NEW ISSUE-Book Entry Only **Ratings: See "RATINGS" herein**

In the opinion of Co-Bond Counsel, based upon certain assumptions and subject to conditions, qualifications and exceptions herein described, under existing laws, regulations, rulings, and judicial decisions, interest on the Series AW Bonds is neither includable in gross income for federal income tax purposes nor a specific "item of tax preference" for purposes of computing the federal alternative minimum tax on individuals, Under current Pennsylvania law, the Series AW Bonds are exempt from personal property taxes in Pennsylvania and interest on the Series AW Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax. For a more detailed description of Co-Bond Counsel's opinion including the aforementioned assumptions, qualifications and exceptions, see "TAX MATTERS" herein.

$84,980,000
PENNSYLVANIA HIGHER EDUCATIONAL FACILITIES AUTHORITY
(Commonwealth of Pennsylvania)
REVENUE AND REFUNDING REVENUE BONDS
STATE SYSTEM OF HIGHER EDUCATION, SERIES AW

Dated: Date of Delivery **Due: June 15, as shown on the inside front cover**

The Series AW Bonds are issuable 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 The Depository Trust Company ("DTC"), New York, New York. DTC will act as securities depository for the Series AW Bonds. Purchase of the Series AW Bonds will be made in book-entry only form, in the denomination of $5,000 or any integral multiple thereof. Purchasers will not receive certificates representing their interest in the Series AW Bonds. So long as the Series AW Bonds are registered in the name of Cede & Co. as nominee of DTC, references herein to the registered owners shall mean Cede & Co., and shall not mean the Beneficial Owners of the Series AW Bonds. See "The Series AW Bonds - Book-Entry Only System" herein.

Principal of and interest on the Series AW Bonds will be paid by The Bank of New York Mellon Trust Company, N.A., Philadelphia, Pennsylvania, as trustee (the "Trustee"). So long as DTC or its nominee, Cede & Co., is the registered owner of the Series AW Bonds, such payments will be made directly to it as registered owner. Disbursement of such payments to the DTC Participants is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of the DTC Participants and the Indirect Participants, as more fully described herein. Interest will be payable on December 15 and June 15, commencing December 15, 2019, to the registered owners of record as of the pertinent record dates herein described.

The Series AW Bonds are subject to redemption prior to maturity as described herein.

The Series AW Bonds are limited obligations of the Authority and are secured under the provisions of the Indenture and the Loan Agreement, as each is defined herein, and are payable solely from payments to be received under the Loan Agreement by the Authority from the State System of Higher Education (the "System") and from certain funds held under the Indenture.

Neither the general credit of the Authority nor the credit or taxing power of the Commonwealth of Pennsylvania or of any political subdivision thereof is pledged for the payment of the principal of or the interest on the Series AW Bonds described above, nor shall such Series AW Bonds 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 of or interest on the Series AW Bonds described above. The Authority has no taxing power.

The Series AW Bonds are offered when, as and if issued by the Authority and received by the Underwriters subject to receipt of the approving legal opinion of Kutak Rock LLP and Turner Law, P.C., both of Philadelphia, Pennsylvania, Co-Bond Counsel. Certain legal matters will be passed upon for the Authority by its counsel, Barley Snyder LLP, Lancaster, Pennsylvania, and for the System by its Chief Legal Counsel. It is expected that the Series AW Bonds in definitive form will be available for delivery in New York, New York on or about September 10, 2019.

This cover page contains certain information for quick reference only. It is not a summary of the issue. Prospective purchasers of the Series AW Bonds must read the entire Official Statement to obtain information essential to the making of an informed investment decision.

WELLS FARGO SECURITIES

The date of this Official Statement is August 22, 2019.

$84,980,000
PENNSYLVANIA HIGHER EDUCATIONAL

FACILITIES AUTHORITY
(Commonwealth of Pennsylvania)
STATE SYSTEM OF HIGHER EDUCATION, SERIES AW

MATURITY SCHEDULE

$84,980,000 Series AW Revenue and Refunding Revenue Bonds

Maturity (June 15)	Principal Amount	Interest Rate	Yield	Price	CUSIP† (70917S)
2020	$ 370,000	5.000%	1.100%	102.956	5G4
2021	3,330,000	5.000	1.100	106.792	5H2
2022	8,500,000	5.000	1.130	110.500	5J8
2023	9,060,000	5.000	1.150	114.140	5K5
2024	17,095,000	5.000	1.170	117.694	5L3
2025	5,200,000	5.000	1.210	121.037	5M1
2026	5,465,000	5.000	1.260	124.174	5N9
2027	5,730,000	5.000	1.320	127.069	5P4
2028	6,020,000	5.000	1.390	129.687	5Q2
2029	6,320,000	5.000	1.460	132.102	5R0
2030	1,915,000	5.000	1.570	130.934*	5S8
2031	2,020,000	4.000	1.750	120.111*	5T6
2032	2,105,000	4.000	1.850	119.122*	5U3
2033	2,180,000	4.000	1.950	118.143*	5V1
2034	2,265,000	4.000	2.050	117.173*	5W9
2035	790,000	2.250	2.500	96.757	5X7
2036	810,000	2.375	2.590	97.089	5Y5
2037	825,000	2.500	2.680	97.467	5Z2
2038	850,000	3.000	2.600	103.427*	6A6
2039	880,000	3.000	2.650	102.991*	6B4
2040	610,000	3.000	2.700	102.557*	6C2
2041	630,000	3.000	2.730	102.297*	6D0
2042	650,000	3.000	2.760	102.039*	6E8
2043	670,000	3.000	2.790	101.781*	6F5
2044	690,000	3.000	2.800	101.695*	6G3

* Priced to the first optional redemption date of June 15, 2029.

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

BOARD MEMBERS OF THE AUTHORITY

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

Honorable Wayne Langerholc Jr.
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 Curtis G. Sonney
Designated by the Speaker of the House of Representatives .... Vice President

Honorable Joseph M. Torsella
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

ACTING EXECUTIVE DIRECTOR
Beverly Nawa

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)

Kutak Rock LLP
Philadelphia, Pennsylvania

Turner Law, P.C.
Philadelphia, Pennsylvania

FINANCIAL ADVISOR
to the State System of Higher Education
RBC Capital Markets, LLC
Lancaster, Pennsylvania

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

No dealer, broker, salesman, or other person has been authorized by the Pennsylvania Higher Educational Facilities Authority, the State System of Higher Education or the Underwriter to give any information or to make any representations, 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 an offer to buy, nor shall there be any sale of the Series AW Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information set forth herein has been obtained from the State System of Higher Education, and other sources which are believed to be reliable but it is not guaranteed as to accuracy or completeness, and is not to be construed as a representation by the Underwriter or, as to information from other sources, by the Pennsylvania Higher Educational Facilities Authority or the State System of Higher Education. The information and expressions of opinion herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in any of the information set forth herein since the date hereof or the date as of which particular information is given, if earlier.

The Series AW 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, in reliance on exemptions contained in such laws. Neither the Securities and Exchange Commission nor any federal, state, municipal or other governmental agency will pass upon the accuracy, adequacy or completeness of this Official Statement.

Table of Contents

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OFFICIAL STATEMENT
$84,980,000
PENNSYLVANIA HIGHER EDUCATIONAL FACILITIES AUTHORITY (COMMONWEALTH OF PENNSYLVANIA), REVENUE AND REFUNDING REVENUE BONDS STATE SYSTEM OF HIGHER EDUCATION SERIES AW

INTRODUCTION

This Introduction is qualified in all respects by the more detailed information appearing elsewhere in this Official Statement and in the Appendices hereto.

General

This Official Statement, including the cover page and the Appendices hereto, sets forth certain information concerning the issuance by the Pennsylvania Higher Educational Facilities Authority (the "Authority," the offices of which are located at 1035 Mumma Road, Wormleysburg, Pennsylvania 17043), of the Authority's Revenue and Refunding Revenue Bonds, State System of Higher Education, Series AW in the aggregate principal amount of $89,990,000* (the "Series AW Bonds"). The Authority is a body corporate and politic constituting a public corporation and a public instrumentality of the Commonwealth of Pennsylvania (the Commonwealth"), created by The Pennsylvania Higher Educational Facilities Authority Act of December 6, 1967, P.L. 678, No. 318, as amended (the "Act"). See **"The Authority"** herein for additional information about the Authority.

The Series AW Bonds are being issued on behalf of the State System of Higher Education (the "System" or "SSHE"), a body corporate and politic constituting a public corporation and a governmental instrumentality of the Commonwealth of Pennsylvania, created by the State System of Higher Education Act of November 12, 1982, P.L. 660, No. 188, as amended ("Act 188"). See **Appendix I: "Certain Information Concerning Pennsylvania's State System of Higher Education"** for certain information concerning the System.

