student, the student's family and the University to assure that students can manage more effectively the cost of attendance. As of June 30, 2016, 326 graduate, professional and undergraduate students and their families were participating in the Penn Plan.

In 1997, the University established the Penn Guaranteed Loan Program whereby the University guaranteed loan obligations incurred by students attending the University. The program provided lower cost alternative loans to graduate and professional students attending the University. Loans issued by private lending institutions were guaranteed by the University under the Penn Guaranteed Loan Program. As of June 30, 2016, the amount of the loans outstanding for which the University is the guarantor was \$64,992,239. The reserve established to support this contingent liability was \$6,193,045.

## **UNIVERSITY FINANCIAL DATA**

### **General**

The financial statements of the University have been prepared on an accrual basis and include the accounts of the University and its related entities, including the Health System. All material transactions between the University and its related entities have been eliminated.

The selected financial data and other information below have been derived by management from the audited financial statements of the University prepared in accordance with accounting principles generally accepted in the United States of America. The University's annual audited financial statements for the fiscal years ended June 30, 2016 and 2015 are presented in Appendix B. The University will undertake to make available certain annual operating and financial information, including its audited

annual financial statements, through the Municipal Securities Rulemaking Board -- Electronic Municipal Market Access (<http://emma.msrb.org>) in accordance with a continuing disclosure agreement to be entered into by the University in connection with the issuance of the Bonds in accordance with Rule 15c2-12 promulgated under the Securities Exchange Act of 1934, as amended. See "CONTINUING DISCLOSURE" in the forepart of this Official Statement.

Summarized Statements of Financial Position (in thousands)					
	Fiscal Year Ended June 30,				
	2012	2013	2014	2015	2016
Total Assets	<u>\$14,702,600</u>	<u>\$16,048,432</u>	<u>\$18,002,615</u>	<u>\$19,000,235</u>	<u>\$21,373,983</u>
Total Liabilities	\$5,008,974	\$4,754,306	\$5,030,778	\$5,509,215	\$6,861,394
Net Assets:					
Unrestricted	4,913,911	5,933,126	6,869,201	7,153,207	8,447,469
Temporarily restricted	2,017,544	2,433,998	2,960,272	3,026,715	2,629,729
Permanently restricted	<u>2,762,171</u>	<u>2,927,002</u>	<u>3,142,364</u>	<u>3,311,098</u>	<u>3,435,391</u>
Total Net Assets	<u>\$ 9,693,626</u>	<u>\$11,294,126</u>	<u>\$12,971,837</u>	<u>\$13,491,020</u>	<u>\$14,512,589</u>

Summarized Statements of Activities (in thousands)					
	Fiscal Year Ended June 30,				
	2012	2013	2014	2015	2016
Revenue and other support	\$5,932,563	\$6,191,033	\$6,610,522	\$7,119,997	\$8,576,320
Expenses	<u>(5,683,003)</u>	<u>(5,896,431)</u>	<u>(6,348,798)</u>	<u>(6,723,115)</u>	<u>(8,139,987)</u>
Increase in net assets from operations	249,560	294,602	261,724	396,882	436,333
(Decrease) Increase in net assets from non-operating activities	<u>(385,729)</u>	<u>1,305,898</u>	<u>1,415,987</u>	<u>122,301</u>	<u>585,236</u>
(Decrease) Increase in total net assets	(136,169)	1,600,500	1,677,711	519,183	1,021,569
Net assets, beginning of year	<u>9,829,795</u>	<u>9,693,626</u>	<u>11,294,126</u>	<u>12,971,837</u>	<u>13,491,020</u>
Net assets, end of year	<u>\$9,693,626</u>	<u>\$11,294,126</u>	<u>\$12,971,837</u>	<u>\$13,491,020</u>	<u>\$14,512,589</u>

## Operating Budget

The University operates in a decentralized budget management structure, termed "responsibility center management (RCM)." The system holds each school and resource center responsible, as the revenue-producing entities of the University, for balancing expenditures to income. The University promotes a disciplined budget process whereby each responsibility center submits a high level five year all-funds budget during the fall and a detailed annual all-funds budget during the spring. Key central budget planning parameters, including undergraduate total charges, the salary pool, the employee benefit rate, and income growth under the endowment spending rule, form the common basis for all budgets. Budgets are reviewed by the University Office of Budget and Management Analysis and discussed in detail in meetings with the Provost (schools and resource centers) or the Executive Vice President (administrative and auxiliary centers). The full University budget in both an RCM and Generally

Accepted Accounting Principles (GAAP) format is presented to the Trustees for approval in June. The University monitors budget performance during the course of the year, and requires that each responsibility center provide an updated forecast each quarter. The University reports GAAP performance against both the prior year actual results and the current year budget to the Trustees on a quarterly basis.

### **Commonwealth Appropriations**

Although the University has no legal relationship with the Commonwealth, it has, pursuant to specific legislative appropriations, received sums from the Commonwealth for its support and maintenance and for other specific purposes in each year since 1903. Approximately \$32,927,000 of the total unrestricted revenue of the University for Fiscal Year 2016 was provided from Commonwealth appropriations. The Pennsylvania legislature has appropriated \$34,469,000 to the University for Fiscal Year 2017, most of which is targeted to support the School of Veterinary Medicine. Once an appropriation is made, it may be reduced administratively, usually because of Commonwealth budgetary constraints. There is no assurance that the Commonwealth will not reduce the University's appropriation for Fiscal Year 2017 or thereafter.

### **Contributions**

Since 1984, the University has consistently ranked among the top 15 private universities in America in philanthropic support. Following the December 2012 conclusion of a comprehensive campaign which reached \$4.3 billion of philanthropic support, the University created the Penn Compact 2020 University Initiatives to build on what was accomplished during the campaign and continue the momentum through 2020. With shared University objectives, including other key priorities defined by the University's Schools and Centers, the University's goals are to raise an additional \$350 million for undergraduate, graduate, and professional student aid, and if successful would bring the total raised for such purposes to over \$1 billion over the past 15 years; and raise an additional \$300 million for faculty support, bringing the total raised for such purpose to over \$900 million during that same period.

Contributions, defined as new gifts and pledges, for the years listed below were as follows:

<b>Contributions</b> <i>(in thousands)</i>				
<b>Fiscal Year Ended June 30</b>	<b>Endowment</b>	<b>Facilities</b>	<b>Operations</b>	<b>Total</b>
2012	\$153,791	\$44,172	\$189,681	\$387,644
2013	149,136	100,013	199,606	448,755
2014	162,171	35,567	168,935	366,673
2015	154,593	21,909	145,558	322,060
2016	189,279	32,371	169,684	391,334

### **Sponsored Research**

The University has long been a center for programs of research and training, and a significant portion of its research and graduate education programs are supported by research grants and contracts. The aggregate dollar amount of grants and contracts awarded to the University for sponsored research and training from governmental and private agencies during the years listed below were as follows:

<b>Research Grants and Contracts</b> <i>(in thousands)</i>	
<b>Fiscal Year Ended June 30</b>	<b>Total Grants and Contracts Awarded</b>
2012	\$872,603
2013	838,901
2014	935,213
2015	938,938
2016	1,011,758

For the last decade, the University has consistently ranked in the top 20 universities performing sponsored research as tabulated by the National Science Foundation, based on obligations for research and development. Forecasts of future years' growth rates in externally reimbursed expenditures under sponsored research and instruction agreements are complicated by the uncertainty of future national policy decisions and budget priorities.

Sponsored programs and research projects are funded as to both direct and indirect costs. Indirect costs are costs actually incurred, but differ from direct costs in that they have been incurred for purposes common to a number of projects, programs or activities of the University, and cannot be identified and charged directly to such specific projects, programs or activities with any reasonable degree of accuracy or without an inordinate amount of bookkeeping. Examples include utilities, maintenance, janitorial services and interest on debt issued to support research facilities, and such administrative services as accounting, purchasing, personnel and library.

Both direct and indirect cost activities are essential for the operation of the University. Without reimbursement for indirect costs, sponsored programs and research in the University would require additional institutional support of indirect services, to the detriment of other University activities. For most federal awards, the items included in each indirect cost category, the indirect cost rate and the appropriate base to be used in allocating such costs are reached through negotiation with the federal government.

In Fiscal Year 2016, the University received expendable grant and contract awards from the federal government (principally the Department of Health and Human Services) in the amount of \$717.1 million, \$206.6 million of which was awarded for indirect costs. Actual indirect cost revenues received, totaling \$188.1 million for Fiscal Year 2016, represented approximately 2.2% of total unrestricted revenue. In Fiscal Year 2016, the University's Federal Indirect Cost Rate ("ICR") for research was 60% of modified total direct costs. Modified total direct costs requires that equipment, capital expenditures, charges for patient care, tuition remission, rental costs of off-site facilities, scholarships, and fellowships as well as the portion of each subgrant and subaward in excess of \$25,000 are excluded from the calculation of ICR. The University completed negotiation of a rate agreement with the Department of Health and Human Services in December 2015 which will include an indirect cost rate of 61% starting in fiscal year 2017. Certain types of federal awards include indirect costs at rates less than the research rate, such as training grants that are awarded at an 8% rate.

Some federal grants, especially for sponsored instructional and educational services, carry a stipulated limit on ICRs. Federal research grants and contracts are only infrequently subject to such limits.

Private foundations, corporations and other state and local agencies may also allow indirect costs as part of the sponsored program, contract or grant. In Fiscal Year 2016, the University received non-federal contracts and grants of \$294.6 million, of which \$59.6 million represented indirect cost recovery.

## Endowment

As of June 30, 2016, the market value of the endowment totaled approximately \$10.7 billion, an increase of \$581.8 million over the prior fiscal year. This increase is largely due to realized and unrealized losses from investments of \$169.2 million, new endowment gifts of \$176.7 million, \$822.0 million of investments from LGH member substitution, \$138.3 million transfers to create board designated funds and spending rule distribution (as further described below) of \$365.4 million to provide budgetary support for endowed programs. Investment income comprised approximately 5.1% of the University's total operating revenues for the fiscal year ended June 30, 2016.

<b>Endowment Funds of University</b> <i>(in millions)</i>	
<b>Fiscal Year ended June 30</b>	<b>Market Value</b>
2012	\$7,134
2013	8,174
2014	9,582
2015	10,134
2016	10,715

As indicated above, at June 30, 2016, the aggregate market value of the University's endowment funds was approximately \$10.7 billion. This valuation includes certain non-marketable real estate, private equity and natural resources investments, totaling approximately 29.3% of the portfolio, which are valued based on the most recent net asset value reported to the endowment, adjusted for cash flows where applicable.

The University is obligated under certain limited partnership agreements to advance additional funding periodically up to committed levels. At June 30, 2016, the University had unfunded commitments of \$2.7 billion to a variety of private equity, real estate, natural resources and other commitment funds. Based upon past experience, the University expects these commitments to be funded over the next five years depending on market conditions.

## Endowment Spending Policy

In 1981, the University Trustees adopted an endowment spending policy governing the expenditure of funds invested in the University's Associated Investments Fund ("AIF"). The spending policy is designed: (i) to smooth the impact of short-term market moves that may affect the endowment's value; (ii) to make endowment distributions more predictable for purposes of managing and planning the University's operating budget; and (iii) to protect the real value of the endowment over time.

Under the current spending policy, the distribution for Fiscal Year 2017 is the sum of: (i) 70% of the prior fiscal year distribution adjusted by an inflation factor; and (ii) 30% of the prior fiscal year-end fair value of the AIF, lagged one year, multiplied by 5.3% for financial aid funds and 5.0% for all other funds.



## Investment Policy

The investment objectives of the University's endowment and similar funds are the preservation and growth of principal in constant dollars so as to provide, under a prudent spending rule policy, a consistent level of real growth of budgetary support from such funds. The vast majority of the University's endowment funds are invested in the AIF, an open-ended, pooled investment vehicle that had a market value of approximately \$9.5 billion as of June 30, 2016. The AIF asset allocation as of June 30, 2016 is shown below.

<b>Associated Investment Fund Asset Allocation</b>	
<b>Fiscal Year ended June 30, 2016</b>	
Domestic Equity	11.0%
International Equity	13.3%
Emerging Market Equity	9.7%
Absolute Return	30.6%
Real Estate	7.0%
Private Equity	16.3%
Natural Resources	6.0%
Fixed Income/Cash	6.1%
Total	<u>100.0%</u>

## Investment Performance

For Fiscal Year 2016, the AIF returned -1.4%. Longer measurement periods and comparisons with certain indices are reflected in the chart below.

<b>Associated Investment Fund Annualized Returns for Periods ending June 30, 2016</b>				
	<b>1-Year</b>	<b>3-Year</b>	<b>5-Year</b>	<b>10-Year</b>
AIF (University Investment Pool)	-1.4%	7.6%	7.7%	6.5%
Composite Benchmark*	-2.4%	5.5%	6.2%	5.6%

*\* The Composite Benchmark is a weighted average of the individual asset classes in the AIF, where the weights are set forth in accordance with AIF's strategic asset allocation.*

## Property, Plant and Equipment of the University

The book value of the University's investment in plant assets for the fiscal years ended June 30, 2016 and 2015 are shown below (in thousands):

<b>Property, plant and equipment, net of depreciation</b> <i>(in thousands)</i>		
	<b>Fiscal Year Ended June 30,</b>	
	<b>2015</b>	<b>2016</b>
Land	\$ 290,951	\$ 369,758
Buildings	6,843,301	8,129,199
Moveable equipment and other	1,711,059	2,202,886
Construction-in-progress	<u>476,926</u>	<u>653,532</u>
Total plant	9,322,237	11,355,375
Less accumulated depreciation	<u>(4,168,142)</u>	<u>(5,152,468)</u>
Property, plant and equipment, net	<u>\$5,154,095</u>	<u>\$6,202,907</u>

The University recorded \$451,227,000 and \$365,204,000 of depreciation expense for the years ended June 30, 2016 and 2015, respectively.

The University has conditional asset retirement obligations of \$21,646,000 and \$23,469,000 as of June 30, 2016 and 2015, respectively, which primarily relate to asbestos contained in buildings and underground steam distribution piping and are included within accrued expenses and other liabilities in the Consolidated Statements of Financial Position.

#### **Indebtedness of the University's Academic Component**

The following University indebtedness outstanding as of September 30, 2016, excluding any indebtedness of the Health System, is a general obligation of the University payable from the assets and revenues of the University:

<b>Long-Term Debt (Academic Component)</b>	
<b>Description</b>	<b>Outstanding Principal Amount at September 30, 2016</b>
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series of 1990 .....	\$ 6,500,000
Washington County Authority Revenue Bonds .....	55,500,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series B of 2009 .....	8,570,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series C of 2009 .....	11,635,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series 2010 .....	16,935,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series 2011 .....	11,125,000
The Trustees of the University of Pennsylvania Taxable Bonds Series 2012 .....	300,000,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series A of 2015 .....	200,985,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series B of 2015 .....	163,795,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series C of 2015 .....	8,020,000
PHEFA The Trustees of the University of Pennsylvania Revenue Bonds Series A of 2016 .....	169,635,000
Other Loans .....	<u>1,020,000</u>
Total Long-Term Debt (including current portion) .....	\$ <u>953,720,000</u>

The limited obligation debt of the Health System is more particularly described below under “THE UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEM – Health System Limited Obligation Debt.”

### **Capital Expenditures**

As a large and complex institution with substantial capital facilities, the University regularly invests in maintaining, updating and expanding its facilities to meet its operating needs. Capital expenditures of the University are funded from available resources of the University, which may include future fundraising activities or future capital borrowings.

### **Future Borrowing**

Depending on market conditions, the University may incur additional indebtedness, which may include additional bonds issued under the Indenture, to refinance certain currently outstanding indebtedness of the University, convert interest rate modes to take advantage of market conditions or to finance future capital projects.

## **THE UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEM**

### **Structure and Governance**

The University of Pennsylvania Health System (“UPHS” or the “Health System”) is an operating division of the University and was created by action of the University Trustees on June 18, 1993 to integrate a tri-part mission of education, research and patient care. The Health System includes the following enterprises as of September 30, 2016:

<b><u>Enterprise</u></b>	<b><u>Description</u></b>
Hospital of the University of Pennsylvania (“HUP”)	820 licensed bed (including 32 bassinets) quaternary acute care hospital
Pennsylvania Hospital (“PAH”)	546 licensed bed (including 50 bassinets) acute care hospital
Presbyterian Medical Center, d/b/a Penn Presbyterian Medical Center (“PPMC”)	375 licensed bed acute care hospital
The Chester County Hospital and Health System (“TCCHHS”)	289 licensed bed (including 32 bassinets) acute care hospital
Lancaster General Health (“LG Health”)	Regional integrated health system, including Lancaster General Hospital (“LG Hospital”), a 533 licensed bed acute care hospital, and Women & Babies Hospital, a 145 licensed bed (including 48 bassinets) women’s health facility
Clinical Practices of the University of the Pennsylvania (“CPUP”)	The approved faculty practice plan for the clinical practices of 1,706 members of the medical faculty of the Perelman School of Medicine
Clinical Care Associates (“CCA”)	227 member primary care physician network
Wissahickon Hospice (“Wissahickon”)	Provides hospice care serving the terminally ill

The Hospital of the University of Pennsylvania and the Clinical Practices of the University of Pennsylvania are unincorporated operating divisions of the University. PAH, PPMC, TCCHHS, LG Health, CCA and Wissahickon are Pennsylvania nonprofit corporations with the University as their sole corporate member, and LG Hospital is a Pennsylvania nonprofit corporation with LG Health as its sole corporate member. None of PAH, PPMC, TCCHHS, LG Health, LG Hospital, CCA and Wissahickon are liable for the payment of University indebtedness.

In addition to the facilities of the Health System described above, the Health System also participates, through corporate affiliations, in the ownership and/or operation of other healthcare facilities, with which the Health System also maintains clinical affiliations, as follows:

The Health System and The Good Shepherd Home, through a joint venture in which the Health System holds a 30% interest, operate PENN Medicine at Rittenhouse, located on the site of the former Graduate Hospital in Philadelphia, consisting principally of a 30,000 square foot long-term acute care hospital and a 46,000 square foot inpatient rehabilitation facility to which the Health System relocated the existing inpatient rehabilitation services provided at HUP and Pennsylvania Hospital.

The University Trustees have established an umbrella governance structure for UPHS called “PENN Medicine.” The purpose of this governance structure is to operate, oversee, and coordinate the academic, research, and clinical operations of the Health System and the Perelman School of Medicine. PENN Medicine has integrated many of the functions of the separate governing boards of the Health System and the Perelman School of Medicine into a single board, thus emphasizing the interdependency of the three missions. The Health System, together with the Perelman School of Medicine, comprises PENN Medicine.

Under the PENN Medicine structure, PPMC, PAH, TCCHHS, LG Health, CCA and Wissahickon Hospice have retained their own separate legal existence and their own governing boards. The PENN Medicine Board is widely representative, drawn from University and the individual Health System governing boards, faculty, management, and others who have relevant expertise in health care and finance. Andrew R. Heyer serves as the chair of the PENN Medicine Board and of its Executive Committee.

Under the bylaws of PENN Medicine, the Chairman of the PENN Medicine Board is required to be a University Trustee, and the University Trustee Chair sits on the PENN Medicine Board. The bylaws also create a PENN Medicine Executive Committee, a majority of which consists of University Trustees. The PENN Medicine Trustees have certain responsibilities delegated to them by the University Trustees. The University Trustees maintain ultimate control over the governance and the operation of the Health System.

The members of the Health System have entered into a Master Trust Indenture (“MTI”) securing certain indebtedness issued for the benefit of the operating divisions and entities comprising the Health System. HUP and CPUP are Designated Units under the MTI. The Designated Units, together with PAH, PPMC, TCCHHS, LG Health, LG Hospital, CCA and Wissahickon, are the current members of the “Obligated Group” under the MTI. The indebtedness issued under the MTI is payable solely from, and secured by a pledge of, the revenues of the Obligated Group members. The general credit of the University is not pledged to its payment.

The MTI and related agreements contain certain restrictive covenants which limit the issuance of additional indebtedness and, among other things, require the Health System to meet an annual debt service coverage requirement of “income available for debt service” (excess of revenue over expenses plus depreciation, amortization, interest expense and extraordinary items) of not less than 110% of the annual debt service requirements. For the Fiscal Year ended June 30, 2016, the Health System met this requirement.

As of September 30, 2016, the Health System was obligated in respect of \$1,503,614,000 aggregate principal amount of long-term indebtedness, including (i) \$1,253,214,000 incurred through the issuance of revenue bonds secured by additional Master Notes issued under the Master Indenture, and (ii) \$147,529,000 principal amount of other long-term debt, constituting general obligations of one or more members of the Obligated Group, but which are not payable from or secured by Master Notes issued under the MTI. See “Health System Limited Obligation Debt” below.

In addition to its inter-school and inter-departmental affiliations, the Health System maintains many external institutional affiliations. These affiliations provide additional resources for the educational, research, and clinical missions of PENN Medicine. The most significant category of affiliations is related to medical education where the Health System maintains affiliations for undergraduate and graduate medical education. Members of the standing faculty of the Perelman School of Medicine provide the vast majority of the medical staff at several leading medical institutions adjacent to HUP and the Perelman School of Medicine, including The Children's Hospital of Philadelphia, Children's Seashore House, Philadelphia Child Guidance Clinic and the Philadelphia Veterans Affairs Medical Center. In research, most of the affiliations are investigator-to-investigator. PENN Medicine also maintains significant institution-to-institution relationships with the Howard Hughes Medical Institute and the Wistar Institute.

The Health System is also developing affiliations with other institutions and has established non-corporate affiliations (not owned or controlled by the University) with Chestnut Hill Health Care, Doylestown Hospital, Virtua Health System, Shore Memorial Hospital and Bay Health Medical Center.

## Health System's Financial and Operating Summary - Fiscal Year 2016

Unrestricted net assets increased from \$2.212 billion for the fiscal year ended June 30, 2015 to \$3.480 billion for the fiscal year ended June 30, 2016, an increase of \$1.268 billion (57.3%). This was primarily attributed to positive excess of revenue over expenses of \$1.720 billion, which included \$1.264 billion from the LG Health member substitution transaction but partially offset by a negative pension and post retirement plan adjustment of \$261.4 million and transfers to the Perelman School of Medicine and the University of \$160.8 million.