Certain capitalized terms used and not otherwise defined herein shall have the meaning assigned to them in **Appendix III: "Summary of Legal Documents -- Definitions of Certain Terms".**

The Series AW Bonds

The Series AW Bonds are being issued by the Authority in the aggregate principal amount of $89,990,000*. They will be dated their date of delivery, and will bear interest from such date, payable June 15 and December 15, commencing December 15, 2019, at the rates set forth on the inside of the front cover page hereof and shall be subject to redemption prior to maturity as described herein. See **"The Series AW Bonds -- Redemption Provisions"** herein.

The Series AW Bonds will be issued pursuant to the Act and an Indenture of Trust dated as of June 1, 1985 (the "Original Indenture"), as previously supplemented and as further supplemented by a Forty-Fifth Supplemental Indenture of Trust dated as of September 1, 2019 (collectively, the "Indenture"), between the Authority and The Bank of New York Mellon Trust Company, N.A., Philadelphia, Pennsylvania, as trustee (the "Trustee"). The Series AW Bonds will be equally and ratably secured (as and to the extent described below) with the Outstanding bonds of forty-seven prior series under the Indenture (such prior bonds are sometimes referred to, collectively hereinafter, as the "Prior Bonds"). The Prior Bonds, the Series AW Bonds and any Additional Bonds which may be Outstanding from time to time under the Indenture are referred to collectively herein as "Bonds." As of July 1, 2019, there was a total of $1,154,660,000 in aggregate principal amount of Prior Bonds outstanding. See **"Sources of and Security for Payment of the Series AW Bonds"** herein.

The Series AW Bonds are issuable 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 The Depository Trust Company ("DTC"), New York, New York. See **"The Series AW Bonds -- Book-Entry Only System"** herein.

Use of Proceeds

Pursuant to a Loan and Security Agreement dated as of June 1, 1985, between the Authority and the System, as supplemented including by in particular, a Forty-Fifth Supplemental Loan and Security Agreement dated as of September 1, 2019 (collectively, the "Loan Agreement"), the Authority will lend the proceeds of the Series AW Bonds to the System, which will use such proceeds as described herein under **"Sources and Uses of Funds"** and **"Plan of Finance."**

Security for the Series AW Bonds

The Series AW Bonds are being issued on a parity (except as to certain specified funds held under the Indenture) with the Prior Bonds and any Additional Bonds with respect to the amounts payable by the System and secured under the Loan Agreement and by, inter alia, an assignment to the Trustee of all the right, title, and interest of the Authority in and to the Loan Agreement (except for the Authority's right to payment of certain fees and expenses and to indemnification), including such amounts payable thereunder. **The Loan Agreement is an unsecured general obligation of the System and the full faith and credit of the System is pledged to the payment of all sums due thereunder.** See **"Sources of and Security for Payment of the Series AW Bonds" and Appendix III: "Summary of Legal Documents"** herein.

NEITHER THE GENERAL CREDIT OF THE AUTHORITY NOR THE CREDIT OR TAXING POWER OF THE COMMONWEALTH OF PENNSYLVANIA OR OF ANY POLITICAL SUBDIVISION THEREOF IS PLEDGED FOR THE PAYMENT OF THE PRINCIPAL OF OR THE INTEREST ON THE SERIES AW BONDS, NOR SHALL THE SERIES AW BONDS 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 OF OR INTEREST ON THE SERIES AW BONDS. THE AUTHORITY HAS NO TAXING POWER.

Availability of Documents

The general descriptions of various legal documents set forth in this Official Statement do not purport to be comprehensive or definitive and reference should be made to each document for the complete terms and provisions thereof. Copies of all documents referred to herein about any document are available for inspection during normal business hours at the designated corporate trust office of the Trustee in Philadelphia, Pennsylvania. All statements herein are qualified in all respects by reference to such document in its entirety.

THE SERIES AW PROJECT

The Series AW Bonds are being issued to provide funds to the System to finance: (i) the replacement of HVAC equipment in the Kehr Union Building at Bloomsburg University of Pennsylvania; (ii) the reimbursement of the costs of acquisition at West Chester University of Pennsylvania of three parking garages from the Borough of West Chester; (iii) the refunding of a portion of the Authority's State System of Higher Education Revenue Bonds, Series AJ of 2009 (the "Series AJ Bonds"); (iv) the refunding of a portion of the Authority's State System of Higher Education Revenue Bonds, Series AK of 2009 (the "Series AK Bonds" and together with the Series AJ Bonds, the "Refunded Bonds"); and (v) the financing of contingencies and payment of costs and expenses incident to the issuance of the Bonds (collectively, the "Series AW Project"). Items (i) and (ii) are referred to in the table under the heading "ESTIMATED SOURCES AND USES OF FUNDS" as the "Capital Project" and items (iii) and (iv) as the "Refunding Project."

The Refunded Bonds

The refunded Series AJ Bonds are as shown in the following table:

(June 15) Maturity	Principal	CUSIP (70917R)
2020	$6,875,000	VP7
2021	7,395,000	VQ5
2022	8,015,000	VR3
2023	8,550,000	VS1
2024	9,155,000	VT9
2025	4,635,000	VU6
2026	4,840,000	VV4
2027	5,055,000	VW2
2028	5,290,000	VX0
2029	5,530,000	VY8
2030	1,405,000	VZ5
2031	1,480,000	WA9
2032	1,555,000	WB7
2033	1,630,000	WB7
2034	1,710,000	WB7
2035	230,000	WC5
2036	240,000	WC5
2037	255,000	WC5
2038	265,000	WC5
2039	280,000	WC5

The refunded Series AK Bonds are as shown in the following table:

(June 15) Maturity	Principal	CUSIP (70917R)
2022	$ 30,000	XW0
2023	75,000	XW0
2024	8,470,000	XW0

ESTIMATED SOURCES AND USES OF FUNDS

The following table sets forth estimated sources and uses of funds for the Series AW Project:

Sources:	
Series AW Bond Proceeds	$ 84,980,000.00
Plus Original Issue Premium	15,455,511.70
Total Sources:	$100,435,511.70
Uses:	
Deposit for the Capital Project	$ 15,900,000.00
Deposit for the Refunding Project	83,897,731.86
Issuance Costs[(1)]	297,464.68
Underwriters' Discount	340,315.16
Total Uses:	$100,435,511.70

(1) Includes fees and expenses of Co-Bond Counsel, the Financial Advisor, the Authority, the Trustee, rating agency fees, printing fees and miscellaneous fees and expenses.

THE AUTHORITY

The Authority is a body corporate and politic, constituting a public corporation and a public instrumentality of the Commonwealth of Pennsylvania (the "Commonwealth" or "State"), created by the Pennsylvania Higher Educational Facilities Authority Act of 1967 (Act No. 318 of the General Assembly of the Commonwealth of Pennsylvania, approved December 6, 1967, as amended) (the "Act").

The Authority is authorized under the Act, among other things, to acquire, construct, finance, improve, maintain, operate, hold and use any educational facility (as therein defined) and, with respect to a college, to finance projects by making loans, to lease as lessor or lessee, to transfer or sell any educational facility or property, to charge and collect amounts for the payment of expenses of the Authority and for payment of the principal of and interest on its obligations, to issue bonds and other obligations for the purpose of paying the cost of projects, to issue refunding bonds and to pledge all or any of the revenues of the Authority for all or any of such obligations, and to enter into trust indentures providing for the issuance of such obligations and for their payment and security.

Under the Act, the Board of the Authority (the "Board") consists of the Governor of the Commonwealth, the State Treasurer, the Auditor General, the Secretary of the Department 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 House of Representatives and the Minority Leader of the Senate. Pursuant to the Act, 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 their stead. The members of the Board 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 the Board.

The Authority has issued from time to time other series of revenue bonds and notes for the purpose of financing projects for higher educational institutions in the Commonwealth. None of the revenues of the Authority with respect to any of such revenue bonds and notes are pledged as security for the Series AW Bonds and, conversely, such revenue bonds and notes above are not payable from or secured by the revenues of the Authority or other moneys securing the Series AW Bonds.

The Authority may in the future issue other series of bonds for the purpose of financing projects for educational institutions in the Commonwealth. Each such series of bonds will be secured by instruments separate and apart from the Indenture securing the Series AW Bonds, except for any Additional Bonds issued thereunder.