The excess of revenue over expenses from operations was \$419.1 million for the fiscal year ended June 30, 2016, reflecting an increase of \$74.0 million from the prior fiscal year, and the sixteenth consecutive year of positive operating performance, exclusive of investment income. Including non-operating gains (interest and dividends, net realized gains, contributions and other support and unrealized gains on alternative investments) the total excess of revenue over expenses was \$1.720 billion.

The following table summarizes certain historical utilization statistics of the Health System for the five fiscal years ended June 30, 2016 and for the three months ended September 30, 2016 and 2015.

	Three Months Ended September 30		Fiscal Year Ended June 30				
	2016	2015 <sup>1</sup>	2016	2015	2014	2013	2012
Adult and Neonatal Staffed Beds	2,374	2,361	2,366	1,708	1,683	1,524	1,530
Newborn Bassinets	145	145	145	97	97	82	82
Adult and Neonatal Admissions	30,014	26,653	114,764	83,163	81,750	73,588	77,378
Newborn Admissions	3,367	3,580	12,791	10,789	9,550	7,707	7,760
Adult and Neonatal Patient Days	166,175	147,274	639,406	490,547	483,711	442,782	450,852
Newborn Patient Days	7,815	8,220	29,444	25,225	22,755	18,873	18,987
Adult and Neonatal Average Length of Stay (Days)	5.54	5.53	5.57	5.90	5.92	6.02	5.83
Newborn Average Length of Stay (Days)	2.32	2.30	2.30	2.34	2.38	2.45	2.45
Adult and Neonatal Staffed Beds							
Occupancy	77.0%	74.5%	75.7%	78.7%	78.4%	79.8%	80.6%
Inpatient Surgical Procedures (I/P)	11,154	9,978	43,729	30,074	29,078	26,364	27,829
Day Surgery Procedures	14,400	12,228	56,362	38,082	35,562	31,660	31,214
Emergency Room Visits	77,250	66,484	294,679	182,426	172,115	137,987	136,374
Outpatient Visits	943,085	771,997	3,637,849	2,456,427	2,242,196	1,624,817	1,534,720

Source: Health System records.

<sup>1</sup> Effective August 1, 2015, UPHS and Lancaster General Health ("LG Health") entered into an affiliation agreement whereby UPHS became the sole corporate member of LG Health.

## Health System Limited Obligation Debt

The following Health System indebtedness outstanding as of September 30, 2016, are obligations limited to one or more components of the Health System, including Health System obligations secured under the MTI:

**Outstanding Long-Term Debt**  
(at September 30, 2016)

Description	Outstanding Principal Amount at September 30, 2016
<b><u>MTI Master Secured Debt:</u></b>	
PHEFA University of Pennsylvania Health System Revenue Bonds, Series A of 2008 .....	\$ 69,995,000
PHEFA University of Pennsylvania Health System Revenue Bonds, Series B of 2008 .....	52,000,000
PHEFA University of Pennsylvania Health System Revenue Bonds, Series A of 2009 .....	43,110,000
PHEFA University of Pennsylvania Health System Revenue Bonds, Series A of 2012 .....	136,950,000
PHEFA University of Pennsylvania Health System Revenue Bonds, Series A of 2014 .....	100,000,000
PHEFA University of Pennsylvania Health System Revenue Bonds, Series A of 2015 .....	324,885,000
LCHA Hospital Revenue Bonds (The Lancaster General Hospital Project), Series 2012A .....	23,375,000
Lancaster General Hospital 2015 Taxable Direct Obligation Note .....	76,974,000
LCHA University of Pennsylvania Health System Revenue Bonds, Series A of 2016 .....	168,585,000
LCHA University of Pennsylvania Health System Revenue Bonds, Series B of 2016 .....	128,050,000
PHEFA University of Pennsylvania Health System Revenue Bonds, Series C of 2016 .....	129,290,000
<b>Total Parity Master Indenture Obligations .....</b>	<b><u>1,253,214,000</u></b>
<b><u>Other UPHS Debt</u></b>	
Build-to-suit lease .....	123,061,000
Mortgages and capital leases .....	24,468,000
<b>Total other UPHS Debt .....</b>	<b><u>147,529,000</u></b>
Unamortized Debt Premium & Bond Issuance Costs (Discount) .....	102,871,000
<b>TOTAL LONG-TERM DEBT (including the current portion) .....</b>	<b><u>\$ 1,503,614,000</u></b>

**Letter of Intent with Princeton HealthCare System**

On July 13, 2016, the Health System and Princeton HealthCare System (“PHS”) signed a nonbinding letter of intent to engage in exclusive discussions regarding the potential integration of PHS into the Health System. PHS is a comprehensive healthcare provider located in central New Jersey that principally includes the University Medical Center of Princeton, a general acute care hospital facility in Plainsboro, New Jersey, with 245 inpatient beds (including 14 newborn bassinets), and Princeton House Behavioral Health, which includes a 110 bed inpatient facility in Princeton, New Jersey, and four additional outpatient locations. PHS includes approximately 1,200 physicians on staff and employs approximately 3,200 people. In 2015, PHS had approximately \$437 million in revenue. The nonbinding letter of intent executed on July 13, 2016, reflects only the agreement of the parties to engage in further discussions regarding a potential transaction, and there can be no assurance as to whether, or upon what terms, the parties would enter into a definitive affiliation agreement. Since July 2016, the Health System has undertaken due diligence with respect to PHS and its affiliates, and the parties have been actively negotiating the terms of a definitive agreement. On December 12, 2016, each of the Health System and PHS announced that the transaction was approved by their respective governing bodies, and the parties expect to finalize and execute the definitive agreement in the near future, following which there will be an extended period (estimated to be in excess of one year) to allow for completion of regulatory matters with the effective date of the closing of the transaction expected to be in 2018.

## **ADDITIONAL UNIVERSITY INFORMATION**

### **Employee Relations**

As of October 31, 2016, the Academic Component presently has an academic staff of approximately 11,949 (standing faculty, associated faculty and academic support staff) and 10,766 full-time administrative and support employees. Of these, 1,097 are covered by six collective bargaining agreements in the following general categories: housekeeping employees (509); groundskeepers (25); truck drivers (11); parking (7); mail (8); police officers (91); skilled trades (208); library workers (133); stage hands (4) and dining services (101). No other employees of the University are covered by collective bargaining agreements.

Collective bargaining agreements with respect to all unionized employees are in full force and effect. These contracts expire as follows: the dining services contract, in July 2017; the police officers' contract, in August, 2017; the skilled trade's contract, in June 2018; the library contract, in July 2017; the housekeeping staff contract, in July 2018; and the stage hands contract in September 2017.

At October 31, 2016, the Health System had 26,101 employees. Employees of certain components of the Health System are covered by three collective bargaining agreements representing employees at certain facilities as follows (numbers of employees are at September 30, 2016): 106 physical plant employees at HUP are represented by the International Union of Operating Engineers, Local 835 (AFL-CIO) under a collective bargaining agreement that expires on June 30, 2019; 12 physical plant employees at Penn Medicine at Rittenhouse are represented by the International Union of Operating Engineers, Local 835 (AFL-CIO) under a collective bargaining agreement that expires on September 30, 2019; and 24 licensed practical nurses and 48 certified nursing assistants employed by the Penn Center for Rehabilitation and Care, a wholly-owned subsidiary of PPMC, are represented by the National Union of Hospital and Healthcare Employees, Local 1199C, under collective bargaining agreements that expire on June 30, 2018.

### **Retirement Plan**

Retirement benefits are principally provided to employees through contributory defined contribution plans. The Academic Component's policy with respect to its contribution is to provide up to 9% of eligible employees' salaries, while the Health System's contribution can be up to 6.5%. The University's contributions to these plans amounted to \$159,857,000 and \$125,812,000 as of June 30, 2016 and 2015, respectively.

The Health System has a non-contributory defined contribution plan and a non-contributory defined benefit plan which were frozen to new entrants effective July 1, 2010. The Academic Component has a non-contributory defined benefit pension plan which was frozen to new full-time entrants effective July 1, 2000. Benefits under these plans generally are based on the employee's years of service and compensation during the years preceding retirement. Contributions to the plans are made in amounts necessary to at least satisfy the minimum required contributions as specified in the Internal Revenue Code and related regulations.

Retirement benefits are provided for CPUP physicians and certain administrative personnel through payments to the University of \$26,606,000 and \$24,398,000 in 2016 and 2015, respectively.

TCCHHS has a number of affiliates with either a 403(b) or 401(k) defined contribution savings plan design. All affiliates share the same employer discretionary matching process; each affiliate will match 50% of an employee's contribution (subject to the IRS annual contribution limit) up to a total of



4% of the employee's salary in a given year. Total contributions to the plans were \$2,830,000 and \$1,978,000 in FY16 and FY15 respectively.

TCCHHS also has a defined contribution profit sharing plan covering all eligible employees, as defined. TCCHHS may choose to contribute a discretionary amount to the plan each year. No amount was funded.

LGH has a defined benefit non-contribution pension plan covering all eligible employees, as defined. LGH makes annual contributions to the plan to the extent permitted under federal regulations. The plan was amended to freeze benefit accruals for all participants effective June 30, 2013. LGH also has a defined contribution plan 403(b) where employer contributions to the defined contribution plan are based on a formula as defined by the plan document. Total expenses under this plan for the year ended June 30, 2016 were \$22,672,000.

## **Insurance**

General. The assets of the University, including assets of the Health System, are protected by a comprehensive program of insurance. The general liability coverage is placed with a reciprocal risk retention group known as "Pinnacle," which is owned by seventeen universities. The general liability limit in the amount of \$2,000,000 is subject to a \$500,000 deductible, with the reciprocal risk retention group covering the next \$1,500,000 of exposure. The University maintains all-risk property liability coverage with a commercial insurance carrier at a limit of \$2.25 billion for property, plant and equipment, with a \$500,000 deductible per incident for University owned and leased properties and a \$100,000 deductible per incident for the Health System owned and leased properties. In addition to Pinnacle and the all-risk property insurance program, the University's present coverage includes automobile liability insurance, professional liability, excess liability insurance, fine arts insurance, environmental impairment liability, surety bonds, workers' compensation, crime insurance, directors and officers insurance, fiduciary liability, cyber liability, helipad premises liability, non-owned aviation liability, student athlete injury liability, and an inventory of surety bonds that are contractually required to satisfy its obligations. The University conducts periodic reviews of its insurance needs in an effort to maintain adequate coverage at reasonable cost.

Malpractice Insurance. Act 111, the Pennsylvania Health Care Services Malpractice Act, requires every health care provider (hospitals, physicians and nurse mid-wives) to insure their medical malpractice liability exposure by purchasing commercial insurance or qualifying as a self-insurer. This statute, as amended, provides for a Medical Care Availability and Reduction of Error Fund (the "MCare Fund"), which provides coverage for all medical malpractice awards against a health care provider in excess of the primary limits with limits of \$500,000 per incident and \$1,500,000 in the aggregate. The primary limit of coverage prescribed by the statute is currently \$500,000 per incident per health care provider and \$1,500,000 in the aggregate for physicians and nurse mid-wives, and \$2,500,000 in the aggregate for a hospital. Nurse practitioners, physician assistants, clinical nurse specialists, perfusionists and physical therapists also are required to secure coverage with limits of \$1 million per incident and \$3 million in the aggregate. With the exception of LG Health and TCCHHS, the Health System insures these exposures through Franklin Casualty Insurance Company, a wholly owned insurance subsidiary included in the combined financial statements of the Health System that has been operational since July 1, 1997. TCCHHS is insured as a member of Cassatt Insurance Group. LG Health is insured through Lancaster General Insurance Company Ltd, an insurance company incorporated and licensed in the Cayman Islands the sole shareholder of which is LG Health. The company insures only the primary medical professional liability risk of the Health System employed physicians, nurse midwives, nurse practitioners, physician assistants, clinical nurse specialists, perfusionists, physical therapists and owned hospitals. Franklin Casualty Insurance Company is ultimately responsible for payment of any malpractice

awards within the primary limits and the prescribed limits for nurse practitioners, physician assistants, clinical nurse specialists, perfusionists and physical therapists. The Health System's exposure in excess of coverage provided by the MCare Fund or the limits for nurse practitioners, physician assistants and physical therapists is covered by a program that utilizes self - insurance and commercial insurance.

### **Litigation**

The University is a party in various legal proceedings arising in the ordinary course of its operations. In the opinion of management, the University has adequate insurance to cover the estimated potential liability for damages in these cases, and, to the extent such liability is not covered by insurance, any adverse decision would not have a material adverse effect on the University's financial position.

**APPENDIX B**

**FINANCIAL STATEMENTS OF THE UNIVERSITY  
FOR THE FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015**

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# **University of Pennsylvania**

**Consolidated Financial Statements**

**June 30, 2016 and 2015**

# University of Pennsylvania

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June 30, 2016 and 2015

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## **Report of Independent Auditors**

To the Trustees of the University of Pennsylvania:

We have audited the accompanying consolidated financial statements of the University of Pennsylvania (the "University"), which comprise the consolidated statements of financial position as of June 30, 2016 and 2015, and the related consolidated statements of activities and of cash flows for the years then ended.

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

Management is responsible for the preparation and fair presentation of the consolidated 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 consolidated financial statements that are free from material misstatement, whether due to fraud or error.

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

Our responsibility is to express an opinion on the consolidated 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 consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the University's preparation and fair presentation of the consolidated 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 consolidated 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of the University of Pennsylvania as of June 30, 2016 and 2015, and their changes in net assets and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

A handwritten signature in cursive script, reading "PricewaterhouseCoopers LLP".

September 23, 2016

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# Consolidated Statements of Financial Position

University of Pennsylvania  
(in thousands)

	June 30, 2016	June 30, 2015
<b>Assets</b>		
Cash and cash equivalents	\$ 1,127,602	\$ 933,984
Accounts receivable, net	323,787	312,577
Patient receivables, net	646,878	464,309
Contributions receivable, net	242,849	271,574
Loans receivable, net	97,663	97,047
Other assets	279,887	200,927
Investments, at fair value	12,452,410	11,565,722
Property, plant and equipment, net	6,202,907	5,154,095
Total assets	<u>\$ 21,373,983</u>	<u>\$ 19,000,235</u>
<b>Liabilities</b>		
Accounts payable	\$ 237,835	\$ 188,870
Accrued expenses and other liabilities	1,650,439	1,429,762
Deferred income	210,331	170,099
Deposits, advances and agency funds	162,719	116,133
Federal student loan advances	80,796	80,349
Liabilities associated with investments	333,080	207,158
Accrued retirement benefits	1,625,740	1,127,085
Debt obligations	2,560,454	2,189,759
Total liabilities	<u>6,861,394</u>	<u>5,509,215</u>
<b>Net assets</b>		
Unrestricted	8,447,469	7,153,207
Temporarily restricted	2,629,729	3,026,715
Permanently restricted	3,435,391	3,311,098
	<u>14,512,589</u>	<u>13,491,020</u>
Total liabilities and net assets	<u>\$ 21,373,983</u>	<u>\$ 19,000,235</u>

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

# Consolidated Statements of Activities

University of Pennsylvania  
for the years ended June 30, 2016 and 2015  
(in thousands)

	2016	2015
<b><u>Unrestricted</u></b>		
Revenue and other support:		
Tuition and fees, net	\$ 903,076	\$ 845,313
Commonwealth appropriations	32,927	31,514
Sponsored programs	904,337	909,869
Contributions and donor support	201,488	193,417
Investment income	439,405	402,059
Net patient service revenue	5,319,743	4,044,499
Sales and services of auxiliary enterprises	118,629	119,196
Other income	577,691	501,673
Independent operations	79,024	72,457
	<u>8,576,320</u>	<u>7,119,997</u>
Expenses:		
Compensation and benefits	4,728,829	3,892,829
Depreciation and amortization	452,748	366,290
Interest on indebtedness	78,634	73,092
Other operating expenses	2,879,776	2,390,904
	<u>8,139,987</u>	<u>6,723,115</u>
Increase in net assets from operations	<b>436,333</b>	<b>396,882</b>
Nonoperating revenue, net gains, reclassifications and other:		
(Loss) gain on investments, net	(112,464)	285,137
Investment income, net of amounts classified as operating revenue	(117,008)	(98,594)
Pension, OPEB and other, net	(326,234)	(339,626)
Contributions and donor support for capital related activities	1,413,635	40,207
Total nonoperating revenue, net gains, reclassifications and other	<u>857,929</u>	<u>(112,876)</u>
Increase in unrestricted net assets	1,294,262	284,006
<b><u>Temporarily Restricted</u></b>		
Contributions	202,633	91,440
(Loss) gain on investments, net	(97,930)	316,822
Investment income	15,086	32,238
Net assets released from restrictions	(516,775)	(374,057)
(Decrease) increase in temporarily restricted net assets	<u>(396,986)</u>	<u>66,443</u>
<b><u>Permanently Restricted</u></b>		
Contributions	136,471	151,909
(Loss) gain on investments, net	(12,691)	16,111
Investment income	513	714
Increase in permanently restricted net assets	<u>124,293</u>	<u>168,734</u>
Increase in net assets from nonoperating and restricted revenue, net gains, reclassifications and other	<b>585,236</b>	<b>122,301</b>
Increase in total net assets	<b>1,021,569</b>	<b>519,183</b>
Net assets, beginning of year	13,491,020	12,971,837
Net assets, end of year	<u>\$ 14,512,589</u>	<u>\$ 13,491,020</u>

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

# Consolidated Statements of Cash Flows

University of Pennsylvania  
for the years ended June 30, 2016 and 2015  
(in thousands)

	2016	2015
Cash flows from operating activities:		
Increase in net assets	\$ 1,021,569	\$ 519,183
Adjustment to reconcile increase in net assets to net cash provided by operating activities:		
Depreciation and amortization	452,748	366,290
Provision for bad debts	222,591	236,210
Loss (gain) on investments, net	223,085	(618,070)
Loss on disposal of property, plant and equipment	4,562	57,392
Donated equipment	(341)	(939)
Proceeds from split-interest agreements designated for operations	22,508	22,530
Receipt of contributed securities	(49,593)	(67,154)
Proceeds from contributed securities	18,112	28,159
Receipt of contributions designated for the acquisition of long-lived assets and long-term investment	(1,507,309)	(169,937)
Pension, OPEB and other, net	321,672	286,515
Changes in operating assets and liabilities:		
Patient, accounts and loans receivable	(300,276)	(316,832)
Contributions receivable	29,298	58,091
Other assets	(16,797)	(33,545)
Accounts payable, accrued expenses and accrued retirement benefits	31,433	98,060
Deposits, advances and agency funds	46,737	(5,867)
Deferred income	40,232	4,400
Net cash provided by operating activities	<u>560,231</u>	<u>464,486</u>
Cash flows from investing activities:		
Purchase of investments	(7,428,846)	(10,443,898)
Proceeds from sale of investments	7,504,319	10,293,702
Purchase of property, plant and equipment	(767,373)	(793,332)
Cash acquired in Lancaster General Hospital (LGH) membership substitution	97,307	-
Net cash used by investing activities	<u>(594,593)</u>	<u>(943,528)</u>
Cash flows from financing activities:		
Proceeds from contributions received designated for the acquisition of long-lived assets and long-term investment	220,594	171,052
Proceeds from contributed securities received designated for the acquisition of long-lived assets and long-term investment	30,338	36,974
Federal student loan advances	447	411
Repayment of long-term debt	(103,366)	(61,883)
Proceeds from issuances of long-term debt	79,967	150,000
Net cash provided by financing activities	<u>227,980</u>	<u>296,554</u>
Net increase (decrease) in cash and cash equivalents	193,618	(182,488)
Cash and cash equivalents, beginning of year	933,984	1,116,472
Cash and cash equivalents, end of year	<u>\$ 1,127,602</u>	<u>\$ 933,984</u>
Supplemental disclosure of cash flow information:		
Cash paid for interest, net of amounts capitalized	\$ 81,108	\$ 78,483
Contributed securities received	49,593	67,154
Increase (decrease) in accrued property, plant and equipment	18,572	(37,142)
Assets contributed under split-interest agreements	-	5,024
Assets acquired in LGH membership substitution	1,984,574	-
Liabilities assumed in LGH membership substitution	696,689	-
Contribution received in LGH membership substitution	1,287,885	-

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

# Consolidated Notes to Financial Statements

## 1. Significant Accounting Policies

### Organization

The University Of Pennsylvania (the University), located in Philadelphia, Pennsylvania, is an independent, nonsectarian, not-for-profit institution of higher learning founded in 1740. The University Academic Component (Academic Component) provides educational services, primarily for students at the undergraduate, graduate, professional and postdoctoral levels and performs research, training and other services under grants, contracts and similar agreements with sponsoring organizations, primarily departments and agencies of the United States Government. The University also operates an integrated health care delivery system, the University of Pennsylvania Health System (UPHS). The University is a tax-exempt organization under Section 501(c) (3) of the Internal Revenue Code.

### Basis of Presentation

The consolidated financial statements have been prepared on the accrual basis of accounting and include the accounts of the University and its subsidiaries, over which the University has a controlling financial interest or exercises control. All material transactions between the University and its subsidiaries are eliminated in consolidation. Investments in subsidiaries over which the University has the ability to exercise significant influence are reported using the equity method of accounting. Other investments in subsidiaries are reported using the cost method of accounting.

The net assets of the University are classified and reported as follows:

Unrestricted - Net assets that are not subject to donor-imposed restrictions.

Temporarily restricted - Net assets that are subject to legal or donor-imposed restrictions that will be met by actions of the University and/or the passage of time. These net assets include gifts donated for specific purposes and appreciation on permanent endowment, which is restricted by Pennsylvania law on the amounts that may be expended in a given year.

Permanently restricted - The original value of donor restricted net assets, the use of which is limited to investment and can only be appropriated for expenditure by the University in accordance with the Pennsylvania Uniform Principal and Income Act (Pennsylvania Act).

Expenses are reported as a decrease in unrestricted net assets. Gains and losses on investments are reported as increases or decreases in unrestricted net assets unless their use is restricted by explicit donor stipulation or by law. Donor-restricted resources intended for the acquisition or construction of long-lived assets are initially reported as temporarily restricted net assets and released from restrictions from temporarily restricted net assets to unrestricted net assets when the asset is placed in service or in accordance with donor-specified terms.

## Consolidated Notes to Financial Statements

Expirations of temporary restrictions on contributions and investment income, reported as Net assets released from restrictions, and the corresponding amounts are included in the Consolidated Statements of Activities as follows (in thousands):

<b>Temporarily Restricted Net Assets</b>	<b>2016</b>	<b>2015</b>
Net assets released from restrictions	\$ (516,775)	\$ (374,057)

  

<b>Unrestricted Net Assets</b>	<b>2016</b>	<b>2015</b>
Contributions and donor support	\$ 125,241	\$ 114,707
Investment income	241,766	219,143
Contributions and donor support for capital related activities	149,768	40,207
Net assets released from restrictions	\$ 516,775	\$ 374,057

Gains or losses associated with investment activities are included in net gains (losses) on investments. Gains or losses associated with all other activities, such as property, plant and equipment sales, debt retirements and pension and postretirement plan actuarial valuation adjustments are reported in Pension, Other post-retirement employee benefits (OPEB) and other, net.

### Fair Value

The University values certain financial and non-financial assets and liabilities by applying the Financial Accounting Standards Board (FASB) pronouncement on *Fair Value Measurements*. The pronouncement defines fair value and establishes a framework for measuring fair value that includes a hierarchy that categorizes and prioritizes the sources used to measure and disclose fair value. Fair value is defined 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 (an exit price). The hierarchy is broken down into three levels based on inputs that market participants would use in valuing the asset or liability and are developed based on market data obtained from sources independent of the University as follows:

Level 1: Unadjusted quoted market prices in active markets for identical assets or liabilities.

Level 2: Unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable.

Level 3: Unobservable inputs for the asset or liability.

Inputs broadly refer to the assumptions that market participants use to make valuation decisions, including assumptions about risk. Inputs may include price information, volatility statistics, specific and broad credit data, liquidity statistics and other factors. The University is required by the pronouncement to maximize the use of observable inputs (Levels 1 and 2) and minimize the use of unobservable inputs (Level 3). The University considers observable data to be that market data which is readily available, regularly distributed or updated, reliable and verifiable, not proprietary and provided by independent sources that are actively involved in the relevant market. The categorization of a financial instrument within the hierarchy is based upon the pricing transparency of the instrument and does not necessarily correspond to the University's perceived risk of that instrument.

Assets and liabilities are disclosed in the Consolidated Notes to Financial Statements within the hierarchy based on the lowest (or least observable) input that is significant to the measurement. The University's assessment of the significance of an input requires judgment, which may affect the valuation and categorization within the fair value hierarchy. The fair value of assets and liabilities using Level 3 inputs are generally determined by using pricing models or discounted cash flow methods, which all require significant management judgment or estimation.

# Consolidated Notes to Financial Statements

As a practical expedient, the University is permitted to estimate the fair value of an investment in an investment company at the measurement date using the reported net asset value (NAV). Adjustment is required if the University expects to sell the investment at a value other than NAV or if the NAV is not calculated in accordance with US generally accepted accounting principles (US GAAP). The University holds investments in its portfolio which are generally valued based on the most current NAV. This amount represents fair value of these investments at June 30, 2016 and 2015.

The University performs additional procedures including due diligence reviews on its investments in investment companies and other procedures with respect to the capital account or NAV provided to ensure conformity with US GAAP. The University has assessed factors including, but not limited to, managers' compliance with the *Fair Value Measurement* standard, price transparency and valuation procedures in place.

## Cash and Cash Equivalents

Cash equivalents include short-term, highly liquid investments and are carried at cost which approximates fair value. Unrestricted short-term investments available for current operations with maturities of three months or less when purchased are classified as cash equivalents.

## Investments, at Fair Value

The majority of the University's investments are held in the Associated Investments Fund (AIF). The AIF is invested in accordance with the investment policies set out by an Investment Board which has been appointed by the Trustees. The Office of Investments is responsible for the day-to-day management of the AIF including identifying, selecting and monitoring a variety of external investment managers to implement the strategic asset allocation set forth by the Investment Board. The AIF may include marketable and not readily marketable securities that it intends to hold for an indefinite period of time. The University also holds other investments which are not invested in the AIF due to various restrictions. The majority of these investments are in highly liquid short-term and equity type investments. Changes in the fair value of investments are reported in Gains or losses on investment in the Consolidated Statements of Activities. The following is a summary of the investments held in the AIF by asset allocation as well as investment risk:

### *Short-Term*

Short-term investments include cash equivalents and fixed income investments with maturities of less than one year. Short-term investments are valued using observable market data and are categorized as Level 1 based on quoted market prices in active markets. The majority of these short-term investments are held in a US Treasury money market account.

### *Equity*

Equity investments consist of direct holdings of public securities in managed accounts as well as exchange traded funds, commingled funds and limited partnerships. The securities held in managed accounts, along with exchange traded funds are generally valued based on quoted market prices in active markets obtained from exchange or dealer markets for identical assets, and are accordingly categorized as Level 1. Commingled funds and limited partnerships are valued at NAV.

### *Debt*

Debt investments consist of direct holdings of securities in managed accounts and limited partnerships. Securities such as US Treasuries, held in managed accounts, are valued based on quoted market prices in active markets and are categorized as Level 1. Securities such as corporate bonds, high yield bonds and bank loans, also held in managed accounts, are valued based on quoted market prices or dealer or broker quotations and are categorized as Level 2 or in the cases where inputs are unobservable as Level 3. Limited partnership interests are valued at NAV.

# Consolidated Notes to Financial Statements

## *Absolute Return*

Absolute return investments are made up of allocations to partnerships. The fund managers invest in a variety of securities, based on the strategy of the fund, which may or may not be quoted in an active market. Illiquid investments, if any, are generally designated as a side pocket by hedge fund managers and may be valued based on an appraised value, discounted cash flow, industry comparables or some other method. Limited partnership interests are valued at NAV.

## *Real Estate*

Investments in real estate are primarily in the form of close-ended limited partnership interests. The fund managers primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV. Real estate investments also include an open-ended real estate investment trust valued at NAV.

## *Private Equity*

Investments in private equity are in the form of close-ended limited partnership interests. The fund managers primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV.

## *Natural Resources*

Investments in natural resources are made up of limited partnership interests and securities in managed accounts. The limited partnership fund managers primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV. The University directly holds the securities held in the managed accounts through a custodial relationship. The securities held in the managed accounts are generally valued based on quoted market prices in active markets obtained from exchange or dealer markets for identical assets, and are accordingly categorized as Level 1.

## *Derivatives*

The University, in the normal course of business, utilizes derivative financial instruments in connection with its investment activity. Derivatives utilized by the University include futures, options, swaps and forward currency contracts and are reflected at fair value following the definition of Level 1 and 2 assets and liabilities as previously described. Investments in derivative contracts are subject to foreign exchange and equity price risks that can result in a loss of all or part of an investment. In addition, the University is also subject to additional counterparty risk should its counterparties fail to meet the terms of their contracts.

## *Investment Risks*

The University's investing activities expose it to a variety of risks, including market, credit and liquidity risks and attempts to identify, measure and monitor risk through various mechanisms including risk management strategies and credit policies.

Market risk is the potential for changes in the fair value of the University's investment portfolio. Commonly used categories of market risk include currency risk (exposure to exchange rate differences between functional currency relative to other foreign currencies), interest rate risk (changes to prevailing interest rates or changes in expectations of futures rates) and price risk (changes in market value other than those related to currency or interest rate risk, including the use of NAV provided).

# Consolidated Notes to Financial Statements

Credit risk is the risk that one party to a financial investment will cause a financial loss for the other party by failing to discharge an obligation (counterparty risk).

Liquidity risk is the risk that the University will not be able to meet its obligations associated with financial liabilities.

## **Endowment**

The University's endowment consists of 5,936 donor-restricted permanent or term endowment funds and 876 unrestricted endowment funds established by management for a variety of purposes. The University reports all endowment investments at fair value. The majority of the endowment funds of the University have been pooled in the University's AIF, which is invested in equities, bonds, hedge funds, natural resources, private equity and real estate limited partnerships. The endowment funds not pooled in the AIF are primarily invested in equities and bonds.

The Commonwealth of Pennsylvania has not adopted the Uniform Management of Institutional Funds Act (UMIFA) or the Uniform Prudent Management of Institutional Funds Act (UPMIFA). Rather, the Pennsylvania Act governs the investment, use and management of the University's endowment funds.

The Pennsylvania Act does not require the preservation of the fair value of a donor's original gift as of the gift date of a donor-restricted endowment fund, absent explicit donor stipulations to the contrary. However, based on its interpretation of the Pennsylvania Act and relevant accounting literature, the University classifies as permanently restricted net assets for reporting purposes: (i) the original value of gifts donated to the permanent endowment; (ii) the original value of subsequent gifts to the permanent endowment; and (iii) accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund. The remaining portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the University. The Pennsylvania Act allows a nonprofit to elect to appropriate for expenditure between 2% and 7% of the endowment fair value, determined at least annually and averaged over a period of three or more preceding years.

In accordance with the Pennsylvania Act, the University has elected to adopt and follow an investment policy seeking a total return for the investments held by the AIF, whether the return is derived from appreciation of capital or earnings and distributions with respect to capital or both. The endowment spending policy which the Board of Trustees has elected to govern the expenditure of funds invested in the AIF is designed to manage annual spending levels and is independent of the cash yield and appreciation of investments for the year. For Fiscal Year 2016, the spending rule target payout was based on the sum of: (i) 70% of the prior fiscal year distribution adjusted by an inflation factor; and (ii) 30% of the prior fiscal year-end fair value of the AIF, lagged one year, multiplied by 5.9% for financial aid funds and 4.7% for all other funds. The payout or allocation to operations exceeded actual income, net of expenses and net of income permanently reinvested, by \$365,366,000 in 2016 and by \$336,543,000 in 2015.

Effective for Fiscal Year 2017, the University revised its spending rule formula to reduce the target spending rate on financial aid endowments to 5.3% and increase the target spending rate on non-financial aid endowments to 5.0%

## **Property, Plant and Equipment**

Property, plant and equipment ('PPE') is reported net of related depreciation. Donated PPE is reported based on estimated fair value at the date of acquisition. Capital leases are categorized as buildings or equipment and are reflected at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. All other PPE is reported at cost. Depreciation is computed on the straight-line method over the estimated useful lives of the assets or the shorter of the lease term or estimated useful life of the asset for capital lease assets. Contributions of rare books and other collectibles are not recorded for financial statement presentation, while purchases are recorded as Other operating expenses on the Consolidated Statement of Activities in the period acquired.



# Consolidated Notes to Financial Statements

## Split-Interest Agreements

The University's split-interest agreements with donors consist primarily of irrevocable charitable remainder trusts, charitable gift annuities, pooled income funds, perpetual trusts and charitable lead trusts. Assets are invested and payments are made to donors and/or other beneficiaries in accordance with the respective agreements.

The University recognizes assets contributed to charitable remainder trusts, charitable gift annuities and pooled income funds, where it serves as trustee, at fair value, recognizes a liability to the beneficiaries based on the present value of the estimated future payments to beneficiaries to be made over the estimated remaining life of those beneficiaries using current market rates at the date of the contribution, and recognizes the difference as contribution revenue. Subsequently, the trust assets, invested in equity and debt securities, are measured at fair value at quoted market prices, and are categorized as Level 1, with the changes reported as an adjustment to Investments, at fair value on the Consolidated Statements of Position and Gains or losses on investment on the Consolidated Statements of Activities. Liabilities to beneficiaries are revalued based on current market rates, and are categorized as Level 2, with the changes reported as an adjustment to Liabilities associated with investments on the Consolidated Statements of Position and Gains or losses on investments on the Consolidated Statements of Activities.

Charitable remainder trust assets, where the University does not serve as trustee, are initially valued using the current fair value of the underlying assets, using observable market inputs based on its beneficial interest in the trust, discounted to a single present value using current market rates at the date of the contribution. The initially contributed assets are categorized as Level 3, and reported as Investments, at fair value on the Consolidated Statements of Position and Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Position and Gains or losses on investments on the Consolidated Statements of Activities. The primary unobservable input used in the fair value measurement of the Charitable remainder trust assets is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change in fair value.

Perpetual trust assets are initially valued at the current fair value of the underlying assets using observable market inputs based on its beneficial interest in the trust. The initially contributed assets are categorized as Level 3 and are reported as Investments, at fair value on the Consolidated Statements of Position and as Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Position and Gains or losses on investments on the Consolidated Statements of Activities. The primary unobservable inputs used in the fair value measurement of the perpetual trust assets are the underlying securities held by the trust. Significant fluctuation in the market value of these underlying securities could result in a material change in fair value.

Charitable lead trust assets contributed prior to July 1, 2010 were initially valued based on estimated future payments discounted to a single present value using current market rates at the date of the contribution, matched to the payment period of the agreement. Effective July 1, 2010, the University elected to fair value new charitable lead trust assets contributed under the FASB Fair Value Option standard to more appropriately approximate the value that would be received if the right to these future payments could be sold. The University values these assets by discounting future cash flows using current market rates at the measurement date, matched to the payment period of the agreement. The initially contributed assets are categorized as Level 3, and reported as Investments, at fair value on the Consolidated Statements of Position and as Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Position and Gains or losses on investments on the Consolidated Statements of Activities. The primary unobservable input used in the fair value measurement of the Charitable lead trust assets is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change in fair value.

# Consolidated Notes to Financial Statements

## Income Taxes

The University is a tax exempt organization under Section 501 (c) (3) of the Internal Revenue Code. Most of its activities and income are related to its exempt purposes and are exempt from federal and state income taxes. None of its activities and income is subject to Pennsylvania income tax. Unrelated activities and income, including certain sales of healthcare related products and services and certain sales of computer hardware and software, are subject to federal "Unrelated Business Income Tax."

The University regularly evaluates its tax position and does not believe it has any uncertain tax positions that require disclosure or adjustment to the consolidated financial statements.

## Tuition and Fees

The University maintains a policy of offering qualified undergraduate applicants admission to the University without regard to financial circumstance. This policy provides financial aid to eligible students in the form of direct grants and employment during the academic year. The University maintains an all-grant aid program whereby any qualified undergraduate student with demonstrated financial need receives an all-grant aid package which includes only grants and a work-study award. Students may still borrow at their discretion to supplement their aid packages. Tuition and fees have been reduced by certain grants and scholarships in the amount of \$322,367,000 in 2016 and \$306,831,000 in 2015.

## Sponsored Programs

The University receives grant and contract revenue from governmental and private sources. In 2016 and 2015, grant and contract revenue earned from governmental sources totaled \$696,148,000 and \$705,987,000, respectively. The University generally recognizes revenue associated with the direct and the applicable indirect costs of sponsored programs as the related costs are incurred. The University negotiates its federal indirect rate with its cognizant federal agency. Indirect costs recovered on federally-sponsored programs are generally based on predetermined reimbursement rates which are stated as a percentage and distributed based on the modified total direct costs incurred. Indirect costs recovered on all other grants and contracts are based on rates negotiated with the respective sponsors. Funds received for sponsored research activity are subject to audit. Based upon information currently available, management believes that any liability resulting from such audits will not materially affect the financial position or operations of the University.

## Contributions

Unrestricted Contributions and donor support includes net assets released as a result of corresponding expenditures which met donor imposed restrictions. Contributions, including unconditional promises to donate cash and other assets, are recognized as revenue in the period received and are reported as increases in the appropriate net asset category based on donor restrictions. Contributions designated for the acquisition of long-lived assets and long-term investment are reported in Nonoperating revenue, net gains, reclassifications and other. Unconditional pledges received prior to July 1, 2010 are recognized at their estimated net present value using current market rates, at the date of the pledge, ranging from 3.97% to 5.64%, net of an allowances for doubtful amounts, and are classified in the appropriate net asset category.

Effective July 1, 2010, the University elected to fair value new unconditional pledges received under the FASB Fair Value Option standard to more appropriately approximate the value that would be received if the right to these future payments could be sold. The University values these assets by discounting future cash flows using current market rates at the measurement date, ranging from 1.34% to 2.70%, matched to the payment period of the agreement, and accordingly categorizes these assets as Level 3. The primary unobservable input used in the fair value measurement of the University's Contributions receivable is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change.

# Consolidated Notes to Financial Statements

## Net Patient Service Revenue

Net patient service revenue is derived from UPHS patient services and is accounted for at established rates on the accrual basis in the period the service is provided. Patient service revenue is net of charity care and community services. Certain revenue received from third-party payors is subject to audit and retroactive adjustment. Any changes in estimates under these contracts are recorded in operations currently.

## Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States 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 revenue and expenses during the reporting period. Actual results could differ from those estimates.

## Recent Authoritative Pronouncements

In April 2015, the FASB issued a standard on Simplifying the Presentation of Debt Issuance Costs. This standard requires all costs incurred to issue debt to be presented in the balance sheet as a direct deduction from the carrying value of the associated debt liability. The standard is effective for fiscal years beginning after December 15, 2015. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2017.

In May 2014, the FASB issued a standard on Revenue from Contracts with Customers. This standard implements a single framework for recognition of all revenue earned from customers. This framework ensures that entities appropriately reflect the consideration to which they expect to be entitled in exchange for goods and services by allocating transaction price to identified performance obligations and recognizing revenue as performance obligations are satisfied. Qualitative and quantitative disclosures are required to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The standard is effective for fiscal years beginning after December 15, 2017. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2019.

In August 2016, the FASB issued a standard on the Presentation of Financial Statements of Not-for-Profit Entities. The new guidance requires improved presentation and disclosures to help not-for-profits provide more relevant information about their resources to donors, grantor, creditors and other users. The standard is effective for fiscal years beginning after December 15, 2017. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2019.

In February 2016, the FASB issued a standard on Leases. This standard requires lessees to recognize assets and liabilities for the rights and obligations created by leases with terms in excess of 12 months. The recognition, measurement, and presentation of expenses and cash flows arising from a lease will primarily depend on its classification as a finance or operating lease. The accounting by lessors remains largely unchanged. This standard is effective for fiscal years beginning after December 15, 2018. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2020.

## 2. University of Pennsylvania Health System - Summarized financial and related information

The Trustees of the University formed Penn Medicine, the governance structure which oversees the activities of UPHS and the University of Pennsylvania Perelman School of Medicine (PSOM). The governing body operates, oversees and coordinates the academic, research and clinical missions of Penn Medicine.

# Consolidated Notes to Financial Statements

UPHS is comprised of the following operating entities: Clinical Practices of the University of Pennsylvania; Clinical Care Associates; Hospital of the University of Pennsylvania; Penn Presbyterian Medical Center; Pennsylvania Hospital of the University of Pennsylvania Health System; Chester County Hospital and Health System; Wissahickon Hospice of the University of Pennsylvania Health System; Franklin Casualty Insurance Company, a wholly owned Risk Retention Group; and, Quaker Insurance Company Ltd., a wholly owned offshore captive insurance company, (collectively referred to as RRG/Captive). In August 2015, through a membership substitution, Lancaster General Health (LGH) became a part of UPHS.

Throughout the year, certain transactions (primarily billings for allocations of common costs, physicians' salaries and benefits, certain purchased services and support for PSOM) are conducted between UPHS and the University. Nonoperating, net, as shown below, includes transfers from UPHS to the University of \$159,055,000 and \$113,279,000 in 2016 and 2015, respectively, to further the research and educational activities of PSOM and \$1,748,000 and \$34,516,000 in 2016 and 2015, respectively, for other activities. In addition, UPHS recognized operating expenses of \$20,648,000 and \$20,676,000 in 2016 and 2015, respectively, to support academic operating activities in the clinical departments of PSOM. The effect of all these transactions is included in the following summarized financial information of UPHS as of and for the years ended June 30, 2016 and 2015 (in thousands):

	2016	2015
Net patient service revenue	\$ 5,545,187	\$ 4,283,346
Provision for bad debt	(218,621)	(231,955)
Net patient service revenue less bad debts	5,326,566	4,051,391
Other revenue	375,249	274,262
Total expenses	(5,282,693)	(3,980,490)
Excess of revenue over expenses from operations	419,122	345,163
Nonoperating, net	843,161	(188,797)
Increase in net assets	\$ 1,262,283	\$ 156,366
Total current assets	\$ 1,522,213	\$ 1,062,050
Assets whose use is limited:		
Held by trustees	66,596	7,686
RRG/ Captive	177,873	127,852
Donor restricted and other	538,122	545,235
Designated	2,009,628	1,223,513
Property and equipment, net	3,082,914	2,187,607
Investments and other assets	933,134	820,253
Total assets	\$ 8,330,480	\$ 5,974,196
Total current liabilities	\$ 808,518	\$ 634,653
Long-term debt, net of current portion	1,482,176	1,121,910
Other liabilities	2,017,880	1,458,010
Total liabilities	\$ 4,308,574	\$ 3,214,573
Net assets		
Unrestricted	\$ 3,479,899	\$ 2,211,529
Temporarily restricted	367,159	382,287
Permanently restricted	174,848	165,807
Total net assets	\$ 4,021,906	\$ 2,759,623
Total liabilities and net assets	\$ 8,330,480	\$ 5,974,196

# Consolidated Notes to Financial Statements

## Net Patient Service Revenue

Net Patient Service Revenue ('NPSR'), net of contractual allowances and discounts, is as follows for the years ended June 30, 2016 and 2015 (in thousands):

	2016	2015
Third Party Payors	\$ 5,378,831	\$ 4,069,179
Self-Pay	166,356	214,167
Total All Payors	<u>\$ 5,545,187</u>	<u>\$ 4,283,346</u>

NPSR for the years ended June 30, 2016 and 2015 is derived from the following payors:

	2016	2015
Medicare (including Managed Medicare)	30%	28%
Medicaid (including Managed Medicaid)	11%	12%
Managed Care	29%	32%
Independence Blue Cross (IBC)	23%	19%
Commercial	4%	4%
Self Pay	3%	5%
	<u>100%</u>	<u>100%</u>

UPHS has agreements with the following third-party payors that provide for payments at amounts that differ from its established rates:

Effective July 1, 2012, UPHS and IBC reached agreement on terms of a four-year agreement. Payments made for inpatient services provided to IBC traditional and managed care subscribers are effected on a per case rate basis for most services. Payment for outpatient services is principally based upon negotiated fee schedules. Hospital and physician rates also provide for annual inflationary increases. In addition, incentives are paid for high performance with regard to clinical outcomes and patient quality. The agreement continues unless terminated by the parties.