On May 1, 1991, the Authority was unable to make payments to bondholders with respect to a series of revenue bonds issued by the Authority on behalf of a college because of defaults on payment obligations related to such series of revenue bonds by such college. The Florida Department of Banking and Finance, Division of Securities and Investor Protection, generally requires disclosure by any issuer of securities sold in Florida of defaults on any other obligations of such issuer. These defaulted bonds were special obligations payable only from revenues received from the particular college or from other limited sources, but not from revenues pledged to pay any series of bonds, and the full faith and credit of the Authority was not pledged to secure the payment of such bonds. Such default is not material with respect to the offering and sale of the Series AW Bonds, and additional details with respect thereto in this are not being provided in this Official Statement.

The Series AW Bonds are being issued under the Act pursuant to a resolution of the Authority adopted on July 18, 2019, and pursuant to the Indenture.

Except for the Prior Bonds and any Additional Bonds, none of the revenues of the Authority with respect to any of the revenue bonds and notes referred to above are pledged as security for any of the Series AW Bonds and, conversely, the revenue bonds and notes referred to above are not payable from or secured by the revenues of the Authority or other moneys securing the Series AW Bonds. See **"Sources of and Security for Payment of the Series AW Bonds".**

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

Beverly M. Nawa, Acting Executive Director. Ms. Nawa serves as the Acting Executive Director of both the Authority and the State Public School Building Authority ("SPSBA"). She has been with the Authority and SPSBA since 2004. Prior to her present position, she served as an Administrative Officer for both Authorities. Ms. Nawa is a graduate of Alvernia University with a bachelor's degree in business administration.

David Player, Comptroller & Director of Financial Management. Mr. Player serves as the Comptroller & Director of Financial Management of both the Authority and SPSBA. He has been with the Authority and the SPSBA since 1999. Mr. Player is a graduate of The Pennsylvania State University and a Certified Public Accountant.

THE SERIES AW BONDS

Description of the Series AW Bonds

The Series AW Bonds shall be dated their date of delivery, will mature on the dates and in the amounts and shall be payable as to interest, on June 15 and December 15 of each year commencing December 15, 2019, at the rates set forth on the inside of the cover page hereof. The Series AW Bonds shall be subject to redemption prior to maturity as described below.

The Series AW Bonds will be issued in fully registered form and, when issued, will be registered in the name of Cede & Co., as registered owner and nominee of DTC. Purchases of the Series AW Bonds will be made in book-entry only form, in denominations of $5,000 and any integral multiple thereof. Beneficial Owners will not receive certificates representing their interests in the Series AW Bonds purchased. So long as Cede & Co. is the registered owner, as nominee of DTC, references herein to the registered owners shall mean Cede & Co., as aforesaid, and shall not mean the Beneficial Owners of the Series AW Bonds. See "Book-Entry Only System" below.

Principal of and interest on the Series AW Bonds will be paid by The Bank of New York Mellon Trust Company, N.A., Philadelphia, Pennsylvania, as Trustee. So long as DTC or its nominee, Cede & Co., is the registered owner of the Series AW Bonds, such payments will be made directly to it as registered owner. Disbursement of such payments to the DTC Participants is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of the DTC Participants and the Indirect Participants, as more fully described herein.

Book-Entry-Only System

THE INFORMATION IN THIS SECTION CONCERNING DTC AND DTC'S BOOK-ENTRY SYSTEM HAS BEEN OBTAINED FROM DTC, AND THE SYSTEM, THE AUTHORITY AND THE TRUSTEE TAKE NO RESPONSIBILITY FOR THE ACCURACY THEREOF.

Purchasers of Series AW Bonds (the "Beneficial Owners") will not receive certificates representing their interest in the Series AW Bonds. Purchases of beneficial interests in the Series AW Bonds will be made in book-entry only form in Authorized Denominations by credit to participating broker-dealers and other institutions on the books of DTC as described herein. Payments of principal of and interest on the Series AW Bonds will be made by the Trustee directly to DTC as the registered Owner thereof. Disbursement of such payments to the Direct Participants (as hereinafter defined) is the responsibility of DTC and disbursements of such payments to the Beneficial Owners is the responsibility of the Direct Participants and the Indirect Participants (as hereinafter defined), as more fully described herein. Any purchaser of beneficial interests in the Series AW Bonds must maintain an account with a broker or dealer who is, or acts through, a Direct Participant to receive payment of the principal of and interest on such Series AW Bonds.

The Depository Trust Company, New York, New York ("DTC") will act as securities depository for the Series AW Bonds (the "Bond Depository"). The Series AW Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered bond certificate will be issued for each maturity of the Series AW Bonds, each in the aggregate principal amount of the Series AW Bonds of such maturity, and will be deposited with DTC.

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 highest rating: AAA. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com and www.dtc.org.

Purchases of Series AW Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series AW Bonds on DTC's records. The ownership interest of each 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 Series AW 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 Series AW Bonds, except in the event that use of the book-entry system for the Series AW Bonds is discontinued.

To facilitate subsequent transfers, all Series AW Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the Series AW 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 Series AW Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series AW 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 the Series AW Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Series AW Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Bond Documents. For example, Beneficial Owners of the Series AW Bonds may wish to ascertain that the nominee holding the Series AW 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 notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Series AW Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series AW Bonds unless authorized by a Direct Participant in accordance with DTC's Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Series AW Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the Series AW 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 payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC nor its nominee, the Trustee, or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and dividend payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Authority 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 Series AW Bonds at any time by giving reasonable notice to the Authority or the Trustee. Under such circumstances, in the event that a successor depository is not obtained, bond certificates are required to be printed and delivered.

The Authority may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, bond certificates will be printed and delivered.

SO LONG AS CEDE & CO., AS THE NOMINEE FOR DTC, IS THE REGISTERED OWNER OF THE SERIES AW BONDS, THE AUTHORITY AND THE TRUSTEE WILL TREAT CEDE & CO. AS THE ONLY REGISTERED OWNER OF THE SERIES AW BONDS FOR ALL PURPOSES UNDER THE INDENTURE, INCLUDING RECEIPT OF ALL PRINCIPAL OF AND INTEREST ON THE SERIES AW BONDS, RECEIPT OF NOTICES, AND VOTING.

The Trustee will pay principal of and interest on the Series AW Bonds to or upon the order of the respective Owners, as shown on the Bond Register, or upon their respective attorneys duly authorized in writing, as provided in the Indenture, and all such payments will be valid and effective to fully satisfy the Authority's obligations with respect to the payment of principal and interest on the Series AW Bonds to the extent of the sum or sums so paid. Upon delivery by the nominee of DTC to the Trustee of written notice to the effect that DTC has determined to substitute a new nominee in place of the existing nominee, and subject to the provisions of the Indenture with respect to record dates, the word "Cede & Co." in the Indenture will refer to such new nominee of DTC.

In the event the Authority or the Trustee receives written notice from DTC to the effect that DTC is unable or unwilling to discharge its responsibilities, and the Authority is unable to find a substitute depository, in the opinion of the Authority, willing and able to undertake the functions of the Bond Depository upon reasonable and customary terms, then the Series AW Bonds will no longer be restricted to being registered in the Bond Register in the name of the nominee of DTC or DTC, but may be registered in whatever name or names the Beneficial Owners (as certified by DTC) transferring or exchanging the Series AW Bonds will designate, in accordance with the provisions of the Indenture.

In the event the Authority determines that it is in the best interests of the Beneficial Owners of the Series AW Bonds that they be able to obtain bond certificates, the Authority may notify DTC and the Trustee, whereupon DTC will notify the Direct Participants and Indirect Participants of the availability through the nominee or DTC of bond certificates. In such event, the Trustee will issue, transfer, and exchange Series AW Bond certificates as requested by DTC and any other Bondowners in appropriate amounts, and whenever the Bond Depository requests the Authority and the Trustee to do so, the Authority and the Trustee will cooperate with DTC by taking appropriate action after reasonable notice (i) to make available one or more separate certificates evidencing the Series AW Bonds to any nominee or Direct Participant having Series AW Bonds credited to its account or (ii) to arrange for another securities depository to maintain custody of certificates evidencing the Series AW Bonds.

Notwithstanding any other provision described herein or contained in the Indenture to the contrary, so long as any Series AW Bond is registered in the name of the nominee of DTC, all payments with respect to the principal of and interest on such Series AW Bond will be made and given, respectively, to the nominee or DTC in the manner provided in the Blanket Letter of Representation entered into between DTC and the Authority.

In connection with any notice or communication to be provided to Series AW Bondowners pursuant to the Indenture by the Authority or the Trustee with respect to any consent or other action to be taken by Bondowners, the Authority, or the Trustee, as the case may be, will establish a record date for such consent or other action and give the nominee or DTC notice of such record date not less than fifteen (15) calendar days in advance of such record date to the extent possible.

THE SYSTEM, THE AUTHORITY AND THE TRUSTEE HAVE NO RESPONSIBILITY OR OBLIGATIONS TO THE DIRECT OR INDIRECT PARTICIPANTS OR THE BENEFICIAL OWNERS WITH

RESPECT TO (A) THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC OR ANY DIRECT OR INDIRECT PARTICIPANT; (B) THE PAYMENT BY DTC OR ANY DIRECT OR INDIRECT PARTICIPANT OF ANY AMOUNT DUE TO ANY BENEFICIAL OWNER IN RESPECT OF THE PRINCIPAL OF AND INTEREST ON THE SERIES AW BONDS; (C) THE DELIVERY OR TIMELINESS OF DELIVERY BY DTC OR ANY DIRECT OR INDIRECT PARTICIPANT OF ANY NOTICE TO ANY BENEFICIAL OWNER THAT IS REQUIRED OR PERMITTED UNDER THE TERMS OF THE INDENTURE TO BE GIVEN TO BONDOWNERS; (D) THE SELECTION OF THE BENEFICIAL OWNERS TO RECEIVE PAYMENTS IN THE EVENT OF ANY PARTIAL REDEMPTION OF THE SERIES AW BONDS; OR (E) ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY DTC, OR ITS NOMINEE, CEDE & CO., AS REGISTERED BONDOWNER.

Redemption Provisions

The Series AW Bonds are subject to redemption as follows:

Optional Redemption: The Series AW Bonds maturing on and after June 15, 2030 are subject to optional redemption prior to maturity by the Authority at the written direction of the System in whole at any time or in part from time to time, on and after June 15, 2029 at a redemption price equal to one hundred percent (100%) of the principal amount thereof, plus accrued interest thereon to the date of redemption. Any partial redemption may be in any order of maturity and in any principal amount within a maturity as designated by the System by lot within a maturity. The Series AW Bonds to be redeemed within any maturity will be selected by the Trustee by lot.

Mandatory Redemption: The successful bidder for the Series AW Bonds will be given the option to convert consecutively maturing serial Series AW Bonds bearing the same rate of interest to a term Bond of such Series maturing in the final year of such particular consecutive series. Such term Series AW Bonds shall be subject to mandatory redemption by lot, prior to maturity, at a redemption price of one hundred percent (100%) of the principal amount thereof, plus accrued interest to the date of redemption, from moneys deposited in a sinking fund established for the Series AW Bonds within the Revenue Fund established under the Indenture, such redemptions to occur according to the principal maturity schedule contained herein, in the proposal and in the Official Statement. The principal amount of the Series AW Bonds otherwise required to be redeemed may be reduced by the principal amount of Series AW Bonds previously called for extraordinary optional redemption or theretofore delivered to the Trustee by the System in lieu of cash payments under the Loan Agreement or purchased by the Trustee out of moneys in the Revenue Fund established under the Indenture and which have not theretofore been applied as a credit against any sinking fund installment.

Extraordinary Optional Redemption: The Series AW Bonds will be subject to redemption prior to maturity at the option of the Authority, at the direction of the System, in whole at any time, or in part from time to time, with respect to the Series AW Bonds in any order of maturity selected by the System, and within any maturity by lot, upon payment of a redemption price equal to one hundred percent (100%) of the principal amount thereof, plus accrued interest to the date of redemption, but only in the event that all or a portion of the Series AW Projects financed or refinanced with the proceeds of the Series AW Bonds are damaged, destroyed or condemned, or sold under threat of condemnation, and it is determined that repair or reconstruction is not desirable, practical or financially feasible, from and to the extent of insurance proceeds, condemnation awards or proceeds of sale in lieu of condemnation received by the Trustee as a result of such damage, destruction, condemnation or sale under threat of condemnation.

Notice of Redemption: Notice of any redemption, identifying the Series AW Bonds or portions thereof to be redeemed, will be given not more than 45 nor less than 30 days prior to the redemption date, by first-class mail, postage prepaid, to the registered owners of the Series AW Bonds to be redeemed. Any defect in the notice or the mailing thereof with respect to any Series AW Bond will not affect the validity of the redemption as to any other Series AW Bonds. No further interest will accrue on the principal of any Series AW 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 Series AW Bonds will have no rights under the Indenture except to receive payment of the redemption price thereof and unpaid interest accrued to the date fixed for redemption. If the notice so specifies, a call for redemption may be conditioned on the deposit of funds for redemption by the redemption date, in the absence of which deposit the call for redemption would be of no effect. The Trustee will not be responsible for mailing notices of redemption to anyone other than DTC or its nominee as long as DTC acts as securities depository for the Series AW Bonds.

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DEBT SERVICE REQUIREMENTS ON THE SERIES AW BONDS AND THE PRIOR BONDS

The following tables set forth, for each of the periods indicated, the amounts required in such periods to be made available for the captioned purposes:

Fiscal Year Ended June 30	Series AW Bonds Principal	Series AW Bonds Interest	Series AW Bonds Total	Prior Bonds Total Debt Service[1]	Refunding Bonds Debt Service	Total Debt Service
2020	$ 370,000	$3,055,622.39	3,425,622.39	$136,056,582.60	$10,825,393.76	$128,656,811.23
2021	3,330,000	3,981,587.50	7,311,587.50	117,154,482.60	11,001,643.76	113,464,426.34
2022	8,500,000	3,815,087.50	12,315,087.50	114,578,677.60	11,281,893.76	115,611,871.34
2023	9,060,000	3,390,087.50	12,450,087.50	112,439,532.60	11,459,943.76	113,429,676.34
2024	17,095,000	2,937,087.50	20,032,087.50	115,709,790.10	20,029,443.76	115,712,433.84
2025	5,200,000	2,082,337.50	7,282,337.50	87,918,316.34	6,242,893.76	88,957,760.08
2026	5,465,000	1,822,337.50	7,287,337.50	83,628,727.62	6,245,112.50	84,670,952.62
2027	5,730,000	1,549,087.50	7,279,087.50	78,840,412.62	6,242,312.50	79,877,187.62
2028	6,020,000	1,262,587.50	7,282,587.50	75,061,288.86	6,249,837.50	76,094,038.86
2029	6,320,000	961,587.50	7,281,587.50	70,777,367.58	6,245,175.00	71,813,780.08
2030	1,915,000	645,587.50	2,560,587.50	66,406,060.08	1,857,500.00	67,109,147.58
2031	2,020,000	549,837.50	2,569,837.50	62,182,776.32	1,862,250.00	62,890,363.82
2032	2,105,000	469,037.50	2,574,037.50	56,861,551.32	1,863,250.00	57,572,338.82
2033	2,180,000	384,837.50	2,564,837.50	56,241,885.06	1,860,500.00	56,946,222.56
2034	2,265,000	297,637.50	2,562,637.50	50,754,891.28	1,859,000.00	51,458,528.78
2035	790,000	207,037.50	997,037.50	48,948,493.78	293,500.00	49,652,031.28
2036	810,000	189,262.50	999,262.50	48,574,028.76	292,000.00	49,281,291.26
2037	825,000	170,025.00	995,025.00	41,857,025.00	295,000.00	42,557,050.00
2038	850,000	149,400.00	999,400.00	37,406,108.76	292,250.00	38,113,258.76
2039	880,000	123,900.00	1,003,900.00	35,153,206.26	294,000.00	35,863,106.26
2040	610,000	97,500.00	707,500.00	34,858,585.00		35,566,085.00
2041	630,000	79,200.00	709,200.00	28,354,415.00		29,063,615.00
2042	650,000	60,300.00	710,300.00	23,453,250.00		24,163,550.00
2043	670,000	40,800.00	710,800.00	19,877,550.00		20,588,350.00
2044	690,000	20,700.00	710,700.00	13,972,850.00		14,683,550.00
2045				6,806,570.00		6,806,570.00
2046				871,000.00		871,000.00
2047				873,750.00		873,750.00
2048				875,000.00		875,000.00
2049				874,750.00		874,750.00
2050				873,000.00		873,000.00
2051				874,750.00		874,750.00
2052				874,750.00		874,750.00
2053				873,000.00		873,000.00
2054				874,500.00		874,500.00
2055				504,000.00		504,000.00
TOTAL	$84,980,000.00	$28,342,472.39	$113,322,472.39	$1,632,242,925.14	$106,592,900.06	$1,638,972,497.47

[1] Includes $8,015,000 of principal from the Series AL Bonds of the Authority that was internally defeased.