During 2015, UPHS and Aetna reached agreement on terms of a new five-year agreement. The terms of the agreement provide payments for inpatient hospital services on a per case rate basis. Payments for outpatient services continue to be predominantly based upon negotiated fee schedules.

UPHS also has reimbursement agreements with certain commercial insurance carriers, health maintenance organizations and preferred provider organizations. The basis for reimbursement under these agreements includes prospectively determined rates per discharge, discounts from established charges and prospectively determined per diem rates.

### Charity Care

UPHS provides services to patients, who meet certain criteria under its charity care policy, without charge or at amounts less than UPHS' established rates. Because UPHS does not pursue collections, such amounts have been excluded from NPSR. UPHS estimates the costs of providing charity care services based on data derived from a combination of UPHS' cost accounting system and the ratio of costs to charges. Of the Total expenses reported above by UPHS, an estimated \$16,282,000 and \$7,077,000 were incurred as a result of providing services to charity patients for the years ended June 30, 2016 and 2015, respectively.

# Consolidated Notes to Financial Statements

## Provision for Bad Debt

The provision for bad debt is based on management's assessment of expected net collections considering economic conditions, historical experience, trends in health care coverage and other collection indicators. Included in this assessment are patients who do not have health insurance or do not meet the criteria to qualify for UPHS' charity care policy. UPHS pursues collection of these amounts, however certain amounts are deemed to be uncollectible. Periodically throughout the year, management assesses the adequacy of the allowances for uncollectible accounts based upon historical write-off experience by payor category, including not covered by insurance, and history of cash collections. The results of this review are then used to make any modifications to the provision for bad debt to establish an appropriate allowance for uncollectible accounts. No significant modifications were made for Fiscal Years 2016 or 2015. After satisfaction of amounts due from insurance and reasonable efforts to collect from patients have been exhausted, UPHS follows established guidelines for placing certain past-due patient balances with collection agencies, subject to terms of certain restrictions on collection efforts as determined by UPHS. Account receivables are written off after collection efforts have been followed in accordance with UPHS' policy. UPHS' allowances for uncollectible accounts totaled \$220,700,000 and \$178,299,000 at June 30, 2016 and 2015, respectively.

## LGH Membership Substitution

Effective August 1, 2015, UPHS and LGH entered into an affiliation agreement whereby UPHS became the sole corporate member of LGH. LGH operates three hospitals in South Central Pennsylvania, including Lancaster General Hospital, a 533-bed general acute care hospital, Women & Babies Hospital, a 98-bed facility specializing in women's health and maternity services, and Lancaster Rehabilitation Hospital, a 59-bed rehabilitation hospital, as well as 14 outpatient centers, 3 urgent care sites, and a physician practice network with nearly 200 primary care and specialty practices at 40 practice sites.

No consideration was exchanged for the net assets contributed and costs are expensed as incurred. UPHS recorded non-operating contribution income of \$1,287,885,000 in fiscal year 2016 reflecting the fair value of the contributed net assets of LGH on August 1, 2015, of which, \$11,289,000 and \$12,729,000 were recorded in temporarily restricted and permanently restricted net assets, respectively.

Total fair value of assets, liabilities and net assets contributed by LGH and its subsidiaries at August 1, 2015 were as follows (in thousands):

	August 1, 2015
Cash and cash equivalents	\$ 97,307
Patients accounts receivable, net	99,793
Prepaid expenses and other current assets	56,839
Assets limited as to use	160,855
Property, plant and equipment, net	702,845
Other assets	866,935
<b>Total assets acquired</b>	<b>\$ 1,984,574</b>
Accounts payable and accrued expense	\$ 28,668
Accrued compensation and related benefits	269,072
Estimated third-party settlements	12,484
Long-term debt	306,703
Other liabilities	79,762
<b>Total liabilities assumed</b>	<b>\$ 696,689</b>
Unrestricted	\$ 1,263,867
Temporarily restricted	11,289
Permanently restricted	12,729
<b>Total net assets</b>	<b>\$ 1,287,885</b>
<b>Total liabilities and net assets</b>	<b>\$ 1,984,574</b>

## Consolidated Notes to Financial Statements

A summary of the pro-forma combined financial results of LGH and UPHS for the years ended June 30, 2016 and 2015, as if the affiliation had occurred on July 1, 2014, is as follows (unaudited and in thousands):

	2016		2015	
Total operating revenue	\$	5,788,466	\$	5,363,237
Total operating expense		5,365,082		4,970,213
Excess of revenue over expenses from operations	\$	423,384	\$	393,024
Non-operating (loss) gain		(24,554)		114,429
Pension and other postretirement plan adjustments		(282,763)		(173,007)
Transfers and other		(135,902)		(140,949)
(Decrease) increase in unrestricted net assets	\$	(19,835)	\$	193,497

### 3. Accounts Receivable

The major components of receivables, net of allowances for doubtful accounts of \$15,209,000 and \$13,480,000 at June 30, 2016 and 2015, respectively, are as follows (in thousands):

	2016		2015	
Sponsored research	\$	123,735	\$	141,507
Malpractice		91,350		80,951
Student		12,798		17,579
Trade		44,318		36,508
Investment income		3,843		6,011
Other		47,743		30,021
Total Accounts receivable	\$	323,787	\$	312,577

Accounts receivable are reported at their net realizable value.

### 4. Loans Receivable

Loans receivable, and related allowances for doubtful accounts, consist of the following at June 30, 2016 and 2015 (in thousands):

2016				
	Receivable	Allowance	Net	
Student Loans:				
Federally-sponsored	\$ 72,836		\$	72,836
Other	17,612	\$ 3,803		13,809
Total Student loans	\$ 90,448	\$ 3,803	\$	86,645
Other	11,247	229		11,018
Total	\$ 101,695	\$ 4,032	\$	97,663

  

2015				
	Receivable	Allowance	Net	
Student Loans:				
Federally-sponsored	\$ 72,313		\$	72,313
Other	17,376	\$ 3,675		13,701
Total Student loans	\$ 89,689	\$ 3,675	\$	86,014
Other	11,250	217		11,033
Total	\$ 100,939	\$ 3,892	\$	97,047

# Consolidated Notes to Financial Statements

Loans receivable primarily consists of student loans. Student loans include federally-sponsored student loans and donor-restricted student loans with mandated interest rates and repayment terms. The federally-sponsored student loans represent amounts due from current and former students under various Federal Government funded loan programs, including Perkins and other health professional programs offered to graduate and undergraduate students. Loans disbursed under these programs are able to be assigned to the Federal Government upon default by the borrower, and therefore, no related allowance is considered necessary. Funding received under these programs is ultimately refundable to the Federal Government in the event the University no longer participates and accordingly is reported as a liability in Federal student loan advances in the Consolidated Statements of Position. Determination of the fair value of student loans receivable is not practicable.

Loans receivable are reported at their net realizable value. The University regularly assesses the adequacy of the allowances for credit losses of its loans by performing ongoing evaluations, including such factors as aging, differing economic risks associated with each loan category, financial condition of specific borrowers, economic environment in which the borrowers operate, level of delinquent loans, value of collateral and existence of guarantees or indemnifications.

## 5. Contributions Receivable

A summary of contributions receivable at June 30, 2016 and 2015, is as follows (in thousands):

	2016	2015
Unconditional promises expected to be collected in:		
Less than one year	\$ 118,920	\$ 151,446
One year to five years	134,532	144,036
Over five years	38,853	23,827
	<u>292,305</u>	<u>319,309</u>
Less: Discount	(16,107)	(15,806)
Less: Allowances for doubtful amounts	(33,349)	(31,929)
Total Contributions receivable, net	<u>\$ 242,849</u>	<u>\$ 271,574</u>

At June 30, 2016 and 2015, the University has outstanding unrecorded conditional promises to give, including non-legally binding bequests, of \$300,919,000 and \$292,691,000, respectively. When they become unconditional promises to give or are received in cash, they will be recorded and generally will be restricted for operations, endowment and capital projects as stipulated by the donors.

## 6. Investments, at Fair Value

In Fiscal Year 2015, the University adopted the standard on *Fair Value Measurement and Disclosure Requirements in Certain Entities That Calculated Net Asset Value (NAV) per Share*. As a result of the adoption, investments reported at net asset value per share, as a practical expedient, are no longer included within levels 1, 2, or 3 in the fair value hierarchy.



## Consolidated Notes to Financial Statements

A summary of investments, including the AIF, measured at fair value in accordance with the *Fair Value Measurements* standard, as of June 30, 2016 and June 30, 2015 is as follows (in thousands):

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	\$ 1,144,489				\$ 1,144,489
Equity:					
US equities	1,169,071			\$ 870,155	2,039,226
International equities	456,661			516,157	972,818
Emerging market equities	105,645	\$ 6,915		871,350	983,910
Total Equity	1,731,377	6,915		2,257,662	3,995,954
Debt:					
US treasuries	1,112,101	64,229			1,176,330
Corporate bonds	105,474	186,214	3,542		295,230
High yield				439	439
Total Debt	1,217,575	250,443	3,542	439	1,471,999
Split-interest agreements	71,723		\$ 400,045		471,768
Absolute return				2,622,488	2,622,488
Real estate		1,090	136,139	539,075	676,304
Private equity			8,698	1,570,942	1,579,640
Natural resources	297,708			174,718	472,426
Derivative instruments	867	13,937			14,804
Other			2,538		2,538
Total assets	\$ 4,463,739	\$ 272,385	\$ 550,962	\$ 7,165,324	\$ 12,452,410

Assets	Level 1	Level 2	Level 3	Investments at NAV	2015
Short-term	\$ 793,370				\$ 793,370
Equity:					
US equities	949,346			\$ 893,408	1,842,754
International equities	395,287			666,056	1,061,343
Emerging market equities	152,088	\$ 4,964		905,680	1,062,732
Total Equity	1,496,721	4,964		2,465,144	3,966,829
Debt:					
US treasuries	1,179,144			121,535	1,300,679
Corporate bonds		35,851			35,851
High yield				921	921
Total Debt	1,179,144	35,851		122,456	1,337,451
Split-interest agreements	74,639		\$ 416,382		491,021
Absolute return				2,850,658	2,850,658
Real estate		60	44,767	482,372	527,199
Private equity			9,635	1,132,606	1,142,241
Natural resources	282,678			132,862	415,540
Derivative instruments	2,972	16,387			19,359
Other		19,800	2,254		22,054
Total assets	\$ 3,829,524	\$ 77,062	\$ 473,038	\$ 7,186,098	\$ 11,565,722

# Consolidated Notes to Financial Statements

A summary of Liabilities associated with investments as of June 30, 2016 and 2015 is as follows (in thousands):

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2016
Securities sold, not yet purchased	\$ 253,890	\$ 2,949	\$ 354		\$ 257,193
Derivative instruments	1,486	12,745			14,231
Split-interest agreements		47,424			47,424
Other	14,232				14,232
Total liabilities	\$ 269,608	\$ 63,118	\$ 354	\$ -	\$ 333,080

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2015
Securities sold, not yet purchased	\$ 113,897	\$ 9,756			\$ 123,653
Derivative instruments	1,956	7,617			9,573
Split-interest agreements		44,799			44,799
Other	9,203	19,930			29,133
Total liabilities	\$ 125,056	\$ 82,102	\$ -	\$ -	\$ 207,158

Included in Short-term investments is \$59,386,000 and \$2,033,000 of amounts held by trustees under indenture and escrow agreements at June 30, 2016 and 2015, respectively.

At June 30, 2016 and 2015, Short-term investments include \$39,905,000 and \$49,039,000, respectively, of outstanding receivables from trading activities. At June 30, 2016 and 2015, Short-term investments include \$145,893,000 and \$36,928,000, respectively, of outstanding payables from trading activities.

As of June 30, 2016 and 2015 there were no transfers between Level 1 and 2.

The University has made investments in various long-lived partnerships and, in other cases, has entered into contractual agreements that may limit its ability to initiate redemptions due to notice periods, lock-ups and gates. The University has also made commitments to various limited partnerships. The University expects these funds to be called over the next 5 years. The total amount of unfunded commitments is \$2,666,200,000 which represents 27.9% of the AIF value as of June 30, 2016.

## Consolidated Notes to Financial Statements

Details on the fair value, remaining estimated life, outstanding commitments, current redemption terms and restrictions by strategy and type of investment are provided below (in thousands):

Strategy	Fair Value June 30, 2016	Fair Value June 30, 2015	Remaining Life	Outstanding Commitments	Redemption Terms	Redemption Restrictions
Short-term	\$ 1,144,489	\$ 793,370	N/A	\$ -	Daily	None
<b>Equity</b>						
Managed accounts	891,040	1,108,414	N/A	-	Daily, monthly and semi-annually	None
Mutual funds	307,379	-	N/A	-	Daily	None
Exchange traded funds	48,462	-	N/A	-	Daily	None
Commingled funds	690,917	949,036	N/A	18,200	Weekly to annually with varying notice periods	Lock-up provisions ranging from 0 to 5 years
Partnerships	2,058,156	1,909,379	N/A	164,075	Quarterly to annually with varying notice periods	Lock-up provisions ranging from 0 to 5 years. Excludes \$63 million in one fund with no redemptions permitted and \$11 million of side pocket investments
<b>Total Equity</b>	<b>3,995,954</b>	<b>3,966,829</b>		<b>182,275</b>		
<b>Debt</b>						
Managed accounts	1,358,267	1,206,012	N/A	-	Daily	None
Partnership	113,732	131,439	N/A	-	Daily to annually with varying notice periods	\$439,000 of side pocket investments
<b>Total Debt</b>	<b>1,471,999</b>	<b>1,337,451</b>				
Absolute return	2,622,488	2,850,658	N/A	384,755	Quarterly, annually, and 2 years with varying notice periods. Excludes 20 limited partnerships with no redemptions permitted. Distributions received as underlying investments are liquidated	Lock-up provisions ranging from 0 to 2 years with some earlier redemptions permitted subject to redemption fee. Excludes \$434 million in 20 limited partnerships with no redemptions permitted and \$148 million of side pocket investments
Real estate	676,304	527,199	1 to 15 years	514,842	Redemptions not permitted. Distributions received as underlying investments are liquidated. Excludes 1 fund with quarterly liquidity on 90 day notice period	N/A
Private equity	1,579,640	1,142,241	1 to 16 years	1,305,957	Redemptions not permitted. Distributions received as underlying investments are liquidated	N/A
<b>Natural resources</b>						
Managed account	260,352	282,678	N/A	-	Daily and quarterly	Lock-up provisions range from 0 to 2 years
Commingled fund	37,356	-	N/A	-	Daily	None
Partnerships	174,718	132,862	1 to 15 years	278,371	Redemptions not permitted. Distributions received as underlying investments are liquidated	N/A
<b>Total Natural resources</b>	<b>472,426</b>	<b>415,540</b>		<b>278,371</b>		
<b>Totals</b>	<b>\$ 11,963,300</b>	<b>\$ 11,033,288</b>		<b>\$ 2,666,200</b>		

Included in Level 1 Split-interest agreement investments above are readily marketable assets invested by the University separately from the AIF where the University serves as trustee with an aggregate fair value of \$71,723,000 and \$74,639,000 at June 30, 2016 and 2015, respectively. Level 3 Split-interest agreement investments are managed and invested outside of the University by external trustees.

Invested in the AIF with an aggregate fair value of \$141,294,000 and \$150,173,000 at June 30, 2016 and 2015, respectively, is a perpetual trust managed by an external trustee who has delegated investment decisions to the University. The University invests the assets of this trust in accordance with its Endowment Policy.

## Consolidated Notes to Financial Statements

Included in Split-interest agreements are amounts held to meet legally mandated annuity reserves of \$29,815,000 and \$30,100,000 as of June 30, 2016 and 2015, respectively, as required by the laws of the following states where certain individual donors reside: California, New Jersey and New York.

A summary of Level 3 assets included in Split-interest agreements, where the University is not trustee, measured at fair value, as of June 30, 2016 and 2015 is as follows (in thousands):

	2016	2015
Charitable remainder trusts	\$ 11,113	\$ 10,966
Charitable lead trusts	113,449	129,445
Perpetual trusts	275,483	275,971
Total	<u>\$ 400,045</u>	<u>\$ 416,382</u>

Changes to the reported amounts of Split-interest agreements measured at fair value using unobservable (Level 3) inputs as of June 30, 2016 and 2015 are as follows (in thousands):

	Charitable Remainder Trusts	Charitable Lead Trusts	Perpetual Trusts	Total
June 30, 2015	\$ 10,966	\$ 129,445	\$ 275,971	\$ 416,382
Net realized gains			4,486	4,486
Net unrealized gains/ (losses)	289	6,534	(12,269)	(5,446)
Acquisitions			7,296	7,296
Liquidations	(142)	(22,530)	(1)	(22,673)
June 30, 2016	<u>\$ 11,113</u>	<u>\$ 113,449</u>	<u>\$ 275,483</u>	<u>\$ 400,045</u>

	Charitable Remainder Trusts	Charitable Lead Trusts	Perpetual Trusts	Total
June 30, 2014	\$ 6,974	\$ 148,208	\$ 276,495	\$ 431,677
Net realized gains			815	815
Net unrealized (losses)/ gains	(56)	2,750	(1,163)	1,531
Acquisitions	4,048	1,017		5,065
Liquidations		(22,530)	(176)	(22,706)
June 30, 2015	<u>\$ 10,966</u>	<u>\$ 129,445</u>	<u>\$ 275,971</u>	<u>\$ 416,382</u>

## Consolidated Notes to Financial Statements

The following tables set forth the fair value, related Gains (losses) and notional amounts of the University's derivative instruments by contract type as of June 30, 2016 and 2015 (in thousands):

2016				
	Notional Amount	Gross Derivative Assets	Gross Derivative Liabilities	Derivative Gains (Losses)
Foreign currency contracts	\$ 80,261	\$ 2,555	\$ 1,398	\$ 1,574
Futures contracts	(142,697)	-	425	21,889
Options contracts	1,011,977	2,758	1,161	(4,268)
Swaps	196,178	9,491	11,247	(6,780)
Total	\$ 1,145,719	\$ 14,804	\$ 14,231	\$ 12,415

2015				
	Notional Amount	Gross Derivative Assets	Gross Derivative Liabilities	Derivative Gains (Losses)
Foreign currency contracts	\$ 140,124	\$ 570	\$ 1,717	\$ 18,904
Futures contracts	(48)	205	56	2,807
Options contracts	451	5,371	1,956	(3,080)
Swaps	153,853	13,213	5,844	(436)
Total	\$ 294,380	\$ 19,359	\$ 9,573	\$ 18,195

The notional amount is representative of the volume and activity of the respective derivative type during the years ended June 30, 2016 and 2015.

Gross derivatives assets and liabilities are shown in Investments, at fair value and Accrued expenses and other liabilities on the Consolidated Statements of Financial Position, respectively. Derivative gains (losses) are shown in Gain on investments, net on the Consolidated Statements of Activities, in the appropriate net asset classification.

A summary of the University's total investment return for the years ended June 30, 2016 and 2015 as reported in the Consolidated Statements of Activities is presented below (in thousands):

	2016	2015
AIF investment income	\$ 52,748	\$ 66,830
AIF realized and unrealized (losses) gains	(171,975)	628,322
Return on AIF	(119,227)	695,152
Other investment (losses) gains	(7,628)	40,192
Total Return on investments	\$ (126,855)	\$ 735,344

# Consolidated Notes to Financial Statements

## 7. Endowment

The composition and changes to the amount of the University's endowment at June 30, 2016 are as follows (in thousands):

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Donor-restricted endowment funds		\$ 2,143,305	\$ 3,410,740	\$ 5,554,045
Quasi-endowment funds	\$ 5,161,319			5,161,319
June 30, 2016	\$ 5,161,319	\$ 2,143,305	\$ 3,410,740	\$ 10,715,364

	Quasi Unrestricted	Donor Restricted Temporarily Restricted	Permanently Restricted	Total
Net assets, June 30, 2015	\$ 4,412,620	\$ 2,442,269	\$ 3,278,680	\$ 10,133,569
Investment return:				
Investment income, net of expenses	5,568	8,530	295	14,393
Other income				-
Losses, realized and unrealized	(77,769)	(93,489)	(12,312)	(183,570)
Total investment return	(72,201)	(84,959)	(12,017)	(169,177)
New gifts	34,573	17,366	124,741	176,680
Allocation of endowment assets for expenditure	(365,366)			(365,366)
Other investment allocation	(5,956)			(5,956)
Transfers to create board designated funds	138,348			138,348
Other transfers	(32,509)	11,119	6,607	(14,783)
LGH membership substitution	806,451	2,869	12,729	822,049
Released from restriction	245,359	(245,359)		
Net assets, June 30, 2016	\$ 5,161,319	\$ 2,143,305	\$ 3,410,740	\$ 10,715,364

The composition and changes to the amount of the University's endowment as of June 30, 2015 are as follows (in thousands):

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Donor-restricted endowment funds		\$ 2,442,269	\$ 3,278,680	\$ 5,720,949
Quasi-endowment funds	\$ 4,412,620			4,412,620
June 30, 2015	\$ 4,412,620	\$ 2,442,269	\$ 3,278,680	\$ 10,133,569

## Consolidated Notes to Financial Statements

	Quasi Unrestricted	Donor Restricted Temporarily	Permanently	Total
Net assets, June 30, 2014	\$ 4,159,362	\$ 2,312,089	\$ 3,110,884	\$ 9,582,335
Investment return:				
Investment income, net of expenses	14,128	18,762	324	33,214
Other income	2,331		40	2,371
Gains, realized and unrealized	285,062	335,749	6,783	627,594
Total investment return	301,521	354,511	7,147	663,179
 New gifts	10,955	2,409	152,029	165,393
Allocation of endowment assets for expenditure	(336,543)			(336,543)
Other investment allocation	(5,631)			(5,631)
Transfers to create board designated funds	68,802			68,802
Other transfers	(14,212)	1,626	8,620	(3,966)
Released from restriction	228,366	(228,366)		
Net assets, June 30, 2015	\$ 4,412,620	\$ 2,442,269	\$ 3,278,680	\$ 10,133,569

The fair value of certain permanently restricted endowment funds is less than the original donated value by \$6,106,000 and \$79,000 as of June 30, 2016 and 2015, respectively, and is reflected as a reduction of Temporarily restricted assets.