SOURCES OF AND SECURITY FOR PAYMENT OF THE SERIES AW BONDS

The Series AW Bonds are limited obligations of the Authority, payable solely from (i) payments received from the System under the Loan Agreement, and (ii) moneys held by the Trustee in funds established under the Indenture excepting, however, sinking or Indenture funds pledged to a specific series of Bonds other than the Series AW Bonds.

Under the Loan Agreement, the System pledges its full faith and credit to the timely payment of the amounts payable and to the performance of the acts required of it thereunder. The Loan Agreement constitutes an unsecured general obligation of the System and does not limit the ability of the System to incur additional indebtedness. In accordance with the Loan Agreement, the System may pledge up to twenty percent (20%) of its tuition receipts and Commonwealth appropriations to secure any indebtedness it may incur or any guaranties it may undertake without providing similar pledges to the owners of the Series AW Bonds. As of the date hereof, no such pledge has been made by the System.

Additional Bonds

The Authority may issue Additional Bonds on parity with the Series AW Bonds (other than with respect to certain funds under and as prescribed in the Indenture). In connection with the issuance of Additional Bonds, additional funds may be established under the Indenture for the benefit of such additional series. In such event, the holders of the Series AW Bonds will have no claims or right to any such funds. For a further description of the conditions under which such Additional Bonds may be issued, see **Appendix III: "Summary of Legal Documents: The Indenture -- Additional Bonds".**

No Recourse

All covenants, stipulations, promises, agreements and obligations of the Authority contained in the Indenture are deemed to be covenants, stipulations, promises, agreements and obligations of the Authority and not of any member, officer or employee of the Authority in his or her individual capacity, and no recourse shall be had for the payment of the principal or redemption price of or interest on the Series AW Bonds or for any claim based thereon or on the Indenture against any member, officer or employee of the Authority or any person executing the Series AW Bonds.

CERTAIN BONDHOLDERS' RISKS

Introduction

The Series AW Bonds constitute limited obligations of the Authority, payable solely from the payments to be made by the System pursuant to the Loan Agreement. Future revenues and expenses of the System are subject to change, and no assurance can be given that the System will be able to generate sufficient revenues to meet its obligations, including its obligations under the Loan Agreement.

The purchase of the Series AW Bonds involves numerous investment risks, some of which are referred to in this Official Statement. No representation is made that the risks described or referred to in this Official Statement constitute all of the risks associated with investing in the Series AW Bonds. Accordingly, prior to making a decision to invest in the Series AW Bonds, each prospective purchaser thereof should make an independent evaluation of all of the information presented in this Official Statement, including the Appendices, and should review other pertinent information. **The Authority has made no independent investigation of the extent to which any such factors may have an adverse effect on the revenues of the System.**

General

There are a number of factors affecting institutions of higher education, including the System, that could have an adverse effect on the System's financial position and its ability to make the payments required under the Loan Agreement, including the debt service payments on the Series AW Bonds. These factors include, but are not limited to, competition with other educational institutions; an economic downturn in the regions served by the System; changing demographics in the regions served by the System; declining enrollment; increasing costs of technology; the failure to increase (or a decrease in) the funds obtained by the System from other sources, including appropriations from governmental bodies; the impact at various times of modifications to federal student financial aid programs; and increasing costs of compliance with changes in federal or state regulatory laws or regulations. See **Appendix I: "Certain Information Concerning Pennsylvania's State System of Higher Education".** Appendix I should be read in its entirety.

Certain State Appropriations

A substantial portion of the System's operating revenues consists of appropriations made to the System by the Commonwealth of Pennsylvania. There is a risk that such Commonwealth appropriations may not continue at current levels as a percentage of the System's current unrestricted revenues which, in turn, may require greater than historic rates of tuition increases. See **Appendix I "Certain Information Concerning Pennsylvania's State System of Higher Education - Commonwealth Appropriations"** for a discussion of such appropriations.

NCHEMS Report

Appendix I refers to a report released on July 21, 2017, by The National Center for Higher Education Management Systems (NCHEMS) which had been engaged by the Board of Governors to assist the System in addressing some of the issues referred to above ("NCHEMS Report"). The NCHEMS Report states in part, in its Executive Summary,

> The twin challenges of demographic decline and diminished state support confront the Pennsylvania State System of Higher Education with a bleak fiscal future. Several of its institutions are now in immediate crisis. If current trends continue, it is just a matter of time before all of the universities become financially unsustainable.

See Appendix I – Certain Information Concerning Pennsylvania's State System of Higher Education – Strategic System Review" for a further discussion regarding the System's response to the report.

LEGALITY FOR INVESTMENT

Under the Act, the Series AW Bonds are designated 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 Series AW Bonds are securities which properly and legally may be deposited with, and received by, any Commonwealth 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 Series AW Bonds have all the qualities of negotiable instruments under the law merchant and the laws of the Commonwealth relating to negotiable instruments.

TAX MATTERS

Federal

General. Co-Bond Counsel will deliver, concurrently with the issuance of the Series AW Bonds their opinions to the effect that under existing statutes, regulations, rulings and court decisions, interest on the Series AW Bonds is excluded from gross income for federal income tax purposes under the Internal Revenue Code of 1986, as amended (the "Code"). Interest paid on the Series AW Bonds will not be a specific preference item for purposes of calculating individual alternative minimum taxable income.

Original Issue Discount. The Series AW Bonds maturing June 15, of 2035, 2036 and 2037 (the "OID Series AW Bonds") have been offered at a discount ("original issue discount") equal, generally, to the difference between public offering price and principal amount. For federal income tax purposes, original issue discount on a OID Series AW Bond accrues periodically over the term of the OID Series AW Bond as interest with the same tax exemption and alternative minimum tax status as regular interest. The accrual of original issue discount increases the holder's tax basis in the OID Series AW Bond for determining taxable gain or loss from sale or from redemption prior to maturity. Prospective purchasers of OID Series AW Bonds should consult their tax advisers for an explanation of the treatment of original issue discount.

Original Issue Premium. All of the Series AW Bonds other than the OID Series AW Bonds, have been offered at a premium ("original issue premium") over their respective principal amounts (the "Premium Series AW Bonds"). For federal income tax purposes, original issue premium is amortizable periodically to the call date that produces the lowest yield through reductions in the holder's tax basis for the Premium Series AW Bond for determining taxable gain or loss from sale or from redemption prior to maturity. Amortizable premium is accounted for as reducing the tax-exempt interest on the Premium Series AW Bond rather than creating a deductible expense or loss. Prospective purchasers of Premium Series AW Bonds should consult their tax advisers for an explanation of the treatment of original issue premium.

Code Requirements. The Code imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the Series AW Bonds. Ongoing requirements include, among other things, the provisions of Section 148 of the Code which prescribe yield and other limits within which the proceeds of the Series AW Bonds are to be invested and which may require that certain excess earnings on investments made with the proceeds of the Series AW Bonds be rebated on a periodic basis to the United States. The Authority and the System have made certain representations and undertaken certain agreements and covenants in the Indenture and in their tax compliance agreement to be delivered concurrently with the issuance of the Series AW Bonds designed to ensure compliance with the applicable provisions of the Code. The inaccuracy of these representations or the failure on the part of the Authority or the System to comply with such covenants and agreements could result in the interest on the Series AW Bonds being included in the gross income of a holder for federal income tax purposes, in certain cases retroactive to the date of original issuance of the Series AW Bonds.

Co-Bond Counsel's Assumptions. The opinion of Co-Bond Counsel assumes the accuracy of these representations and the future compliance by the Authority and the System with their covenants and agreements. Moreover, Co-Bond Counsel has not undertaken to evaluate, determine or inform any person, including any holder of Series AW Bonds, whether any actions taken or not taken, events occurring or not occurring, or other matters that might come to the attention of Co-Bond Counsel would adversely affect the value of, or tax status of the interest on, the Series AW Bonds.

No Opinion as to Collateral Tax Consequences. Ownership of the Series AW Bonds may result in collateral federal tax consequences to certain taxpayers, including, without limitation, financial institutions, S corporations with excess net passive income, property and casualty insurance companies, individual recipients of social security or railroad retirement benefits and taxpayers who may be deemed to have incurred indebtedness to purchase or carry the Series AW Bonds. Co-Bond Counsel will express no opinion with respect to these or any other collateral tax consequences of the ownership of the Series AW Bonds. The nature and extent of the tax benefit to a taxpayer of ownership of the Series AW Bonds will generally depend upon the particular nature of such taxpayer or such taxpayer's own particular circumstances, including other items of income or deduction. Accordingly, prospective purchasers of the Series AW Bonds should consult their tax advisers.