### 8. Property, Plant and Equipment, net

The components of PPE at June 30, 2016 and 2015 are as follows (in thousands):

	Estimated Useful Life in years	2016	2015
Land and land improvements	0 to 20	\$ 369,758	\$ 290,951
Buildings and fixed equipment	5 to 50	8,129,199	6,843,301
Moveable equipment and other	4 to 20	2,202,886	1,711,059
Construction-in-progress		653,532	476,926
		11,355,375	9,322,237
Less: Accumulated depreciation		(5,152,468)	(4,168,142)
Property, plant and equipment, net		\$ 6,202,907	\$ 5,154,095

The University recorded \$451,227,000 and \$365,204,000 of depreciation expense for the years ended June 30, 2016 and 2015, respectively.

The University capitalized \$12,008,000 and \$9,777,000 of interest costs for the years ended June 30, 2016 and 2015, respectively.

The University has conditional asset retirement obligations of \$21,646,000 and \$23,469,000 as of June 30, 2016 and 2015, respectively, which primarily relate to asbestos contained in buildings and underground steam distribution piping and are included within Accrued expenses and other liabilities in the Consolidated Statements of Financial Position.

# Consolidated Notes to Financial Statements

## 9. Split-Interest Agreements

Changes in the value of assets, liabilities and net assets pursuant to split-interest agreements as of June 30, 2016 and 2015 are as follows (in thousands):

<b>2016</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Net Assets</b>
June 30, 2015	\$ 491,021	\$ (44,799)	\$ 446,222
New contributions	9,761	(1,756)	8,005
Investment income	1,346	(1,147)	199
Realized and unrealized loss, net	(1,784)		(1,784)
Payments and settlements	(28,576)	7,399	(21,177)
Actuarial adjustment		(7,121)	(7,121)
Net change	(19,253)	(2,625)	(21,878)
June 30, 2016	\$ 471,768	\$ (47,424)	\$ 424,344
<b>2015</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Net Assets</b>
June 30, 2014	\$ 508,875	\$ (36,607)	\$ 472,268
New contributions	10,254	(6,377)	3,877
Investment income	1,527	(1,310)	217
Realized and unrealized gain, net	2,240		2,240
Payments and settlements	(31,875)	9,606	(22,269)
Actuarial adjustment		(10,111)	(10,111)
Net change	(17,854)	(8,192)	(26,046)
June 30, 2015	\$ 491,021	\$ (44,799)	\$ 446,222

## 10. Medical Professional Liability Claims

The University is insured for medical professional liability claims through the combination of the Medical Care Availability and Reduction of Error Fund (Mcare, formerly, the Medical Professional Liability Catastrophe Loss Fund of the Commonwealth of Pennsylvania -- CAT Fund), various commercial insurance companies and risk retention programs.

Mcare levies health care provider surcharges, as a percentage of the Pennsylvania Joint Underwriters Association rates for basic coverage, to pay claims and pay administrative expenses of Mcare participants. These surcharges are recognized as expenses in the period incurred. Mcare operates on a pay-as-you-go basis and no provision has been made for any future Mcare assessments in the accompanying financial statements, as the University's portion of the unfunded Mcare liability cannot be estimated.

Anticipated insurance recoveries and estimated liabilities for medical malpractice claims or similar contingent liabilities are presented separately on the Consolidated Statement of Financial Position in Accounts receivable, net of allowances and Accrued expenses and other liabilities, respectively. The University accrues for estimated risks arising from both asserted and unasserted medical professional liability claims. The estimate of the gross liability and corresponding receivable for unasserted claims arising from unreported incidents is based on analysis of historical claims data by an independent actuary, which is recorded utilizing a 2.25% to 3.50% discount rate as of June 30, 2016 and 2015. The gross liability recorded under this program is \$677,538,000 and \$636,552,000 at June 30, 2016 and 2015, respectively, with a corresponding receivable of \$91,350,000 and \$80,951,000 at June 30, 2016 and 2015, respectively.



# Consolidated Notes to Financial Statements

## 11. Contingencies, Guarantees and Commitments

The University offers various loan programs for students and families to pay tuition, fees and other costs. Certain loans issued by private lending institutions are guaranteed by the University totaling \$64,992,000 and \$66,857,000 at June 30, 2016 and 2015, respectively. Upon default by the borrower, the University is required to pay all or a portion of the outstanding loan balance. The University recognizes a liability for the greater of the fair value of the guarantee or defaults in the portfolio of guaranteed loans. The recognized liability is \$6,193,000 and \$6,173,000 at June 30, 2016 and 2015, respectively. These recognized liabilities reflect effective default reserve rates of 39.3% and 30.9% at June 30, 2016 and 2015, respectively.

Various lawsuits, claims and other contingent liabilities arise in the ordinary course of the University's education and health care activities. Based upon information currently available, management believes that any liability resulting therefrom will not materially affect the financial position or operations of the University.

The University is currently involved in various projects that have resulted in capital and property acquisition commitments from the University. As of June 30, 2016, approximately \$482,795,000 has been committed by the University.

## 12. Pension and Other Postretirement Benefit Costs

Retirement benefits are principally provided to employees through contributory defined contribution plans. The Academic Component's policy with respect to its contribution is to provide up to 9% of eligible employees' salaries, while the UPHS contribution can be up to 6.5%. The University's contributions to these plans amounted to \$159,857,000 and \$125,812,000 as of June 30, 2016 and 2015, respectively.

The University also has non-contributory defined benefit pension plans. Benefits under the plans generally are based on the employee's years of service and compensation during the years preceding retirement. Contributions to the plans are made in amounts necessary to at least satisfy the minimum required contributions as specified in the Internal Revenue Service Code and related regulations. The Academic Component's plan was frozen to new full-time entrants effective July 1, 2000. UPHS' non-LGH plan was frozen to new entrants effective July 1, 2010; the benefit accruals for all participants of the LGH plan were frozen effective June 30, 2013.

Additionally, the University provides certain healthcare and life insurance benefits (Other Postretirement Employee Benefits or OPEB) for retired employees. Only a limited number of employees may become eligible for such benefits if they reach retirement age while working for the University. These and similar benefits for active and certain retired employees are provided through insurance contracts.

The University uses a measurement date of June 30 for its defined benefit pension and OPEB plans. The funded status of the plans is measured as the difference between the plan assets at fair value and the projected benefit obligation (PBO) or accumulated postretirement benefit obligation (APBO). The difference between actual amounts and estimates based on actuarial assumptions are recognized as Pension, OPEB and other, net in the Consolidated Statements of Activities in the period in which they occur.

# Consolidated Notes to Financial Statements

## Net Periodic Cost

The components of net periodic benefit cost for pension benefits and other postretirement benefits are as follows (in thousands):

Net Periodic Cost	Pension Benefits		Other Postretirement Benefits	
	2016	2015	2016	2015
Service cost	\$ 71,063	\$ 64,537	\$ 30,444	\$ 27,334
Interest cost	125,566	83,907	38,913	33,711
Expected return on plan assets	(151,147)	(114,248)	(28,190)	(25,987)
Amortization of:				
Net prior service cost			(108)	27
Net losses	36,436	23,104	11,720	7,261
Net periodic benefit cost	\$ 81,918	\$ 57,300	\$ 52,779	\$ 42,346

## Obligation and Funded Status

The following shows changes in the benefit obligation, plan assets and funded status. Benefit obligation balances presented below reflect the PBO for pension plans and APBO for other postretirement benefits plans (in thousands):

Change in Benefit Obligation	Pension Benefits		Other Postretirement Benefits	
	2016	2015	2016	2015
Benefit obligation at beginning of year	\$ 2,102,127	\$ 1,889,105	\$ 882,835	\$ 771,183
Service cost	71,063	64,537	30,444	27,334
Interest cost	125,566	83,907	38,913	33,711
Plan participants' contributions	157	158	6,348	6,055
Retiree drug subsidy			166	163
Net actuarial loss/(gain)	167,100	112,223	(15,584)	71,631
Net transfers In--Acquisition	771,555		4,510	
Benefits paid from fund	(72,454)	(47,803)	(19,214)	(18,437)
Benefits paid outside of fund			(8,017)	(8,805)
Benefit obligation at end of year	\$ 3,165,114	\$ 2,102,127	\$ 920,401	\$ 882,835
Accumulated benefit obligation	\$ 2,839,089	\$ 1,807,474	\$ 3,285	N/A

Change in Plan Assets	Pension Benefits		Other Postretirement Benefits	
	2016	2015	2016	2015
Fair value of plan assets at beginning of year	\$ 1,496,199	\$ 1,443,378	\$ 369,951	\$ 341,584
University contributions	98,938	62,286	26,170	27,800
Benefits paid by University			7,408	8,215
Plan participants' contributions	157	158	6,348	6,055
Benefits paid from fund	(72,454)	(47,803)	(19,214)	(18,437)
Benefits paid outside of fund			(8,017)	(8,805)
Retiree drug subsidy			166	163
Acquisition	563,617			
Actual return on assets	(4,142)	38,180	(2,887)	13,376
Fair value of plan assets at end of year	\$ 2,082,315	\$ 1,496,199	\$ 379,925	\$ 369,951

# Consolidated Notes to Financial Statements

Funded Status	Pension Benefits		Other Postretirement Benefits	
	2016	2015	2016	2015
PBO / APBO	\$ (3,165,114)	\$ (2,102,127)	\$ (920,401)	\$ (882,835)
Plan assets at fair value	2,082,315	1,496,199	379,925	369,951
Funded status at end of year	\$ (1,082,799)	\$ (605,928)	\$ (540,476)	\$ (512,884)

## Net Amounts Recognized in the Consolidated Statements of Financial Position (in thousands)

Unrestricted Net Assets	Pension Benefits		Other Postretirement Benefits	
	2016	2015	2016	2015
Net actuarial (gain)/loss	\$ 904,181	\$ 618,231	\$ 261,456	\$ 256,019
Net prior service cost			(1,702)	(147)
Total	\$ 904,181	\$ 618,231	\$ 259,754	\$ 255,872
Adjustment to unrestricted net assets	\$ 285,950	\$ 165,187	\$ 3,882	\$ 76,952

The University recorded year-end actuarial valuation adjustments to its pension and other postretirement benefits plans of a \$289,832,000 loss and a \$242,139,000 loss for the years ended June 30, 2016 and 2015 respectively, in Pension, OPEB and other, net in the Consolidated Statements of Activities.

The estimated amount that will be amortized from Unrestricted Net Assets into net periodic benefit cost in 2017 is as follows:

	Pension Benefits	Other Postretirement Benefits
Amortization of prior service cost		\$ (121)
Amortization of net (gains)/ losses	\$ 53,249	11,527

Aggregate underfunded plans (Accrued retirement benefits) are reported as follows:

	Pension Benefits		Other Postretirement Benefits	
	2016	2015	2016	2015
Accrued retirement benefits	\$ (1,082,799)	\$ (605,928)	\$ (540,476)	\$ (512,884)
Funded status at end of year	\$ (1,082,799)	\$ (605,928)	\$ (540,476)	\$ (512,884)

Reported Accrued retirement benefits includes \$6,858,000 and \$8,273,000 for faculty early retirement programs at June 30, 2016 and 2015, respectively.

Information for Plans with PBO/APBO in Excess of Plan Assets	Pension Benefits		Other Postretirement Benefits	
	2016	2015	2016	2015
Projected benefit obligation / accumulated postretirement benefit obligation	\$ 3,165,114	\$ 2,102,127	\$ 920,401	\$ 882,835
Accumulated benefit obligation	2,839,089	1,807,474	3,285	N/A
Fair value of plan assets	2,082,315	1,496,199	379,925	369,951

# Consolidated Notes to Financial Statements

## Actuarial Assumptions

The expected long-term rate of return on plan assets is management's best estimate of the average investment return expected to be received on the assets invested in the plan over the benefit period. The expected long-term rate of return on plan assets has been established by considering historical and future expected returns of the asset classes invested in by the pension trust, and the allocation strategy currently in place among those classes.

	Pension Benefits		Other Postretirement Benefits	
Weighted-Average Assumptions Used to				
Determine Benefit Obligations at Year End	2016	2015	2016	2015
Discount rate	4.17%	4.50%	3.95%	4.45%
Salary increase	3.94%	3.92%	4.00%	N/A
Weighted-Average Assumptions Used to				
Determine Net Periodic Benefit Cost				
Discount rate	4.53%	4.50%	4.45%	4.44%
Expected long-term return on plan assets	7.50%	7.93%	7.50%	7.50%
Salary increase	3.94%	3.92%	4.00%	N/A
Assumed Health Care Cost Trend Rates				
Initial trend rate	N/A	N/A	5.51%	6.72%
Ultimate trend rate	N/A	N/A	4.70%	4.70%
Fiscal year end that ultimate trend rate is reached	N/A	N/A	2023	2023

Assumed health care cost trend rates have a significant effect on the amounts reported for the other postretirement benefits. A one-percentage-point change in assumed health care trend rates would have the following effects on other postretirement benefits (in thousands):

	1-Percentage Point Increase		1-Percentage Point Decrease	
	2016	2015	2016	2015
Effect on total of service and interest cost	\$ 14,950	\$ 14,832	\$ (11,288)	\$ (11,253)
Effect on APBO	172,148	161,082	(134,552)	(126,432)

## Plan Assets

The principal investment objectives for the pension and other postretirement benefits plans are: to ensure the availability of funds to pay pension benefits as they become due under a broad range of future economic scenarios; to maximize long-term investment returns with an acceptable level of risk based on the pension obligations; and to invest the pension trust in a diversified manner.

The University's Office of Investments is responsible for the day-to-day management of the investments of the pension and other postretirement benefits. The investments are made in accordance with policies set out by the Investment Board which has been appointed by the Trustees. The pension and other postretirement benefit investments are similar in nature to those investments discussed in Notes 1 and 6 – Investments, at Fair Value. However, the actual allocations to specific investments within each asset class may vary due to certain restrictions imposed by investment managers and ERISA regulations.

# Consolidated Notes to Financial Statements

A summary of plan assets, measured at fair value, as of June 30, 2016 and 2015, is as follows (in thousands):

## Pension Benefits:

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	\$ 124,576				\$ 124,576
Equity:					
US equities	262,763			\$ 133,428	396,191
International equities	101,543			214,627	316,170
Emerging market equities	38,354			108,440	146,794
Debt:					
US treasuries	170,169	\$ 15,495			185,664
Corporate bonds		76,153		155,004	231,157
Absolute return				432,563	432,563
Real estate				26,415	26,415
Private equity				57,854	57,854
Natural resources	106,154			59,000	165,154
Derivative instruments:					
Forward currency contracts		8			8
Total assets	\$ 803,559	\$ 91,656	\$ -	\$ 1,187,331	\$ 2,082,546

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2016
Derivative instruments		\$ 231			\$ 231
Total liabilities	\$ -	\$ 231	\$ -	\$ -	\$ 231

Assets	Level 1	Level 2	Level 3	Investments at NAV	2015
Short-term	\$ 96,443				\$ 96,443
Equity:					
US equities	198,709			\$ 85,391	284,100
International equities	28,092			240,225	268,317
Emerging market equities	32,254			109,478	141,732
Debt:					
US treasuries	157,061				157,061
Corporate bonds		\$ 6,507		43,371	49,878
Absolute return				382,305	382,305
Real estate				17,732	17,732
Private equity				8,441	8,441
Natural resources	88,890			1,480	90,370
Derivative instruments:					
Forward currency contracts		8			8
Total assets	\$ 601,449	\$ 6,515	\$ -	\$ 888,423	\$ 1,496,387

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2015
Derivative instruments		\$ 188			\$ 188
Total liabilities	\$ -	\$ 188	\$ -	\$ -	\$ 188

# Consolidated Notes to Financial Statements

## Other Postretirement Benefits:

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	\$ 25,412				\$ 25,412
Equity:					
US equities	13,783			\$ 40,185	53,968
International equities	6,157			66,952	73,109
Emerging market equities	11,466			27,328	38,794
Debt:					
US treasuries	26,436				26,436
Corporate bonds		\$ 623		10,207	10,830
Absolute return				98,905	98,905
Real estate				3,653	3,653
Private equity				14,544	14,544
Natural resources	33,249			1,101	34,350
Derivative instruments:					
Forward currency contracts		3			3
Total	\$ 116,503	\$ 626	\$ -	\$ 262,875	\$ 380,004

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2016
Derivative instruments		\$ 79			\$ 79
Total	\$ -	\$ 79	\$ -	\$ -	\$ 79

Assets	Level 1	Level 2	Level 3	Investments at NAV	2015
Short-term	\$ 29,452				\$ 29,452
Equity:					
US equities	59,314			\$ 13,560	72,874
International equities	7,736			79,551	87,287
Emerging market equities	4,319			28,017	32,336
Debt:					
US treasuries	31,715				31,715
Corporate bonds		\$ 1,821		9,476	11,297
Absolute return				75,655	75,655
Private equity				172	172
Natural resources	28,945			269	29,214
Derivative instruments:					
Forward currency contracts		4			4
Total	\$ 161,481	\$ 1,825	\$ -	\$ 206,700	\$ 370,006

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2015
Derivative instruments		\$ 55			\$ 55
Total	\$ -	\$ 55	\$ -	\$ -	\$ 55

As of June 30, 2016, the University has unfunded commitments to limited partnerships totaling \$222,857,000, which are expected to be called over the next 5 years.

## Consolidated Notes to Financial Statements

Transfers between leveled assets are based on the actual date of the event which caused the transfer. As of June 30, 2016 and 2015 there were no transfers between Level 1 and 2.

Allocation of Plan Assets	Pension Benefits			Other Postretirement Benefits		
	Target	2016	2015	Target	2016	2015
Short-term	0.0%	6.0%	6.4%	0.0%	6.7%	8.0%
Equity:						
US equities	17.8%	19.0%	19.0%	15.0%	14.2%	19.7%
International equities	18.1%	15.2%	17.9%	21.5%	19.2%	23.6%
Emerging markets equities	7.3%	7.0%	9.5%	10.0%	10.2%	8.7%
Debt:						
US treasuries	21.4%	8.9%	10.5%	10.0%	7.0%	8.6%
Corporate bonds	0.0%	11.1%	3.3%		2.9%	3.0%
Absolute return	22.8%	20.8%	25.6%	29.0%	26.0%	20.5%
Real estate	1.4%	1.3%	1.2%	1.0%	1.0%	
Private equity	2.2%	2.8%	0.6%	2.5%	3.8%	7.9%
Natural resources	9.0%	7.9%	6.0%	11.0%	9.0%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

### Cash Flows & Estimated Future Benefit Payments (in thousands):

University contributions for the year ending:	Pension Benefits		Other Postretirement Benefits	
June 30, 2015	\$	62,286	\$	27,800
June 30, 2016		98,938		26,170
June 30, 2017		128,432		32,651
<b>Benefits paid from outside of the fund for the year ending:</b>				
June 30, 2015		N/A	\$	8,805
June 30, 2016		N/A		8,017
June 30, 2017		N/A		9,403
<b>Plan participants' contributions for the year ending:</b>				
June 30, 2015	\$	158	\$	6,055
June 30, 2016		157		6,348
June 30, 2017		158		6,735

### Benefits Payments in Total (in thousands):

Actual benefit payments for the year ending:	Pension Benefits		Other Postretirement Benefits before Medicare Part D Subsidy		Impact of Medicare Part D Subsidy
June 30, 2015	\$	47,803	\$	27,242	\$ (163)
June 30, 2016		72,454		27,231	(166)
<b>Expected benefit payments for the year ending (Unaudited):</b>					
June 30, 2017	\$	83,886	\$	27,369	\$ (253)
June 30, 2018		91,407		28,884	(253)
June 30, 2019		99,091		29,329	(268)
June 30, 2020		107,783		31,500	(282)
June 30, 2021		116,970		33,728	(292)
June 30, 2022 to June 30, 2026		733,717		204,037	(1,617)

# Consolidated Notes to Financial Statements

## 13. Debt Obligations

Debt obligations at June 30, 2016 and 2015 are as follows (in thousands):

	Final Maturity	Interest Rate at June 30, 2016	2016	2015
<b>Academic Component:</b>				
Fixed rate debt obligations:				
The Trustees of the University of Pennsylvania				
Series 2012 Taxable Bonds	09/2112	4.67%	\$ 300,000	\$ 300,000
Pennsylvania Higher Educational Facilities Authority (PHEFA)				
Series A of 2016 revenue bonds	08/2041	2.25% - 5.00%	169,635	
Unamortized premium			17,420	
Series A of 2015 revenue bonds	10/2045	2.50% - 5.00%	205,670	205,670
Unamortized premium			20,774	21,938
Series B of 2015 revenue bonds	10/2038	3.00% - 5.00%	165,150	165,150
Unamortized premium			27,930	30,036
Series C of 2015 revenue bonds	10/2035	3.68%	8,020	8,020
Series A of 2011 revenue bonds	09/2041	4.50% - 5.00%	14,495	131,805
Unamortized premium			73	710
Series of 2010 revenue bonds	09/2033	4.00%	16,935	50,045
Unamortized premium			978	3,061
Series B of 2009 revenue bonds	09/2032	4.00% - 5.00%	10,575	20,075
Unamortized premium			212	433
Series C of 2009 revenue bonds	09/2019	5.00%	15,105	15,105
Unamortized premium			356	494
Series C of 2005 revenue bonds				5,255
Unamortized premium				52
Series A of 2005 revenue bonds				3,920
Unamortized premium				63
Series B of 2005 revenue bonds				8,495
Other loans	05/2031	3.00%	736	775
Total Fixed rate debt obligations:			974,064	971,102
Variable rate debt obligations:				
PHEFA				
Series of 1990 revenue bonds	12/2020	0.66%	6,500	6,500
Washington County Authority				
Series of 2004	07/2034	0.40%	55,500	55,500
Total Variable rate debt obligations			62,000	62,000
Total Academic Component debt obligations			\$ 1,036,064	\$ 1,033,102



# Consolidated Notes to Financial Statements

	Final Maturity	Interest Rate at June 30, 2016	2016	2015
<b>UPHS:</b>				
Fixed rate debt obligations:				
LCHA				
Series A of 2016 revenue bonds	08/2042	3.38% - 5.00%	\$ 173,310	
Unamortized premium			23,921	
Series B of 2016 revenue bonds	08/2046	4.00% - 5.00%	128,050	
Unamortized premium			20,527	
Series A of 2012 revenue bonds	07/2041	1.20%	23,925	
PHEFA				
Series A of 2015 revenue bonds	08/2045	3.00% - 5.00%	357,565	\$ 357,565
Unamortized premium			35,976	40,101
Series A of 2012 revenue bonds	08/2032	3.00% - 5.00%	136,950	136,950
Unamortized premium			10,236	10,891
Series A of 2011 revenue bonds	08/2042	4.75% - 5.88%	123,400	150,000
Unamortized discount			(705)	(917)
Series A of 2009 revenue bonds	08/2024	3.00% - 5.25%	43,515	74,370
Unamortized premium			407	851
Series B of 2008 revenue bonds	08/2018	5.50%	52,000	52,000
Unamortized discount			(326)	(481)
Series A of 2005 revenue bonds				19,680
Unamortized premium				
Series B of 2005 revenue bonds				8,185
Unamortized premium				
LGH 2015 Taxable Direct Obligation Note	08/2022	2.66%	77,553	
Build to suit lease			123,070	123,038
Mortgages	04/2032	5.30%	25,021	8,714
Total Fixed rate debt obligations:			<u>1,354,395</u>	<u>980,947</u>
Variable rate debt obligations:				
PHEFA				
Series A of 2014 revenue bonds	06/2045	0.68%	100,000	100,000
Series A of 2008 revenue bonds	01/2038	0.39%	69,995	75,710
Total Variable rate debt obligations			<u>169,995</u>	<u>175,710</u>
Total UPHS debt obligations			<u>1,524,390</u>	<u>1,156,657</u>
Total University debt obligations			<u>\$ 2,560,454</u>	<u>\$ 2,189,759</u>

The fair value of the University's existing debt obligations was \$2,712,630,000 and \$2,211,566,000 at June 30, 2016 and 2015, respectively. The University determines the fair value of its existing fixed rate debt obligations based on trade data, broker/dealer quotes and other observable market data. The carrying amounts of its variable rate debt obligations approximate fair value because the obligations are currently callable at a price equal to the carrying amounts. The University considers this to be a Level 2 measurement.