Backup Withholding. As a result of the enactment of the Tax Increase Prevention and Reconciliation Act of 2005, interest on obligations such as the Series AW Bonds is subject to information reporting in a manner similar to interest paid on other investment obligations. Backup withholding may be imposed on payments made after March 31, 2007, to any bondholder who fails to provide certain required information including an accurate taxpayer identification number to any person required to collect such information pursuant to Section 6049 of the Code. The new reporting requirement does not in and of itself affect or alter the excludability of interest on the Series AW Bonds from gross income for federal income tax purposes or any other federal tax consequence of purchasing, holding or selling obligations such as the Series AW Bonds.

Possible Adverse Effect of Changes in Law or Policy. There can be no assurance that currently existing or future legislative proposals by the United States Congress limiting or further qualifying the excludability of interest on tax-exempt bonds from gross income for federal tax purposes, or changes in federal tax policy generally, will not adversely affect the tax status of the interest on, or the market for, the Series AW Bonds.

Commonwealth of Pennsylvania

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

Attention is called to the fact, however, that any profits, gains or income derived from the sale, exchange or other disposition of the Series AW Bonds will be subject to Commonwealth taxes within the Commonwealth.

Other Jurisdictions

The Series AW Bonds and the interest thereon may be subject to state or local taxes in jurisdictions other than the Commonwealth under applicable state or local tax laws.

PROSPECTIVE PURCHASERS OF THE SERIES AW BONDS SHOULD CONSULT THEIR TAX ADVISERS WITH RESPECT TO THE FEDERAL, STATE AND LOCAL INCOME TAX CONSEQUENCES OF OWNERSHIP OF THE SERIES AW BONDS AND ANY CHANGES IN THE STATUS OF PENDING OR PROPOSED TAX LEGISLATION.

LEGAL MATTERS

Legal matters incident to the authorization, issuance and sale of the Bonds will be passed upon by Kutak Rock LLP and Turner Law, P.C., both of Philadelphia, Pennsylvania, Co-Bond Counsel. In connection with the issuance of the Series AW Bonds, each of such firms will render an opinion in substantially the form included as Appendix IV hereto. Certain legal matters will be passed upon for the Authority by its counsel, Barley Snyder LLP, Lancaster, Pennsylvania and for the System by its Chief Legal Counsel.

RATINGS

Moody's Investors Service, Inc. ("Moody's") and Fitch Ratings ("Fitch") have assigned their municipal bond ratings of "Aa3" (stable outlook) and "A+" (stable outlook), respectively, to the Series AW Bonds.

Any explanation of these ratings may be obtained only from the rating agencies issuing such ratings. Generally, rating agencies base their ratings on information and materials supplied to them and on their own investigations, studies and assumptions. There is no assurance that such ratings, once assigned, will remain for any given period of time or that they will not be lowered or withdrawn entirely by either rating agency concerned if in its judgment circumstances so warrant. Any such downward change or withdrawal of such ratings may have an adverse effect on the market price and/or marketability of the Series AW Bonds.

LITIGATION AND LEGAL PROCEEDINGS

No Litigation Affecting the Series AW Bonds

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 Series AW Bonds, or in any way contesting or affecting the validity of the Series AW Bonds or any proceedings of the Board 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 Series AW Bonds or the existence or powers of the Authority or the performance of the Series AW Project.

Commonwealth Litigation Against RBC Capital Markets, LLC

On May 20, 2018, the Commonwealth of Pennsylvania and City of Harrisburg filed a lawsuit in the Commonwealth Court of Pennsylvania ("Commonwealth Complaint") against a number of professional advisors and financial firms alleging, inter alia, professional malpractice, unjust enrichment and breach of fiduciary duty in connection with a series of bonds issued by the Pennsylvania Economic Development Financing Authority in 2003, which has since defaulted, to finance an incinerator project ("Defaulted 2003 Bonds"). RBC Capital Markets, LLC ("RBC"), Financial Advisor to the System in connection with the issuance of the Series AW Bonds, was one of the underwriters of the Defaulted 2003 Bonds and, accordingly, is one of the defendants named in the Commonwealth Complaint. RBC intends to vigorously defend itself against the allegations in the Commonwealth Complaint and does not believe that such litigation has a material impact on its ability to act as Financial Advisor in connection with the issuance of the Series AW Bonds. – Is there anything to update?

Department of Education Program Review of Cheyney University

On August 8, 2019, Cheyney University ("Cheyney") received a letter from the U.S. Department of Education ("USDOE") relating to USDOE's proposed resolution of its program review of Cheyney, asserting that Cheyney's overall response to the program review did not fully address USDOE's findings or accurately document the federal student aid funds disbursed during the periods under review, setting forth its computation of Cheyney's maximum liability and expressing a willingness to conclude the program review under certain circumstances. See APPENDIX I: "Certain Information Concerning Pennsylvania's State System of Higher Education—U.S. Department of Education Program Review of Cheyney" for a more detailed discussion.

CONTINUING DISCLOSURE

To assist the Underwriter in satisfying the requirements of Rule 15c2-12 (the "Rule") promulgated by the Securities and Exchange Commission, the System will enter into a Continuing Disclosure Agreement with The Bank of New York Mellon Trust Company, N.A., as dissemination agent (in such capacity, the "Dissemination Agent") for the benefit of owners of the Series AW Bonds. Pursuant to such agreement, the System will covenant to provide, through the Dissemination Agent, to the Electronic Municipal Market Access ("EMMA") system of the Municipal Securities Rulemaking Board (the "MSRB"), certain annual financial information and operating data of the nature included in the following sections of Appendix I to this Official Statement: Accreditation; Degrees Awarded; Enrollment; Application and Admissions; Tuition, Student Fees and Competition; Freshman Enrollment Composition; Student Financial Aid;

Commonwealth Appropriations; Unrestricted Net Position; Faculty and Staff; and Outstanding Indebtedness. Audited financial statements of the System also will be provided to EMMA when available. The System will covenant to provide such information for a fiscal year within 150 days following the end of such fiscal year, commencing with the fiscal year ending June 30, 2019. The System will covenant to provide notice in a timely manner to EMMA of a failure of the System to provide the required annual financial information on or before the date specified in the Continuing Disclosure Agreement.

In the Continuing Disclosure Agreement, the System also will covenant to provide, within 10 business days, to EMMA notice of the occurrence of any of the following events with respect to the Series AW Bonds: (1) principal and interest payment delinquencies, (2) non-payment related defaults, if material, (3) unscheduled draws on debt service reserves reflecting financial difficulties, (4) unscheduled draws on credit enhancements reflecting financial difficulties, (5) substitution of credit or liquidity providers, or their failure to perform, (6) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Series AW Bonds, or other material events affecting the tax status of the Series AW Bonds, (7) modifications to rights of holders of the Series AW Bonds, if material, (8) Series AW Bond calls, if material, and tender offers, (9) defeasances, (10) release, substitution or sale of property securing repayment of the Series AW Bonds, if material, (11) rating changes, (12) bankruptcy, insolvency, receivership or similar event of the System, (13) the consummation of a merger, consolidation, or acquisition involving the System or the sale of all or substantially all of the assets of the System other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material, (14) appointment of a successor or additional trustee or the change of name of a trustee, if material, (15) the incurrence of a Financial Obligation of the obligated person, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a Financial Obligation (as defined in the Rule) of the obligated person, any of which affect securities holders, if material; (16) A default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a Financial Obligation of the obligated person, any of which reflect financial difficulties, and (17) failure to provide annual information as required. Financial Obligation means a (i) debt obligation; (ii) derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (iii) guarantee of (i) or (ii). The term Financial Obligation shall not include municipal securities as to which a final official statement has been provided to the MSRB consistent with the Rule.

The System and the Dissemination Agent may amend the Continuing Disclosure Agreement, including amendments deemed necessary or appropriate in the judgment of the System (whether to reflect changes in the availability of information or in accounting standards or otherwise), and any provision of the Continuing Disclosure Agreement may be waived, provided that the following conditions are satisfied: (a) if the amendment or waiver relates to the undertakings of the System to provide annual financial information and notices, such amendment is made in connection with a change in circumstances that arises from a change in legal requirements, change in law or change in the identity, nature or status of the System or the type of business or operations conducted by the System; (b) the undertakings contained in the Continuing Disclosure Agreement, as amended or taking into account such waiver, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the Series AW Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and (c) the amendment either (i) is approved by the Holders of the Series AW Bonds in the same manner as provided in the Indenture for amendments to the Indenture with the consent of Holders, or (ii) does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the Holders or Beneficial Owners of the Series AW Bonds, the Authority or the Dissemination Agent. The System's obligation to provide the foregoing annual financial information and notices of the specified events when material will terminate when the Series AW Bonds have been fully paid or legally defeased or at such other times as such information and notices (or any portion thereof) are no longer required to be provided by the Rule as it applies to the Series AW Bonds. Notice of such amendment will be provided to EMMA.