# Consolidated Notes to Financial Statements

Contractual maturities of debt obligations and build-to-suit lease payments are as follows (in thousands):

Fiscal Year	Bond and Other Loan Obligations	Build-to- Suit Lease Payments	Total
2017	\$ 55,658	\$ 11,738	\$ 67,396
2018	56,142	12,133	68,275
2019	110,062	11,850	121,912
2020	57,050	12,007	69,057
2021	69,920	12,325	82,245
Thereafter	1,905,753	187,630	2,093,383
Total Principal	\$2,254,585	\$ 247,683	\$2,502,268
Unamortized net premium	157,779		157,779
Build-to-suit lease related interest		(99,593)	(99,593)
Total Debt	\$2,412,364	\$ 148,090	\$2,560,454

## Academic Component

The University has variable rate debt in the amount of \$62,000,000 which is subject to optional tender by the holders upon seven days' notice. These bonds are reflected in the table above based on original scheduled maturities. In the event that the University receives notice of any optional tender on its variable rate demand bonds, the purchase price will be repaid from the remarketing of the bonds. However, in the event that the entire remarketing effort were to fail, the University would have the general obligation to purchase the bonds and the 2016 principal payments in the debt obligations maturity table above would increase from \$14,925,000 to \$76,925,000. On June 14, 2016, the University entered into a five year agreement with a financial institution, whereby the institution has agreed to provide a line of credit in the amount of \$100,000,000 in order to supplement the University's liquidity relating to its variable rate demand bonds and for other general purposes of the University. The University pays a fee annually on the unused amount of the line of credit. As of June 30, 2016, there have been no draws under the agreement.

On April 28, 2016, PHEFA issued Series A of 2016 refunding revenue bonds (PHEFA 2016A bonds) with an aggregate principal amount of \$169,635,000. The proceeds were used to fund an escrow which will be used to refund \$7,600,000 from the PHEFA Series B of 2009 revenue bonds (refunded PHEFA 2009B bonds), \$33,110,000 from PHEFA Series 2010 revenue bonds (refunded PHEFA 2010 bonds) and \$117,310,000 from PHEFA Series A of 2011 revenue bonds (refunded PHEFA 2011A). The refunded PHEFA 2009B, PHEFA 2010 and PHEFA 2011A bonds were legally defeased, and as such, are no longer included among the University's reported liabilities. Interest on the PHEFA 2016A bonds is fixed with coupons ranging between 2.250% and 5.250%. The PHEFA 2016A bonds have serial maturities which are due in amounts ranging from \$1,070,000 in 2016 to \$7,865,000 in 2037 and one term maturity in the amount of \$45,570,000 maturing in 2041, which will be subject to mandatory sinking fund redemption. The bonds are subject to optional redemption by the University on or after August 15, 2021 for the term bond or August 15, 2026 for the serial bonds at a price equal to 100% of the principal amount plus accrued interest.

As a result of the legal defeasance of debt associated with the issuance of PHEFA 2016A bonds, the University reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of \$24,556,000 for the year ended June 30, 2016.

On April 16, 2015, PHEFA issued Series A of 2015 refunding revenue bonds (PHEFA 2015A bonds) with an aggregate principal amount of \$205,670,000. The proceeds were used to fund an escrow which will be used to refund \$199,605,000 from the PHEFA Series A of 2009 revenue bonds (refunded PHEFA 2009A bonds). The refunded PHEFA 2009A bonds

## Consolidated Notes to Financial Statements

were legally defeased, and as such, are no longer included among the University's reported liabilities. Interest on the PHEFA 2015A bonds is fixed with coupons ranging between 2.50% and 5.50%. The PHEFA 2015A bonds have serial maturities which are due in amounts ranging from \$4,685,000 in 2016 to \$7,550,000 in 2036 and one term maturity in the amount of \$89,260,000 maturing in 2045, which will be subject to mandatory sinking fund redemption. The bonds are subject to optional redemption by the University on or after October 1, 2020 for the term bond or October 1, 2025 for the serial bonds at a price equal to 100% of the principal amount plus accrued interest.

On April 16, 2015, PHEFA issued Series B of 2015 refunding revenue bonds (PHEFA 2015B bonds) with an aggregate principal amount of \$165,150,000. The proceeds were used to fund an escrow which will be used to refund \$181,780,000 from the PHEFA Series A of 2005 revenue bonds, PHEFA Series C of 2005 revenue bonds, PHEFA Series B of 2009 revenue bonds, PHEFA Series C of 2009 revenue bonds, PHEFA Series 2010 revenue bonds and PHEFA Series A of 2011 revenue bonds. These refunded amounts were legally defeased, and as such, are no longer included among the University's reported liabilities. Interest on the PHEFA 2015B bonds is fixed with coupons ranging between 3.00% and 5.00%. The PHEFA 2015B bonds have serial maturities which are due in amounts ranging from \$1,355,000 in 2016 to \$18,965,000 in 2025, with a final maturity in 2035 and one term maturity in the amount of \$28,595,000 maturing in 2038, which will be subject to mandatory sinking fund redemption. The serial bonds and the term bond are subject to optional redemption by the University on or after October 1, 2025 at a price equal to 100% of the principal amount plus accrued interest.

On April 16, 2015, PHEFA issued Series C of 2015 refunding revenue bonds (PHEFA 2015C bonds) with an aggregate principal amount of \$8,020,000. The proceeds were used to fund an escrow which will be used to refund \$5,145,000 from the refunded PHEFA 2009A bonds and fund the issuance cost of the PHEFA 2015A and PHEFA 2015B bonds. The refunded PHEFA 2009A bonds were legally defeased, and as such, are no longer included among the University's reported liabilities. Interest on the PHEFA 2015C bonds is fixed with coupon of 3.677%. The PHEFA 2015C bonds have a single maturity in 2035 and are subject to optional redemption by the University prior to maturity at the price equal to the greater of 100% of the principal of the redeemed bonds or the present value of the remaining scheduled payments of the principal amount plus accrued interest discounted at the Treasury Rate plus 20 basis points.

As a result of the legal defeasance of debt associated with the issuance of PHEFA 2015A, 2015B and 2015C bonds, the University reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of \$26,418,000 for the year ended June 30, 2015.

The University has letters of credit with various financial institutions to secure certain self-insured liabilities in the amount of \$21,925,000 and \$3,907,000 at June 30, 2016 and 2015, respectively. These letters of credit have evergreen provisions for automatic renewal. There have been no draws under these letters of credit.

### UPHS

#### *Lancaster Hospital Authority Revenue Bonds (LCHA)*

UPHS Series A of 2016 were issued April 7, 2016, of which \$34.9 million was used to redeem LCHA Series A 2007 bonds and \$95.3 million was used to redeem LCHA Series B of 2012 bonds. In addition to the refundings, the bonds provided \$65,890,000 of funds held by trustee in a capital projects fund for future expenditures. The bonds mature in varying annual amounts from \$3,950,000 to \$48,935,000 through 2042 and have stated interest rates that range from 3.375% to 5.00%. The bonds maturing on and after August 15, 2027 are subject to optional redemption by the University on or after August 15, 2026 at a redemption price of 100% plus accrued interest.

UPHS Series B of 2016 were issued April 7, 2016, of which \$34.6 million was used to redeem UPHS Series A of 2009 bonds and \$31.9 million was used to redeem UPHS Series A of 2011 bonds. In addition to the refundings, the bonds provided \$81,110,000 of funds to reimburse UPHS for expenses already paid in relation to various projects and capital expenditures. The bonds mature in varying annual amounts from \$8,595,000 to \$48,785,000 through 2046 and have stated interest rates that range from 4.00% to 5.00%. The bonds maturing on and after August 15, 2045 and August 15,

# Consolidated Notes to Financial Statements

2046 are subject to optional redemption by the University on or after August 15, 2026 at a redemption price of 100% plus accrued interest.

As a result of the legal defeasance of debt associated with the issuance of LCHA Series A of 2007, LCHA Series B of 2012, UPHS Series A of 2009 bonds and UPHS Series A of 2011 bonds, UPHS reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of \$22,366,000 for the year ended June 30, 2016.

Lancaster General Health Series A of 2012 Refunding Project revenue bonds were issued on June 1, 2012 for \$25,250,000. The bonds mature in varying amounts from \$550,000 to \$1,400,000 through 2041. Interest on the bonds is reset monthly through a remarketing process (1.2% at June 30, 2016).

## *Pennsylvania Higher Educational Facilities Authority Revenue Bonds*

UPHS Series A of 2015 were issued May 19, 2015, of which \$134.4 million was used to redeem UPHS Series A and B of 2005 bonds and \$114.5 million was used to redeem UPHS Series B of 2008 bonds. In addition to the refundings, the bonds provided \$150,000,000 of funds to reimburse UPHS for expenses already paid in relation to various projects and capital expenditures. The bonds mature in varying annual amounts from \$1,690,000 to \$38,135,000 through 2045 and have stated interest rates that range from 3.00% to 5.00%. The bonds maturing on and after August 15, 2026 are subject to optional redemption by the University on or after August 15, 2025 at a redemption price of 100% plus accrued interest.

UPHS Series B of 2008 Bonds were issued on November 12, 2008 for the purpose of redeeming the UPHS Series C of 2005 and UPHS Series D of 2005. The bonds were partially defeased by the UPHS Series A Bonds of 2015 and have a final maturity of \$52,000,000 on August 15, 2018. The bond has stated interest rate of 5.50%.

UPHS Series A of 2005 Bonds were issued on February 16, 2005 for the purpose of legally defeasing the non-current maturities of the Health Services Series A of 1996 Bonds. The bonds were partially defeased by the UPHS Series A Bonds of 2015 and have a final maturity of \$19,680,000 on August 15, 2015. The bond has stated interest rate of 5.00%.

UPHS Series B of 2005 Bonds were issued on February 16, 2005 for the purpose of funding various UPHS capital expenditures. The bonds were partially defeased by the UPHS Series A Bonds of 2015 and have a final maturity of \$8,185,000 on August 15, 2015. The bonds have stated interest rates of 3.75% and 5.00%.

As a result of the legal defeasance of debt associated with the issuance of Series A Bonds of 2015, UPHS reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of \$17,958,000 for the year ended June 30, 2015.

The LCHA and PHEFA Revenue Bonds are secured by master notes issued under the UPHS Master Trust Indenture (MTI). The MTI and related agreements contain certain restrictive covenants which limit the issuance of additional indebtedness, and among other things, require UPHS to meet an annual debt service coverage requirement of "income available for debt service" (excess of revenue over expenses plus depreciation, amortization, interest expense and extraordinary items) at an amount equal to 110% of the annual debt service requirements. If the coverage requirement for a particular year is not met, within six months of the close of that fiscal year, UPHS must retain the services of a consultant to make recommendations to improve the coverage requirement. UPHS must also implement the recommendations of the consultant to the extent that they can be feasibly implemented. UPHS will not be considered to be in default of the provisions of the MTI so long as UPHS has sufficient cash flow to pay total operating expenses and to pay debt service for the fiscal year. In both 2016 and 2015, UPHS met its debt service coverage requirement under the MTI. Additionally, UPHS has pledged its gross revenues to secure its obligation under the MTI.

Lancaster General Hospital 2015 Taxable Direct Obligation Note for \$80,000,000 was issued for the construction of various LGH projects (including a new bed tower, energy plant and various renovations). The note amortizes in varying

## Consolidated Notes to Financial Statements

amounts beginning on August 1, 2015 from \$2,343,000 to \$2,675,000 with a final maturity of \$62,518,000 on August 1, 2022. The note has a fixed interest rate of 2.66%.

UPHS has a mortgage payable with a monthly installment of \$61,000 including interest. The mortgage has a stated interest rate of 5.3%. The mortgage will fully amortize on or before April 1, 2032 and is collateralized by land and buildings of approximately \$9,500,000.

UPHS maintains various lines of credit with expirations at various dates through fiscal year 2019 totaling \$105,500,000 and \$100,000,000 at June 30, 2016 and 2015, respectively, to supplement liquidity, cover balances due on construction projects and reinsurance agreements. As of June 30, 2016, there are no draws under any of the agreements.

### Interest Rate Swap Agreements

The University and UPHS enter into interest rate swap agreements to synthetically modify the interest rate terms of its long term debt portfolio. These agreements are not entered into for trading or speculative purposes. Fair value of these agreements is determined by obtaining quotes from Goldman Sachs Mitsui Marine Derivative Products, L.P. (GSMMDP) and Merrill Lynch, respectively, which are based on the income approach, using observable market data to discount future net payment streams and accordingly considers this to be a Level 2 measurement. The quotes provided also represent the amount the University and UPHS would accept or be required to pay to transfer the agreement to GSMMDP and Merrill Lynch, respectively, or exit price as defined by the Fair Value Measurements standard. The University and UPHS also take into account the risk of nonperformance.

The following table summarizes the terms of the University's and UPHS's interest rate swap agreements:

University	
Notional Amounts	\$ 101,950,000
Trade Date	11/6/2007
Maturity Date	7/1/2034
Rates:	
Receive	67% of 1-Month LIBOR
Pay	3.573%
Default Optional Termination @ Market Value	Default by University
Optional Termination @ Market Value	University only
Collateral Posted	\$ 6,900,000

  

UPHS		UPHS		UPHS		UPHS	
Notional Amounts	\$ 24,935,000	\$ 24,935,000	\$ 69,995,000	\$ 23,925,000			
Trade Date	7/15/2009	1/7/2010	10/24/2007	6/28/2006			
Maturity Date	8/15/2023	8/15/2023	1/1/2038	7/1/2041			
Rates:							
Receive	3.184%	2.902%	67% of 1-Month LIBOR	3.980%			
Pay	SIFMA index	SIFMA index	3.755%				
Default Optional Termination @ Market Value	Default by UPHS	Default by UPHS	Default by UPHS	Default by UPHS			
Optional Termination @ Market Value	UPHS only	UPHS only	UPHS only	UPHS only			

## Consolidated Notes to Financial Statements

The following tables summarize the fair value of the interest rate swap agreements, not designated as hedging instruments, as of June 30, 2016 and 2015, and the effect of the interest rate swap agreements on the Consolidated Statements of Activities, both realized and unrealized, for the years ended June 30, 2016 and 2015 (in thousands):

Statements of Position				
	Line Item		2016	2015
Asset interest rate swaps				
UPHS	Other assets	\$	4,844	\$ 4,608
Total Asset interest rate swaps		\$	4,844	\$ 4,608
Liability interest rate swaps				
Academic Component	Accrued expenses and other liabilities	\$	31,491	\$ 22,924
UPHS	Accrued expenses and other liabilities		12,694	5,349
Total Liability interest rate swaps		\$	44,185	\$ 28,273

Statements of Activities				
	Line Item		2016	2015
Academic Component	Losses on investments	\$	(11,986)	\$ (5,623)
UPHS	Gains on investments		673	365
Total		\$	(11,313)	\$ (5,258)

### 14. Net Assets

The major components of net assets at June 30, 2016 and 2015 are as follows (in thousands):

2016	Unrestricted	Temporarily restricted	Permanently restricted	Total
General operating	\$ 3,226,035	\$ 264,047		\$ 3,490,082
Sponsored programs	49,838			49,838
Capital		86,959		86,959
Student loans	10,277		\$ 16,933	27,210
Planned giving agreements		135,418	7,718	143,136
Endowment	5,161,319	2,143,305	3,410,740	10,715,364
Total	\$ 8,447,469	\$ 2,629,729	\$ 3,435,391	\$ 14,512,589

  

2015	Unrestricted	Temporarily restricted	Permanently restricted	Total
General operating	\$ 2,683,568	\$ 256,176		\$ 2,939,744
Sponsored programs	47,200			47,200
Capital		178,642		178,642
Student loans	9,819		\$ 17,304	27,123
Planned giving agreements		149,628	15,114	164,742
Endowment	4,412,620	2,442,269	3,278,680	10,133,569
Total	\$ 7,153,207	\$ 3,026,715	\$ 3,311,098	\$ 13,491,020

# Consolidated Notes to Financial Statements

## 15. Operating Leases

The University leases research labs, office space and equipment under operating leases expiring through July 2036. Rental expense for the years ended June 30, 2016 and 2015 totaling \$93,903,000 and \$78,730,000, respectively, is included in the accompanying Consolidated Statements of Activities.

At June 30, 2016, future minimum lease payments under existing operating leases were as follows (in thousands):

2017	\$	80,253
2018		78,957
2019		63,321
2020		57,054
2021		48,514
Thereafter		498,046
Total Minimum lease payments	\$	<u>826,145</u>

## 16. Functional Classification of Expenditures

Expenses for the years ended June 30, 2016 and 2015 are categorized on a functional basis as follows (in thousands):

	Compensation and benefits	Depreciation and amortization	Interest on indebtedness	Other operating expense	June 30, 2016	June 30, 2015
Instruction	\$ 797,096	\$ 58,830	\$ 3,107	\$ 394,932	\$ 1,253,965	\$ 1,181,690
Research	400,477	44,914	21,229	279,940	746,560	736,613
Hospital and physician practices	3,045,962	252,983	48,267	1,922,179	5,269,391	3,970,869
Auxiliary enterprises	33,593	28,608	4,632	74,482	141,315	139,803
Other educational activities	127,833	13,005	624	55,382	196,844	196,428
Student services	48,792	-	30	37,807	86,629	78,440
Academic support	36,726	30,865	209	13,213	81,013	78,991
Management and general	230,661	17,843	240	45,486	294,230	273,648
Independent operations	7,689	5,700	296	56,355	70,040	66,633
Total	\$ 4,728,829	\$ 452,748	\$ 78,634	\$ 2,879,776	\$ 8,139,987	\$ 6,723,115

Operation and maintenance of PPE and depreciation are allocated to functional classifications based on square footage. Interest expense is allocated to the functional classifications of the activity that directly benefited from the proceeds of the debt.

## 17. Subsequent Events

The University has evaluated subsequent events for the period from June 30, 2016 through September 23, 2016, the date the consolidated financial statements were issued.

UPHS Series C of 2016 bonds were issued August 4, 2016 for \$129,290,000. The bond funds were used to early redeem all remaining UPHS Series A of 2011 bonds. The bonds mature in varying annual amounts from \$245,000 to \$57,890,000 through August 2041 and have stated interest rates that range from 2.00% to 5.00%. The bonds maturing on and after August 15, 2027 are subject to optional redemption by the University on or after August 15, 2026 at a redemption price of 100% plus accrued interest.

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## **APPENDIX C**

### **DEFINITIONS OF CERTAIN TERMS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE AND THE LOAN AGREEMENT**

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**DEFINITIONS OF CERTAIN TERMS AND  
SUMMARY OF CERTAIN PROVISIONS OF  
THE INDENTURE AND THE LOAN AGREEMENT**

**DEFINITIONS**

The following are definitions of the terms used in this Appendix C.

“Act” means the Pennsylvania Higher Educational Facilities Authority Act of 1967 (Act of December 6, 1967, P.L. 678), as from time to time amended or supplemented.

“Additional Bonds” means Bonds, other than the 2009 Bonds, the 2010 Bonds, the 2011 Bonds, the 2015 Bonds, the 2016A Bonds and the 2017A Bonds issued under the Indenture.

“Administrative Expenses” means those expenses reasonably and properly incurred by the Authority in carrying out its responsibilities and duties, or in providing its services and facilities to the University under the Act or the Indenture or pursuant to the Loan Agreement and shall include the fees and expenses of the Trustee with respect to its duties under the Indenture.

“Annual Administrative Fee” means the annual fee for the general administrative services of the Authority with respect to a particular series of the Bonds issued under the Indenture.

“Authority” means Pennsylvania Higher Educational Facilities Authority, or its successor or successors.

“Authority Board” means the governing body of the Authority.

“Bond” or “Bonds” means the 2009 Bonds, the 2010 Bonds, the 2011 Bonds, the 2015 Bonds, the 2016A Bonds and the 2017A Bonds or any other revenue bonds issued under the Indenture.

“Bond Fund” means the Bond Fund created pursuant to the Original Indenture.

“Bondholder” or “holder of Bonds” means the Registered Owner of any Bond.

“Certificate” means a written statement signed by or on behalf of the Person charged with responsibility therefor.