Under the Continuing Disclosure Agreement, the sole remedy for a breach or default by the System of its covenants to provide annual financial information and notices will be an action to compel specific performance. No action may be brought for monetary damages or otherwise under any circumstances. A breach or default under the Continuing Disclosure Agreement will not constitute an Event of Default under the Indenture or the Loan Agreement.

The Authority has no responsibility for the Continuing Disclosure Agreement or for the System's compliance with the Continuing Disclosure Agreement or for the contents of the financial information, operating data or notices provided thereunder or any omissions therefrom.

During the last five years, the System failed to file with EMMA, in a timely manner, certain Annual Financial Information in accordance with the Rule and as required under its previous continuing disclosure undertakings as follows. For the fiscal year ended June 30, 2016, 2015 and 2014, Annual Financial Information otherwise timely filed was not properly associated with certain CUSIPs associated with four series' of the System's prior bonds. The required filings were corrected on EMMA on or before September 1, 2017.

UNDERWRITING

The Series AW Bonds are being purchased for reoffering by a group of banks and investment banking firms represented by Wells Fargo Bank, N.A., as representative (the "Series AW Underwriters"). The Series AW Underwriters have agreed to purchase the Series AW Bonds at an aggregate purchase price of $100,095,196.54.

FINANCIAL ADVISOR

The System has retained RBC Capital Markets, LLC as its financial advisor in connection with the issuance of the Series AW Bonds. The receipt of a fee by RBC Capital Markets, LLC is contingent upon the issuance of the Series AW Bonds. The Financial Advisor is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness, or fairness of the information in this Official Statement.

The Financial Advisor may also receive a fee for conducting a competitive bidding process regarding the investment of certain proceeds of the Series AW Bonds.

MISCELLANEOUS

All of the summaries of the provisions of the Act, Act 188, the Indenture, the Loan Agreement and of the Series AW Bonds set forth herein are only brief descriptions of certain provisions thereof, and do not purport to be complete statements of the provisions of any such document and are qualified in all respects by reference to such documents in their entireties to which attention is hereby directed for further information.

Information concerning the System has been provided by the Office of the Chancellor. 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.

This Official Statement is not to be construed as a contract or agreement between the Authority or the System and the purchasers or owners of any of the Series AW Bonds. The information hereinabove set forth and that which follows should not be construed as constituting all of the conditions affecting the Authority, the System or the Series AW Bonds.

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The distribution of this Official Statement has been duly authorized by the Authority and the System. The Authority has not assisted in the preparation of this Official Statement, except for the statements concerning the Authority under the sections captioned **"The Authority"** and **"Litigation"** herein and, except for those sections, the Authority is not responsible for any statements made in this Official Statement. Except for the execution and delivery of documents required to effect the issuance of the Series AW Bonds, the Authority has not otherwise assisted in the public offer, sale or distribution of the Series AW Bonds. Accordingly, except as aforesaid, the Authority assumes no responsibility for the disclosures set forth in this Official Statement.

PENNSYLVANIA HIGHER EDUCATIONAL
FACILITIES AUTHORITY

By: /s/Beverly Nawa
Beverly Nawa
Acting Executive Director

Approved:

STATE SYSTEM OF HIGHER EDUCATION

By: /s/Sharon P. Minnich
Sharon P. Minnich
Vice Chancellor for Administration and Finance

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APPENDIX I

CERTAIN INFORMATION CONCERNING PENNSYLVANIA'S STATE SYSTEM OF HIGHER EDUCATION

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PENNSYLVANIA'S STATE SYSTEM OF HIGHER EDUCATION

History and Philosophy of the System

Pennsylvania's State System of Higher Education (the "System") is a body corporate and politic constituting a public corporation and a governmental instrumentality of the Commonwealth of Pennsylvania, created by the State System of Higher Education Act of November 12, 1982, P.L. 660, No. 188, as amended ("Act 188").

Act 188 established a Board of Governors and the Office of the Chancellor and awarded university status to the 13 state-owned colleges on July 1, 1983. (Indiana University of Pennsylvania was awarded university status prior to the enactment of Act 188.) On that date, the System, composed of the 14 state-owned universities in the Commonwealth and the Office of the Chancellor, embarked upon its primary mission to provide "instruction for undergraduate and graduate students to and beyond the master's degree in the liberal arts and sciences, and in the applied fields, including the teaching profession." The System universities are herein referred to individually as a "University" or a "System University" and collectively as the "Universities" or "System Universities." The Universities also have specific missions in business, human services, public administration, and technology. The 14 System Universities include:

Bloomsburg University of Pennsylvania
California University of Pennsylvania
Cheyney University of Pennsylvania
Clarion University of Pennsylvania
East Stroudsburg University of Pennsylvania
Edinboro University of Pennsylvania
Indiana University of Pennsylvania
Kutztown University of Pennsylvania
Lock Haven University of Pennsylvania
Mansfield University of Pennsylvania
Millersville University of Pennsylvania
Shippensburg University of Pennsylvania
Slippery Rock University of Pennsylvania
West Chester University of Pennsylvania

Bound together by the mission and by the mandate set forth in Act 188, the Universities strive to provide the highest quality education feasible for their students at the lowest possible cost.

The history of each University evolved from a need to train teachers for the Commonwealth's secondary educational institutions and to elevate the accepted standards of education. The Commonwealth adopted the Normal School Act on May 20, 1857, which provided the standards by which teachers for the Commonwealth's Normal Schools were to be trained. During the 25 years following passage of the Normal School Act, all of the schools that now comprise the System were privately established and were recognized as State Normal Schools.

On September 22, 1921, the Commonwealth enacted legislation for the acquisition of 13 State Normal Schools, adding the 14th State Normal School in 1922. These schools subsequently were redesignated as State Teachers' Colleges in 1929 (the "State Colleges"). The responsibility for certifying teachers then was transferred from the county superintendents to the Commonwealth. Within ten years following this transfer of responsibility, teacher certification requirements changed from a two-year certificate program to a four-year college degree program.

In 1959, the State Teachers' Colleges were redesignated State Colleges and, in 1961, legislation was enacted to allow the State Colleges to offer a wider range of educational opportunities. (See "Degrees Awarded" herein.) Graduate programs soon were approved and instituted at many of the State Colleges. Indiana State College achieved university status in 1965, and the remaining 13 State Colleges were recognized as Universities in 1983 with the enactment of Act 188. Each University, with its unique geography and array of academic offerings, serves as a cultural center for its surrounding community.

Additionally, eight of the Universities are involved with the operation of the Chincoteague Bay Field Station of the Marine Science Consortium, a nonprofit educational 501(c)(3) corporation located in Wallops Island, Virginia (the "Consortium"), committed to excellence in education and research in the marine and environmental sciences. The Consortium was founded by eight of the Universities in 1970 and maintains marine stations where both field and laboratory investigations of coastal ecosystems are conducted under the supervision of University faculty and qualified marine education instructors. The Consortium supports precollege, college, and Elder Hostel programs. In March 2017, the Board was notified of the Consortium's interest in seeking new ownership for the Field Station, due to the cost of operating the enterprise, including debt service obligations. The Consortium is actively seeking to divest itself from the property.

The Board of Governors

The System is governed and guided by a Board of Governors (the "Board") composed of 20 members: the Governor of Pennsylvania (or designee), the Secretary of Education (or designee), one senator appointed by the President Pro Tempore of the Senate, one senator appointed by the minority leader of the Senate, one representative appointed by the Speaker of the House of Representatives, one representative appointed by the minority leader of the House of Representatives, and 14 members who are appointed by the Governor of Pennsylvania and confirmed by the Senate. The Board has the authority to exercise all sanctioned corporate powers in the administration of its overall responsibility to plan and to coordinate the development of the System. Members of the Board appointed from the General Assembly serve a term of office concurrent with their respective elective terms as members of the General Assembly with the Governor and Secretary of Education (or their respective designees), serving so long as they continue in office. Eleven members of the Board, appointed by the Governor, customarily will serve four-year appointments, at which time a reappointment for an additional four-year term may be commissioned. Three of the members of the Board, appointed by the Governor, must be undergraduate students presently attending a System University. The student members are selected from the presidents of the local campus student government associations or their local equivalents, and their terms automatically expire upon graduation or separation from the System. Five members of the Board also must hold membership in one of the local councils of trustees serving the Universities with no more than one trustee representing a University. The Board annually elects a chair, and at present there are two vice chairs. Members of the Board receive no compensation for their services; however, all expenses incurred in the performance of their duties may be reimbursed by the System.