“Certified Public Accountant” means a Person who shall be Independent, appointed by the University Board or the Authority, as the case may be, actively engaged in the business of public accounting, and duly certified as a certified public accountant under the laws of the Commonwealth.

“Certified Resolution” of the Authority or of the University means a copy of one or more resolutions certified by the Secretary, Associate Secretary or Assistant Secretary of the Authority or the University, as the case may be, under its seal to have been adopted by the Authority Board or the University Board, as the case may be, and to be in effect on the date of such certification.

“Code” means the Internal Revenue Code of 1986, as amended, and all applicable regulations promulgated thereunder or applicable thereto.

“Commonwealth” means the Commonwealth of Pennsylvania.

“Consultant” or “University Consultant” means a Person who shall be Independent, appointed by the University Board, satisfactory to the Authority and not unsatisfactory to the Trustee, qualified to pass

upon questions relating to the financial affairs of institutions of higher education or institutions providing health services, as appropriate, and having a favorable reputation for skill and experience in the financial affairs of such institutions.

“Cost” or “Costs”, in connection with any Project, means all expenses which are properly chargeable thereto under Generally Accepted Accounting Principles or which are incidental to the financing, acquisition, and construction of any Project, including, but without limiting the generality of the foregoing:

- (a) Amounts payable to contractors and costs incident to the award of contracts;
- (b) Cost of labor, facilities and services furnished by or for the University or the Authority and their employees or others, materials and supplies purchased by the University or the Authority or others, and permits and licenses obtained by the University, the Authority or others;
- (c) Engineering, legal, accounting, other professional and advisory fees and costs of surveys (including environmental surveys);
- (d) Premiums for surety bonds and insurance during construction and costs on account of personal injuries and property damage in the course of construction and insurance against the same;
- (e) Interest on the Bonds during construction;
- (f) The Authority’s initial fee and the Annual Administrative Fee and Administrative Expenses during the period prior to completion of any Project;
- (g) Printing, engraving and other expenses of financing, including but not limited to the fees of Bond Counsel, University Counsel, Financial Advisor, and Trustee, and expenses incurred in connection with obtaining municipal bond ratings, municipal bond insurance, letters of credit and standby take-outs or credit agreements;
- (h) Costs, fees and expenses in connection with the acquisition of real and personal property or rights therein, including premiums for title insurance;
- (i) Cost of equipment purchased by the University and necessary for the completion and proper operation of any Project or property in question;
- (j) Amounts required to repay temporary loans or advances from other funds of the University made to finance the Costs of any Project;
- (k) Cost of acquisition of real estate, construction and prior construction and/or site costs and improvements performed by the University in anticipation of any Project; and
- (l) Moneys necessary to fund the funds created under the Indenture.

In the case of any Project for refunding or redeeming any Bonds or other indebtedness, “Cost” includes, without limiting the generality of the foregoing, the items listed in (c), (f), (g) and (l) above, advertising and other expenses related to the redemption of the Bonds or other indebtedness to be redeemed, and the Redemption Price thereof (and the accrued interest payable on redemption to the extent not otherwise provided for).

Whenever Costs are required to be itemized, such itemization shall, to the extent practicable, correspond with the items listed above. Whenever Costs are to be paid under the Indenture, such payment may be made by way of reimbursement to the University, the Authority or others who have paid the same.

“Counsel” means an attorney-at-law or law firm (who may be Bond Counsel or counsel for the University, the Trustee or the Authority) not unsatisfactory to the Trustee.

“Debt Service Requirements” means for a specified period and with respect to a particular series of Bonds, interest payable during the period (excluding interest funded from the proceeds of the Bonds), amounts required to be paid into any mandatory sinking fund account during the period, and amounts required to pay the principal maturing during the period which would not be redeemed or paid prior to or at maturity through any sinking fund account.

“Defeasance Investments” means and includes any of the following securities, if and to the extent the same are at the time legal for investment of Authority funds:

(a) Government Obligations; and

(b) Pre-refunded Debt obligations, the income from which is exempt from federal income taxation under Section 103 of the Internal Revenue Code of 1986, as amended, or the National Housing Act of 1939, as amended, rated “AAA” by Standard & Poor’s Ratings Services, a division of The McGraw-Hill Companies, Inc. and “Aaa” by Moody’s Investors Service or equivalent ratings then in effect, having a term no longer than ten (10) years from the date of purchase.

“Eighth Supplemental Indenture” means the Eighth Supplemental Indenture of Trust dated as of October 1, 2010 between the Authority and the Trustee.

“Eighth Supplemental Loan Agreement” means the Eighth Supplemental Loan Agreement dated as of October 1, 2010 between the Authority and the University.

“Eleventh Supplemental Indenture” means the Eleventh Supplemental Indenture of Trust dated as of April 1, 2016 between the Authority and the Trustee.

“Eleventh Supplemental Loan Agreement” means the Eleventh Supplemental Loan Agreement dated as of April 1, 2016 between the Authority and the University.

“Fifth Supplemental Indenture” means the Fifth Supplemental Indenture of Trust dated as of August 1, 2005 between the Authority and the Trustee.

“Fifth Supplemental Loan Agreement” means the Fifth Supplemental Loan Agreement dated as of August 1, 2005 between the Authority and the University.

“First Supplemental Indenture” means the First Supplemental Indenture of Trust dated as of March 15, 1995 between the Authority and the Trustee.

“First Supplemental Loan Agreement” means the First Supplemental Loan Agreement dated as of March 15, 1995 between the Authority and the University.

“Fiscal Year” when used with respect to the University, means the period of twelve months beginning July 1 of each year unless and until a different Fiscal Year is adopted by the University and notice thereof given to the Authority and the Trustee.

“Fourth Supplemental Indenture” means the Fourth Supplemental Indenture of Trust, dated as of January 1, 2005, between the Authority and the Trustee.

“Fourth Supplemental Loan Agreement” means the Fourth Supplemental Loan Agreement, dated as of January 1, 2005, between the Authority and the University.

“Generally Accepted Accounting Principles” means those accounting principles, not contrary to those promulgated by a nationally recognized financial standards body, applicable in the preparation of financial statements of institutions of higher learning.

“Government Obligations” means direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America.

“Indenture” means the Indenture of Trust dated as of January 15, 1987, as supplemented by the First Supplemental Indenture, the Second Supplemental Indenture, the Third Supplemental Indenture, the Fourth Supplemental Indenture, the Fifth Supplemental Indenture, the Sixth Supplemental Indenture, the Seventh Supplemental Indenture, the Eighth Supplemental Indenture, the Ninth Supplemental Indenture, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture and the Twelfth Supplemental Indenture between the Authority and the Trustee, as originally executed and as amended or supplemented as therein provided.

“Independent” means with respect to the Certified Public Accountant, the Insurance Consultant and any other Consultant, a Person who is not a member of the University Board (or other University governing body) or the Authority Board, an officer or employee of the Authority or an officer or employee of the University, or which is not a partnership, corporation or association having a partner, director, officer, member or substantial stockholder who is a member of the University Board or the Authority Board, an officer or employee of the Authority or an officer or employee of the University; provided, however, that the fact that such Person is retained regularly by or transacts business with the Authority or the University shall not make such Person an employee within the meaning of this definition.

“Insurance Consultant” means a Person who is Independent, appointed by the University and not unsatisfactory to the Authority or the Trustee, qualified to survey risks and to recommend insurance coverage for higher education facilities and services and organizations engaged in like operations and having a favorable reputation for skill and experience in such surveys and such recommendations, and who may be a broker or agent with whom the University regularly transacts business.

“Investment Securities” with respect to the 2017A Bonds, means and includes any of the following securities, if and to the extent the same are at the time legal for investment of Authority funds:

- (a) Government Obligations;
- (b) Bonds, debentures, notes or other evidences of indebtedness issued by any of the following agencies or such other like governmental or government-sponsored agencies which may be hereafter created: Bank for Cooperatives; Federal Intermediate Credit Banks; Federal Financing Bank; Federal Home Loan Bank System; Federal Home Loan Mortgage Corporation; Export-Import Bank of the United States; Farmers Home Administration; Small Business Administration; Inter-American Development Bank; International Bank for Reconstruction and Development; Federal Land Banks; the Federal National Mortgage Association; the Government National Mortgage Association; or the Tennessee Valley Authority;
- (c) Direct and general obligations of any state of the United States or any municipality of the Commonwealth of Pennsylvania, to the payment of the principal of and interest on

which the full faith and credit of such state or municipality is pledged, if at the time of their purchase such obligations are rated in the AA or higher, or Aa or higher, rating category by either Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc. ("S&P") or Moody's Investors Service ("Moody's"), respectively, or in a similar rating category subsequently adopted by such services, or upon the discontinuance of either or both of such services, in equivalent rating categories of such other nationally recognized rating service or services as the case may be, satisfactory to the Authority;

(d) Bank deposit products, negotiable or non-negotiable certificates of deposit, time deposits, trust deposits, investment agreements or other similar arrangements, issued by (i) any financial institution or (ii) any bank or trust company (including the Trustee and any banks affiliated with the Trustee) the deposits of which are insured by the Federal Deposit Insurance Corporation, such arrangements to be secured as to principal, to the extent not insured, by the securities listed in subsections (a), (b) or (c) above, or, if not so insured or secured, issued by a financial institution or a bank (including the Trustee or any banks affiliated with the Trustee) the debt obligations of which (or, in the case of the principal bank in a bank holding company, the debt obligations of the bank holding company) are rated, at the time of purchase, in one of the two highest rating categories by either S&P or Moody's;

(e) Repurchase agreements or similar arrangements, (i) with banking institutions or other financial institutions, including the Trustee or any bank or financial institution affiliated with the Trustee if applicable, (having or the parent company of which shall have a current S&P or other equivalent rating for any purpose, including outstanding indebtedness, of at least "A") pursuant to which there shall have been delivered to the Trustee, or its designee, Investment Securities of the types set forth in subsections (a) and/or (b) above having at all times a fair market value of at least 100% of the value of such agreement; or (ii) with banking institutions or other financial institutions, including the Trustee and any affiliate of the Trustee if applicable, not meeting the rating requirements of (i) above pursuant to which there shall have been delivered to the Trustee or its designee, Investment Securities of the types set forth in subsection (a) and/or (b) under and at all times having a fair market value of least 101% of the value of such agreement;

(f) Shares of open-end, diversified investment companies (i) registered under the Investment Company Act of 1940, (ii) rated, at the time of purchase, AA or higher by S&P or Aa or higher by Moody's, or equivalent ratings then in effect, (iii) maintaining a constant net asset value per share in accordance with regulations of the Securities and Exchange Commission, and (iv) individually having aggregate net assets of not less than \$10,000,000 on the date of purchase; including, without limitation, JP Morgan Money Market Mutual Funds or any other mutual fund for which the Trustee or an affiliate of the Trustee serves as investment manager, administrator, shareholder servicing agent, and/or custodian or subcustodian, notwithstanding that (i) the Trustee charges and collects fees for services rendered pursuant to the Indenture, which fees are separate from the fees received from such funds, and (ii) services performed for such funds and pursuant to the Indenture may at times duplicate those provided to such funds by the Trustee or its affiliates; provided that the purchase of any particular investment company shall be limited to an aggregate amount owned at any time of \$10,000,000;

(g) Commercial paper rated, at the time of purchase, A-1 (or higher) by S&P and P-1 (or higher) by Moody's, or equivalent ratings then in effect;

(h) Public housing bonds issued by public agencies or municipalities, or temporary notes, preliminary loan notes or project notes issued by public agencies or municipalities, but only if such obligations are rated, at the time of purchase, "AAA" or the equivalent by a nationally recognized rating agency; and

(i) Escrow certificates with respect to securities listed in subsections (a) or (b) above, including without limitation zero coupons and similar accrual certificates.

“Loan Agreement” means the Loan Agreement dated as of January 15, 1987, as supplemented by the First Supplemental Loan Agreement, the Second Supplemental Loan Agreement, the Third Supplemental Loan Agreement, the Fourth Supplemental Loan Agreement, the Fifth Supplemental Loan Agreement, the Sixth Supplemental Loan Agreement, the Seventh Supplemental Loan Agreement, the Eighth Supplemental Loan Agreement, the Ninth Supplemental Loan Agreement, the Tenth Supplemental Loan Agreement, the Eleventh Supplemental Loan Agreement and the Twelfth Supplemental Loan Agreement between the Authority and the University, and all modifications, alterations, amendments and supplements thereto.

“Loan Payments” means the payments of principal of and interest on the Loan made pursuant to the Loan Agreement.

“Ninth Supplemental Indenture” means the Ninth Supplemental Indenture of Trust dated as of February 1, 2011 between the Authority and the Trustee.

“Ninth Supplemental Loan Agreement” means the Ninth Supplemental Loan Agreement dated as of February 1, 2011 between the Authority and the University.

“Officer’s Certificate” means a certificate signed by a Responsible Officer.

“Original Indenture” means the Indenture of Trust dated as of January 15, 1987, between the Authority and the Trustee.

“Original Loan Agreement” means the Loan Agreement dated as of January 15, 1987, between the Authority and the University.

“Outstanding” in connection with the Bonds, means, as of the time in question, all Bonds authenticated and delivered under the Indenture, except such thereof as:

(a) are cancelled or required to be cancelled under the terms of the debt incurring instrument;

(b) for the payment, redemption or purchase of which moneys or Defeasance Investments (the principal of and interest on which Defeasance Investments when due, will provide sufficient moneys to fully pay the principal, premium, if any, of and interest on the Bonds when due or a portion thereof) shall have been or shall concurrently be deposited with the Trustee, or an escrow agent appointed for such purpose; provided that, if Bonds are being redeemed, the required notice of redemption shall have been given or provision satisfactory to the Trustee or other appropriate party shall have been made therefor, and that if Bonds are being purchased, there shall be a firm commitment for the purchase and sale thereof; or

(c) in substitution for which other Bonds have been authenticated and delivered pursuant to the Indenture.

“Person” means an individual, a corporation, a partnership, an association, a joint stock company, a trust, an unincorporated organization, a government body, and any other political subdivision, municipality or municipal authority or any other group or entity.

“Pledged Revenues” means all amounts payable by the University to the Authority under the Loan Agreement (except those representing the Annual Administrative Fee of the Authority and Administrative Expenses), all moneys and Investment Securities held in any Funds and Accounts and all income and receipts earned from investment of the moneys in such Funds and Accounts.



“Project” means the issuance of Bonds by the Authority and the lending of the proceeds thereof to the University to pay the Costs of any project of the University permitted under the Act.

“Redemption Price,” where used with respect to a Bond, means the principal amount of such Bond plus the applicable premium, if any, and accrued interest payable upon redemption thereof pursuant to the Indenture.

“Registered Owner”, “Owner” or “Bondholder”, in connection with a Bond, means the Person or Persons in whose name or names the Bond is registered on the books of the Authority kept for that purpose in accordance with the Indenture and the Bond.

“Regulatory Body” means and includes: (i) the United States of America and any department of or corporation, agency, or instrumentality heretofore or hereafter, created, designated or established by the United States of America; (ii) the Commonwealth, any political subdivision thereof, and any department of or corporation, agency or instrumentality heretofore or hereafter created, designated or established by the Commonwealth; (iii) the City of Philadelphia and any department of, or corporation, agency or instrumentality heretofore or hereafter created, designated or established by, the City; and (iv) any other public or private body, whether Federal, State, local or otherwise, which, in each case, has or exercises regulatory or supervisory jurisdiction and authority over the University, but shall not include the Authority.

“Responsible Officer” means (i) when used with respect to the Authority, the President, any Vice President, the Secretary, any Assistant Secretary, the Treasurer, any Assistant Treasurer, the Executive Director, any Assistant Executive Director, the Controller or any Assistant Controller, (ii) when used with respect to the University, the following administrative officers, the President, the Senior Vice President, the Vice President for Finance, Secretary, Assistant Secretary, Associate Secretary or Treasurer, and (iii) when used with respect to either the University or the Authority, as the case may be, any other person designated by resolution of the Authority Board or the University Board to act for any of the foregoing, either generally or with respect to the execution of any particular document or other specific matter, a certified copy of which resolution shall be on file with the Trustee.

“Second Supplemental Indenture” means the Second Supplemental Indenture of Trust dated as of January 15, 1998 between the Authority and the Trustee.

“Second Supplemental Loan Agreement” means the Second Supplemental Loan Agreement dated as of January 15, 1998 between the Authority and the University.

“Seventh Supplemental Indenture” means the Seventh Supplemental Indenture of Trust dated as of March 1, 2009 between the Authority and the Trustee.

“Seventh Supplemental Loan Agreement” means the Seventh Supplemental Loan Agreement dated as of March 1, 2009 between the Authority and the University.

“Sixth Supplemental Indenture” means the Sixth Supplemental Indenture of Trust dated as of April 1, 2008 between the Authority and the Trustee.

“Sixth Supplemental Loan Agreement” means the Sixth Supplemental Loan Agreement dated as of April 1, 2008 between the Authority and the University.

“Tenth Supplemental Indenture” means the Tenth Supplemental Indenture of Trust dated as of April 1, 2015 between the Authority and the Trustee.

“Tenth Supplemental Loan Agreement” means the Tenth Supplemental Loan Agreement dated as of April 1, 2015 between the Authority and the University.

“Third Supplemental Indenture” means the Third Supplemental Indenture of Trust dated as of February 1, 2002 between the Authority and the Trustee.

“Third Supplemental Loan Agreement” means the Third Supplemental Loan Agreement dated as of February 1, 2002 between the Authority and the University.

“Trustee” means The Bank of New York Mellon Trust Company, N.A., Philadelphia, Pennsylvania, or its successor for the time being in the trust created by the Indenture.

“Twelfth Supplemental Indenture” means the Twelfth Supplemental Indenture of Trust dated as of January 1, 2017 between the Authority and the Trustee.

“Twelfth Supplemental Loan Agreement” means the Twelfth Supplemental Loan Agreement dated as of January 1, 2017 between the Authority and the University.

“2009 Bonds” means the \$276,365,000 original aggregate principal amount of The Trustees of the University of Pennsylvania Revenue Bonds, Series A, B and C of 2009 issued by the Authority under the terms of the Indenture.

“2010 Bonds” means the \$71,410,000 original aggregate principal amount of The Trustees of the University of Pennsylvania Revenue Bonds, Series of 2010 issued by the Authority under the terms of the Indenture.

“2011 Bonds” means the \$150,000,000 original aggregate principal amount of The Trustees of the University of Pennsylvania Revenue Bonds, Series A of 2011 issued by the Authority under the terms of the Indenture.

“2015 Bonds” means the \$378,840,000 original aggregate principal amount of The Trustees of the University of the Pennsylvania Revenue Bonds, Series A of 2015, B of 2015 and C of 2015 (Federally Taxable) issued by the Authority under the terms of the Indenture.

“2016A Bonds” means the \$169,635,000 original aggregate principal amount of The Trustees of the University of Pennsylvania Refunding Revenue Bonds, Series A of 2016 issued by the Authority under the terms of the Indenture.

“2017A Bonds” means the \$178,395,000 original aggregate principal amount of The Trustees of the University of Pennsylvania Revenue Bonds, Series A of 2017 issued by the Authority under the terms of the Indenture.

“2017A Bonds Account” means the account created pursuant to the Twelfth Supplemental Indenture.

“2017 Project” means the Project financed with the proceeds of the 2017 Bonds as described in the Indenture.

“University” means The Trustees of the University of Pennsylvania, an institution of higher education, organized and existing under the laws of the Commonwealth of Pennsylvania, or its successors and assigns.

“University Board” means the then legally constituted governing body vested with the power of management of the University or a duly authorized committee thereof.

## **THE INDENTURE**

The 2017A Bonds are being issued under and subject to the provisions of the Indenture between the Authority and the Trustee, to which reference is made for complete details of the terms of the 2017A Bonds. The following summarizes certain provisions of the Indenture, but is not to be regarded as a full statement thereof.

### **Pledge and Assignment**

Under the Indenture, the Pledged Revenues payable to the Authority from the University under the Loan Agreement, as well as all income and receipts earned on funds (except the Rebate Fund) held by or deposited with the Trustee under the Indenture, have been pledged to the Trustee. The rights of the Authority under the Loan Agreement have been assigned to the Trustee to secure the payment of the Bonds and the performance and observance of the covenants contained in the Indenture.

Moneys from time to time in the various funds of the Indenture (other than the Rebate Fund) shall be held by the Trustee, in trust, for the benefit of the Registered Owners of Bonds, except: (a) each sinking fund account created for a particular series of Bonds shall be applied and held solely for the particular specified Bonds; (b) accrued interest held in the 2017A Bonds Account of the Bond Fund shall be held and applied solely for the 2017A Bonds; and (c) moneys and investments in any fund or account representing amounts payable on any Bonds previously matured or called for redemption shall be held for the benefit of the former Registered Owners thereof only.

### **Application of Proceeds of 2017A Bonds**

Upon the issuance and delivery of the 2017A Bonds, the Authority will transfer the proceeds to the Trustee, and the Trustee shall deposit the proceeds of the 2017A Bonds into the Settlement Fund.

From the Settlement Fund the Trustee is directed to make the following transfers: (a) to the payment of the costs of issuing the 2017A Bonds, the amount set forth in a certificate of the Authority delivered to the Trustee, and (b) to the University, the remaining proceeds of the 2017A Bonds for application to reimburse the University for the costs of the 2017 Project.

### **Additional Bonds**

The Authority may issue Additional Bonds under the Indenture on parity with the Bonds upon execution of a supplemental indenture setting forth the terms of the Additional Bonds and upon execution by the University of a supplement to the loan agreement covenanting to pay the debt service on all Outstanding Bonds.

### **Bond Fund**

There is established with the Trustee pursuant to the Indenture a Bond Fund. The Trustee shall deposit in the Bond Fund a sum equal to the accrued interest on the 2017A Bonds, plus Loan Payments made by the University from time to time, as received pursuant to the Loan Agreement. The Trustee shall establish within the Bond Fund a 2017A Bonds Account which the Trustee shall use to pay the principal or Redemption Price of the 2017A Bonds as they mature or become due and the interest on the 2017A Bonds as it becomes payable.

### **Settlement Fund**

There is established with the Trustee pursuant to the Indenture a Settlement Fund. The Trustee shall deposit in the Settlement Fund the proceeds of the 2017A Bonds for use as described in "Application of Proceeds of 2017A Bonds" above.

### **Investment of Funds**

All moneys received by the Trustee under the Indenture for deposit in any funds established thereunder shall be considered trust funds, shall not be subject to lien or attachment and shall, except as therein provided, be deposited in the commercial department of the Trustee and shall, to the extent not insured, be fully secured as to principal by Government Obligations or as may be permitted by law in connection with the deposit of public funds. Under certain conditions the Trustee may deposit such moneys in other authorized depositories, where to the extent not insured, they shall be secured as to principal by Government Obligations or as may be permitted by law in connection with the deposit of public funds. Such security shall be deposited with a Federal Reserve bank, with the trust department of the Trustee as authorized by law with respect to trust funds in the Commonwealth or with a bank or trust company having a combined net capital and surplus of not less than \$50,000,000.

The Trustee shall invest moneys held in the Bond Fund in Investment Securities maturing, or being subject to redemption by the Trustee, at the time when funds will foreseeably be needed for purposes of the Indenture. The Trustee shall make such investments at the direction of the University. The interest and income received upon such deposits and investments and any profit or loss resulting from the sale of securities shall be added or charged to the appropriate Fund or Account. The Trustee shall not knowingly make any investments of moneys held in any fund inconsistent with the provisions of the Indenture relating to "arbitrage bonds" but may rely on investment instructions of the University as being in compliance with the requirements of the Code, as amended. Neither the Trustee nor the Authority shall be accountable for any depreciation in the value of any security or any loss resulting from the sale thereof.

### **Covenants of the Authority**

The Authority shall, among other things, promptly pay the interest on and the principal of the Bonds according to the terms thereof, but only out of the Pledged Revenues of the Authority and funds held under the Indenture. The Authority shall cause the University to comply with insurance provisions of the Loan Agreement.

The Authority covenants that it will make no investment or other use of the proceeds of the Bonds that would cause the Bonds to be "arbitrage bonds" as the term is defined in Section 148 of the Code, as amended.

### **Defaults and Remedies**

Events of Default, as defined in the Indenture, include, among other things, the following:

- (a) if payment of any installment of interest on the Bonds is not made when it becomes due and payable;
- (b) if payment of the principal or Redemption Price of any Bond is not made when it becomes due and payable at maturity or unconditional call for redemption;
- (c) if there is a default in the payment of amounts due under the Loan Agreement or any other event of default shall occur thereunder;

(d) if the Authority fails to comply with any provisions of the Act relating to or affecting the Project undertaken by the Authority for the University or for any reason is rendered incapable of fulfilling its obligations under said Act or the Indenture relating to or affecting the Project undertaken by the Authority for the University;

(e) if the University makes an assignment for the benefit of creditors or a composition agreement with all or a material part of its creditors, or a trustee, receiver, executor, conservator, liquidator, sequestrator or other judicial representative, similar or dissimilar, is appointed for the University or any of its assets or revenues, or there is commenced any proceeding in liquidation, bankruptcy, reorganization, arrangement of debts, debtor rehabilitation, creditor adjustment or insolvency, local, state or federal, by or against the University and if such is not vacated, dismissed or stayed on appeal within 60 days; or

(f) if the Authority defaults in the due and punctual performance of any other covenants in the Bonds or in the Indenture, and such default continues for 60 days after written notice specifying such default and requiring the same to be remedied shall have been given to the Authority and the University 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 25% in aggregate principal amount of Bonds then Outstanding; provided, however, that if such performance requires work to be done, actions to be taken or conditions to be remedied, which by their nature cannot reasonably be done, taken or remedied, as the case may be, within such 60-day period, no Event of Default shall be deemed to have occurred or to exist if, and so long as, the Authority or the University shall commence such performance within such 60-day period and diligently and continuously prosecute the same to completion.

If any Event of Default has occurred and is continuing, the Trustee may, and upon written request of the Registered Owners of 25% in principal amount of the Bonds then Outstanding shall, by notice in writing to the Authority, declare the principal of all Bonds then Outstanding to be immediately due and payable. Upon such declaration the said principal, together with interest accrued thereon, shall become due and payable immediately at the place of payment provided therein, anything in the Indenture or in the Bonds to the contrary notwithstanding, unless the University cures such Event of Default prior to the declaration. If all arrears of interest upon the Bonds (and interest on overdue installments of interest) are paid and all other things in respect to which the Authority may have been in default are performed and the reasonable charges of the Trustees are paid, such declaration and its consequences may be annulled by the Registered Owners of a majority in aggregate principal amount of the Bonds then Outstanding and declared to be due and payable in the manner provided for in the Indenture.

For a more complete statement of rights and remedies of the Registered Owners of Bonds and of the limitations thereon, reference is made to the Indenture.

#### **Limitations on Actions by Registered Owners of Bonds**

No Registered Owner of the Bonds shall have any right to pursue any remedy under the Indenture unless (a) the Trustee shall have been given written notice of an Event of Default, (b) the Registered Owners of at least 25% in principal amount of the Bonds then Outstanding shall have requested the Trustee, in writing, to exercise the powers granted under the Indenture or to pursue such remedy, (c) the Trustee shall have been offered indemnity satisfactory to it against costs, expenses and liabilities, and (d) the Trustee shall have failed to comply with such request within a reasonable time.

#### **Amendments and Supplements**

The Indenture may be amended or supplemented, without the consent of the Registered Owners of the Bonds, by a Supplemental Indenture, for one or more of the following purposes: (a) to add additional covenants of the Authority or to surrender any right or power in the Indenture conferred upon

the Authority, (b) to cure any ambiguity or to cure, correct or supplement any defective provision of the Indenture in such manner as shall not be inconsistent with the Indenture and shall not impair the security thereof or adversely affect the Registered Owners of the Bonds; or (c) to reflect changes in applicable law. The Indenture may be amended by a Supplemental Indenture approved by the Registered Owners of at least 66-2/3% in aggregate principal amount of the Bonds then Outstanding and affected by such amendment except with respect to (a) interest payable on the Bonds, (b) the dates of maturity or redemption provisions of the Bonds, (c) the amendment provisions of the Indenture, and (d) the Pledged Revenues and the covenants in the Indenture to pay over, maintain or restore the same, including the Funds and Accounts.

### **Defeasance**

When interest on, and the principal or Redemption Price (as the case may be), of all Bonds issued under the Indenture have been paid, or there shall have been deposited with the Trustee an amount, evidenced by moneys and Defeasance Investments, which, together with the interest thereon, when due, will provide sufficient moneys to fully pay all Bonds issued under the Indenture, as well as all other sums payable thereunder by the Authority, all right, title and interest of the Trustee shall thereupon cease, and the Trustee, on demand of the Authority shall release the Indenture and shall execute such documents to evidence such release as may be reasonably required by the Authority and shall turn over to the Authority or to such person, body or authority as may be entitled to receive the same, all balances remaining in any funds thereunder.

## **THE LOAN AGREEMENT**

The following is a summary of certain provisions of the Loan Agreement by and between the Authority and the University pursuant to which the Authority has agreed to loan to the University the proceeds of the 2017A Bonds and the University has agreed, among other things, to make payments in amounts sufficient to pay the Debt Service Requirements on and other amounts due with respect to the 2017A Bonds. This summary should not be regarded as a full statement of the document itself or the portions summarized. For complete statements of the provisions thereof, reference is made to the document in its entirety, a copy of which will be available for inspection at the corporate trust office of the Trustee in Philadelphia, Pennsylvania.

### **Loan Payments**

The University shall pay for deposit in the Bond Fund created under the Indenture on or before the respective due dates thereof, an amount which, together with other available funds in the Bond Fund, is sufficient to pay the interest on and principal of the 2017A Bonds due and payable on such date.

The University shall also pay directly to the Authority amounts due and payable with respect to the initial and annual Authority fees plus the Authority's Administrative Expenses.

The obligations of the University under the Loan Agreement, including the obligation to make the payments required under the Loan Agreement sufficient to cover the payment of principal or Redemption Price of and interest on the 2017A Bonds, are absolute and unconditional.

### **Nature of Obligations of the University**

The Authority has assigned all of its rights, title and interest in and to the Loan Agreement and all payments payable or which may become payable thereunder and all security therefor (except for certain amounts representing the Annual Administrative Fee and the reimbursement of the Authority's Administrative Expenses and those amounts representing the Authority's rights to indemnification) to be held in trust and applied by the Trustee for the benefit and security of the Registered Owners of the

Bonds. The Loan Agreement is an unsecured obligation of the University and the full faith and credit of the University is pledged to secure the payments thereunder.

### **Insurance**

The University covenants to provide and maintain the following:

(a) Insurance against loss and/or damage to its facilities under a policy or policies in form and amount covering such risks as are ordinarily insured against by similar institutions.

(b) Public liability and property damage insurance, automobile liability insurance and, if applicable, special hazard insurance in certain specified amounts.

(c) Workmen's compensation and employer's liability insurance meeting the University's statutory obligations.

(d) Boiler and machinery coverage when deemed advisable by the Insurance Consultant or when required by ordinance or law.

(e) Excess liability coverage covering the excess of amounts insured against pursuant to subsection (b) as it relates to public liability insurance to be maintained in force so that the total coverage available equals certain specified amounts.

(f) Fidelity bonds on all officers and employees of the University who collect or have custody of or access to revenues, receipts or other funds of the University, such bonds to be in such amounts as are customarily carried by like organizations engaged in like activities of comparable size and having comparable income.

The University shall employ each year during the term of the Loan Agreement an Insurance Consultant. In the event that any insurance required by the Loan Agreement is commercially unavailable at a reasonable cost, or has been otherwise provided, the University with the approval of the Authority may accept such substitute coverage as is recommended by the Insurance Consultant's certificate setting forth amounts and types of insurance then in force, stating whether, in the opinion of such Insurance Consultant, such insurance then in force is in compliance with the requirements of the Loan Agreement, and stating the amounts and types of insurance to be maintained during the next ensuing Fiscal Year.

### **Additional Covenants of the University**

The University covenants that it will abide by covenants made by it under the Loan Agreement. The University further covenants that it will preserve and maintain its existence as an organization organized and operated exclusively for educational purposes and that it will maintain the necessary accreditation to enable it to maintain its authority to operate the University as an institution of higher education in the Commonwealth and that it will operate its facilities as an institution of higher education within the meaning of the Act.

The University covenants that during the term of the Loan Agreement it will not initiate any proceedings or take any action to dissolve, liquidate or terminate its existence as a corporation or otherwise dispose of all or substantially all of its assets, except to consolidate or merge with or sell or otherwise transfer all or substantially all of its assets to another corporation and provided that (a) the successor corporation formed by such consolidation or merger shall be a corporation organized under the laws of the United States or any state, district or territory thereof and shall be an institution of higher learning as required by the Act, (b) the successor corporation expressly assumes in writing the full and faithful performance of the University's duties and obligations under the Loan Agreement and, in the opinion of a Consultant, such successor corporation is financially capable of fulfilling such duties and

obligations and the transaction will not adversely affect the security for the Bonds, (c) immediately after such consolidation or merger, the University or such successor corporation shall not be in default in the performance or observance of any duties, obligations or covenants of the Loan Agreement, and (d) the Authority and the Trustee shall have received an opinion of Counsel satisfactory to them that the exemption from federal income tax of the interest on the Bonds will not be affected by the merger, transfer or consolidation.

The University covenants that it will maintain its facilities in good order, repair and operating condition and that all actions taken by the University have been and will be in full compliance with all pertinent laws, ordinances, rules, regulations and orders applicable to the University.

The University covenants to keep accurate records and books of account and to annually have an examination of its financial statements made by a Certified Public Accountant, a copy of which shall be available for inspection at reasonable times by the Registered Owners of the Bonds at the office of the Authority.

The University covenants that it will not take any action or permit any action to be taken on its behalf, or cause or permit any circumstances within its control to arise or continue, if such action or circumstances would cause the interest paid on the Bonds to be subject to federal income tax.

#### **Events of Default and Remedies**

The following are "Events of Default" under the Loan Agreement:

(a) if the University fails to make any payment required by the Loan Agreement with respect to interest and principal due on the Bonds when the same shall become due and payable;

(b) if an event of default shall have occurred and be continuing with respect to any outstanding indebtedness of the University other than the Bonds;

(c) if the University fails to perform any of its other covenants and such failure continues for 60 days after the Authority gives notice thereof; provided, however, that if such performance requires work to be done, actions to be taken or conditions to be remedied, which by their nature cannot reasonably be done, taken or remedied, as the case may be, within such 60-day period, no Event of Default shall be deemed to have occurred or to exist if, and so long as, the University shall commence such performance within such 60-day period and diligently and continuously prosecute the same to completion;

(d) if the University shall file a voluntary petition in bankruptcy or shall be adjudicated a bankrupt or insolvent, or in any action or proceeding shall file any petition or answer seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any present or future applicable federal, state or other statute or law, or shall seek or consent to or acquiesce in the appointment of any trustee, receiver or liquidator of the University or of all or substantially all of its properties;

(e) if within 60 days after commencement of any proceeding against the University seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any federal, state or other statute or law, such proceeding shall not have been dismissed, or, within 60 days after the appointment, without the consent or acquiescence of the University, of any Trustee, receiver or liquidator of the University or of all or substantially all of its properties, such appointment shall not have been vacated or stayed on appeal or otherwise, or, within 60 days after the expiration of any such date, such appointment shall not have been vacated; or

(f) if an Event of Default shall have occurred and be continuing under the Indenture.



Upon the occurrence and continuation of any Event of Default, the Trustee may take one of any combination of the following remedial steps:

- (a) declare an amount equal to all amounts then due and payable on the Bonds to be immediately due and payable;
- (b) have access to and inspect, examine and make copies of the books and records and accounts, data and income tax and other tax returns of the University;
- (c) take whatever action at law or in equity may appear necessary or desirable to collect the amounts then due and thereafter become due, or to enforce performance and observance of any obligation, agreement or covenant of the University under the Loan Agreement;
- (d) by action or submit in equity require the University to account as if it were the trustee of an express trust for the Bondholders; and
- (e) withhold any and all further performance under the Loan Agreement.

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## **APPENDIX D**

### **PROPOSED FORM OF OPINION OF CO-BOND COUNSEL**

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[FORM OF OPINION OF BALLARD SPAHR LLP  
AND ANDRE C. DASENT, P.C., AS CO-BOND COUNSEL]

January \_\_, 2017

Pennsylvania Higher Educational  
Facilities Authority  
1035 Mumma Road  
Wormleysburg, PA 17043

The Bank of New York Mellon  
Trust Company, N.A., as Trustee  
Global Corporate Trust  
1735 Market Street  
Philadelphia, PA 19103

Morgan Stanley & Co. LLC,  
as Representative of the Underwriters  
1585 Broadway  
New York, NY 10036

Re: \$178,395,000 Pennsylvania Higher Educational Facilities Authority,  
The Trustees of the University of Pennsylvania Revenue Bonds, Series A of 2017

Ladies and Gentlemen:

We have acted as co-bond counsel to the Pennsylvania Higher Educational Facilities Authority (the "Authority") in connection with the issuance of \$178,395,000 aggregate principal amount of its The Trustees of the University of Pennsylvania Revenue Bonds, Series A of 2017 (the "Bonds").

The Bonds are issued under and pursuant to the laws of the Commonwealth of Pennsylvania (the "Commonwealth"), including the Pennsylvania Higher Educational Facilities Authority Act of 1967, the Act of December 6, 1967, P.L. 678, as amended and supplemented (the "Act"), and an Indenture of Trust dated as of January 15, 1987, as supplemented by a First Supplemental Indenture of Trust dated as of March 15, 1995, a Second Supplemental Indenture of Trust dated as of January 15, 1998, a Third Supplemental Indenture of Trust dated as of February 1, 2002, a Fourth Supplemental Indenture of Trust dated as of January 1, 2005, a Fifth Supplemental Indenture of Trust dated as of August 1, 2005, a Sixth Supplemental Indenture of Trust dated as of April 1, 2008, a Seventh Supplemental Indenture of Trust dated as of March 1, 2009, an Eighth Supplemental Indenture of Trust dated as of October 1, 2010, a Ninth Supplemental Indenture of Trust dated as of February 1, 2011, a Tenth Supplemental Indenture of Trust dated as of April 1, 2015, an Eleventh Supplemental Indenture of Trust dated as of April 1, 2016 and a Twelfth Supplemental Indenture of Trust dated as of January 1, 2017 (collectively, the "Indenture"), between the Authority and The Bank of New York Mellon Trust Company, N.A., as successor trustee (the "Trustee").

The Bonds are being issued at the request of The Trustees of the University of Pennsylvania (the "University") to provide funds which will be used for the purpose of: (i) the financing (including the reimbursement) of a portion of the projects in the University's capital budget, which may include (without limitation) acquisition, construction, renovation and equipping of the Perry World House and New College House at Hill Square, construction of the Stephen A. Levin Building and construction of the Perelman Center for Political Science and Economics, and (ii) the payment of certain costs of issuance in respect of the Bonds (collectively, the "Project").

The proceeds of the Bonds are being loaned to the University pursuant to a Loan Agreement dated as of January 15, 1987, as supplemented by a First Supplemental Loan Agreement dated as of March 15, 1995, a Second Supplemental Loan Agreement dated as of January 15, 1998, a Third Supplemental Loan Agreement dated as of February 1, 2002, a Fourth Supplemental Loan Agreement dated as of January 1, 2005, a Fifth Supplemental Loan Agreement dated as of August 1, 2005, a Sixth

Supplemental Loan Agreement dated as of April 1, 2008, a Seventh Supplemental Loan Agreement dated as of March 1, 2009, an Eighth Supplemental Loan Agreement dated as of October 1, 2010, a Ninth Supplemental Loan Agreement dated as of February 1, 2011, a Tenth Supplemental Loan Agreement dated as of April 1, 2015, an Eleventh Supplemental Loan Agreement dated as of April 1, 2016, and a Twelfth Supplemental Loan Agreement dated as of January 1, 2017 (collectively, the "Loan Agreement") between the Authority and the University. Under the Loan Agreement, the University is obligated to make payments in amounts sufficient to pay, among other things, the principal or redemption price of and interest on the Bonds.

The Bonds are secured by the Indenture and by an assignment to the Trustee of all of the Authority's right, title and interest in and to the Loan Agreement (except for the Authority's rights thereunder to receive payments of administrative fees and expenses and indemnification against liability).

The University has represented in the Loan Agreement that it is an organization described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (the "Code"). The University has covenanted that, throughout the term of the Loan Agreement, it will not carry on or permit to be carried on in the University Facilities (as defined in the Loan Agreement) any trade or business, nor will it take any action or permit any action to be taken on its behalf or cause or permit any circumstance within its control to arise or continue if the conduct of such trade or business or such other action or circumstance would cause the interest paid by the Authority on the Bonds to be subject to federal income tax in the hands of the holders thereof. The University has further covenanted that it will neither make nor instruct the Trustee to make any investment or other use of the proceeds of the Bonds, nor take or omit to take any other action which would cause the Bonds to be arbitrage bonds under Section 148(a) of the Code.

Under the Indenture and the Loan Agreement, respectively, the Authority and the University have covenanted that they will comply with the requirements of Section 148 of the Code pertaining to arbitrage bonds. In addition, an officer of the Authority responsible for issuing the Bonds and a representative of the University have executed a certificate stating the reasonable expectations of the Authority and the University on the date of issue of the Bonds as to future events that are material for the purposes of such requirements of the Code.

In our capacity as co-bond counsel, we have examined such documents, records of the Authority and other instruments as we deemed necessary to enable us to express the opinions set forth below, including original counterparts or certified copies of the Indenture, the Loan Agreement and the other documents listed in the closing memorandum in respect of the Bonds filed with the Trustee. We have assumed that the Authority and the University will comply with their respective covenants in the Indenture and the Loan Agreement relating to the tax-exempt status of the Bonds. We have also examined an executed Bond of each series, authenticated by the Trustee, and have assumed that all other Bonds of such series have been similarly executed and authenticated. We have also assumed that the Indenture has been duly authorized, executed and delivered by the Trustee, and that the Loan Agreement has been duly authorized, executed and delivered by the University.

Based on the foregoing, it is our opinion that:

1. The Authority is a body corporate and politic validly existing under the laws of the Commonwealth, with full power and authority to undertake the Project, to execute and deliver the Indenture and the Loan Agreement and to issue and sell the Bonds.

2. The Indenture and the Loan Agreement have been duly authorized, executed and delivered by the Authority and the covenants of the Authority therein are valid and binding obligations of the Authority enforceable in accordance with their terms, except as the rights created thereunder and the enforcement thereof may be limited by bankruptcy, insolvency or other similar laws or equitable principles affecting the enforcement of creditors' rights generally.

3. The issuance and sale of the Bonds have been duly authorized by the Authority. Based on the assumption as to execution and authentication set forth above, the Bonds have been duly executed and delivered by the Authority and authenticated by the Trustee, are valid and binding obligations of the Authority and are entitled to the benefit and security of the Indenture, except as the rights created thereunder and the enforcement thereof may be limited as indicated in paragraph 2.

4. Under the laws of the Commonwealth as presently enacted and construed, the Bonds are exempt from personal property taxes in Pennsylvania, and interest on the Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax.

5. Interest on the Bonds is excludable from gross income for purposes of federal income tax under existing laws as enacted and construed on the date of initial delivery of the Bonds, assuming the accuracy of the certifications of the Authority and the University and continuing compliance by the Authority and the University with the requirements of the Code. Interest on the Bonds is not an item of tax preference for purposes of either individual or corporate federal alternative minimum tax ("AMT"); however, interest on the Bonds held by a corporation (other than an S corporation, regulated investment company, or real estate investment trust) may be indirectly subject to federal AMT because of its inclusion in the adjusted current earnings of a corporate holder. We express no opinion regarding other federal tax consequences relating to ownership or disposition of, or the accrual or receipt of interest on, the Bonds.

We express no opinion herein with respect to the adequacy of the security or sources of payment for the Bonds or the accuracy or completeness of any offering document used in connection with the sale of the Bonds.

We call your attention to the fact that the Bonds are limited obligations of the Authority, payable only out of certain revenues of the Authority and certain other moneys available therefor as provided in the Indenture, and that the Bonds do not pledge the credit or taxing power of the Commonwealth or any political subdivision, agency or instrumentality thereof. The Authority has no taxing power.

Very truly yours,

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