The Governor of Pennsylvania and the Secretary of Education, or their designees, as members of the Board are entitled to attend all of the scheduled meetings, to address matters of concern before the Board, and to vote. However, they cannot be elected as officers of the Board.

The chancellor of the System serves the Board as the chief executive officer of the System. The chancellor has the authority to address any matters of discussion before the Board but does not have voting privileges.

Act 188 requires that the Board conduct a public meeting quarterly; however, additional meetings may be convened by the chair or upon the request of six members of the Board. The Office of the Chancellor has the responsibility of presenting an agenda to the Board for action at each scheduled meeting. Eleven members of the Board attending any meeting of the Board constitute a quorum.

In accordance with Act 188, the Board has "overall responsibility for planning and coordinating the development and operation of the System." To this end, the Board employs the chancellor as the chief executive officer of the System. The Board must approve the chancellor's salary and delineate any duties and responsibilities beyond those prescribed in Act 188.

The president of each University is appointed by the Board originally for a fixed term from a list of qualified candidates submitted by the chancellor to the Board. Performance evaluations are used to evaluate the services of each president before the term of such president's appointment can be extended.

Through the chancellor and the 14 presidents of the Universities, the Board administers broad fiscal, personnel, and educational policies and establishes general policies that will be beneficial to the System in attaining its goal to offer an education of high quality to all its students.

The Board approves the annual operating and capital budgets for the System. The Board's request for operating and capital appropriations is submitted to the State Board of Education for comment. As required by statute, the Board then submits its request for operating and capital appropriations to the Governor not later than November 1 of the fiscal year preceding the fiscal year for which the appropriations are requested. The Board independently submits its request for operating and capital appropriations to the General Assembly. When required, the Board or its chancellor must represent the System before the General Assembly, the Governor of Pennsylvania, and the State Board of Education.

Under Act 188, the Board fixes the levels of tuition fees across the System, including the allowance for a differential between students who are residents of the Commonwealth and those who are nonresidents. The Board has approved a tuition/fee flexibility pilot program that allows for higher or lower tuition and fees based on local market forces.

There are five standing committees which make policy recommendations to the full Board: Audit and Compliance, Executive, Governance and Leadership, Student Success, and University Success. The present bylaws provide that members of the Board may attend and participate in the meetings of any of the committees; however, only committee members may vote on an issue under consideration.

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BOARD OF GOVERNORS

Office of the Chancellor

Act 188 stipulates that the chancellor "shall be responsible for the administration of the System under policies prescribed by the Board." As the chief executive officer of the System, the chancellor advises the Board on budgetary matters, academic program matters, and the formulation of personnel administration policies and procedures. In order to explore and control all of the important daily endeavors of the System, the chancellor is empowered to employ a central office staff to fulfill the mandates of both Act 188 and the Board. Under the chancellor's direction, the presidents, line officers, and support staff provide Systemwide management in such areas as academic policy, planning, business affairs, faculty and staff affairs, legislative policy, institutional research, legal affairs, capital planning, System relations, advancement, and equal educational opportunities. The chancellor assists the Board in its appointment of the presidents by submitting to the Board, with his recommendation, the names of individuals recommended for consideration by the councils of trustees. Upon the appointment of each president, an annual evaluation process must be conducted, the results of which are reviewed thoroughly by the Board.

Daniel I. Greenstein
Chancellor

Dr. Daniel I. Greenstein became the fifth chancellor of Pennsylvania's State System of Higher Education on September 4, 2018. In that role, he serves as chief executive officer of the State System, which operates Pennsylvania's 14 public universities, serving approximately 100,000 students. The chancellor works with the Board of Governors to recommend and develop overall policies for the System. Dr. Greenstein previously led the Postsecondary Success strategy at the Bill and Melinda Gates Foundation, where he worked with other higher education leaders across the country on initiatives designed to raise educational attainment levels and to promote economic mobility, especially among low-income and minority students. He developed and implemented a national strategy for increasing the number of degrees awarded and for reducing the attainment gaps among majority and nonmajority students at U.S. colleges and universities. Before joining the foundation, Dr. Greenstein was vice provost for academic planning and programs for the University of California (UC) system. In that role, he oversaw systemwide academic planning and programs, including the University of California Press; the California Digital Library; the UC system's Education Abroad Program; internship programs in Washington, D.C., and Sacramento, CA; and UC Online Education. Dr. Greenstein has created and led several internet-based academic information services in the United States and the United Kingdom, and served on boards and acted in strategic consulting roles for educational, cultural heritage, and information organizations. He began his academic career as a senior lecturer in Modern History at Glasgow University in Scotland. He holds both bachelor's and master's degrees from the University of Pennsylvania and a D.Phil. from the University of Oxford.

The Office of the Chancellor operates with a leadership team consisting of a senior project manager and strategic technical advisor, a chief transformation officer, a vice chancellor and chief academic officer, a vice chancellor for administration and finance, and a deputy chancellor. Leadership team members serve the System in an important capacity, individually and collectively, and work together to ensure that the academic programs offered on all of the campuses best suit the needs of the Commonwealth.

Rosa Lara
Senior Project Manager and Strategic Technical Advisor

The senior project manager and strategic technical advisor is a new position in 2019 and serves as the project manager for System Redesign, as well as the technical advisor for the technical infrastructure supporting redesign efforts. This position is responsible for creating and managing an enterprise-wide system redesign plan and schedule, and works closely with various stakeholders in the System.

Ms. Lara joined the State System in April 2019. Prior to joining the System, Ms. Lara was the director of the office of strategy and management in the Office of Information Technology (OIT) Governor's Office of Administration, a position she held since July 2017. Ms. Lara has more than 19 years' experience in the information technology field, including oversight of very visible and highly complex initiatives. She has experience in the areas of business process reengineering, large scale implementation efforts, financial management, procurement, and managing for results. Ms. Lara held numerous positions within OIT, serving as the deputy chief information officer for the Commonwealth, overseeing OIT's planning and budgeting process and human resource functions, including special projects such as the Enterprise Grants Management initiative. She also led the Commonwealth's IT transformation initiative, which implemented a new shared services operating model for IT services focused on improving service delivery while reducing cost. Ms. Lara earned a bachelor's in public administration from The College of New Jersey, a master's of public administration from the Maxwell School of Citizenship Affairs, and a master's of information resource management from Syracuse University.

Sarah Bauder
Chief Transformation Officer

The chief transformation officer (CTO) is a new position in 2019 designed to accelerate the pace and diffusion of innovative practices that enable the System Universities to improve student outcomes and operational sustainability. The CTO connects University innovators with one another and works to leverage the expertise, practices, and internal and external relationships to help transform the System.

Ms. Bauder joined the State System in January 2019. Prior to joining the System, Ms. Bauder worked at the Bill and Melinda Gates Foundation where she was responsible for a $1.7 billion scholarship program and led the creation and launch of a $420 million program to support low-income underrepresented students. Ms. Bauder also served on the Postsecondary Success team, developing strategies to drive campus-wide innovative change from college access to gainful employment. She also worked at the University of Maryland, where she spent 23 years working in enrollment management and financial aid developing innovative packaging strategies and student success programs to help marginalized and underserved students graduate from college. She has served on the Executive Board for the National Association of Federal Student Aid Administrators, testified before Congress on three occasions advocating for student aid reform, presented to Ben Bernanke and the Federal Reserve Board of Governors, served as a representative for four-year public institutions on both President Bush's and President Obama's Higher Education Task Force for redundant and burdensome regulations, and was elected three times to serve on the Negotiated Rulemaking team. Ms. Bauder holds a master of arts with honors from University of Maryland, College Park in policy, planning and leadership and a bachelor's degree with honors from St. Mary's College of Maryland in language and literature.

Peter H. Garland (Until 06/07/19)
Donna F. Wilson (Interim, effective 06/24/19)
Vice Chancellor and Chief Academic Officer

The vice chancellor and chief academic officer (CAO) provides executive leadership and support for academic program planning and for the academic success of the universities and the System as a whole. The CAO works closely with the 14 University Chief Academic Officers to develop and execute a strategy that strengthens and incentivizes the use of collaborative, shared, or System-level enterprise infrastructure and provides leadership to support the collaborative development of policies, procedures, and practices that strengthen an inclusive model of shared governance at the system level and to foster dialogue among all State System internal stakeholders to improve system wide shared governance and collaboration.

Dr. Donna F. Wilson, Provost and Executive Vice President at Lock Haven University (a position she has held since July 2012), is special advisor to the chancellor for academic affairs and serves as the State System's chief academic officer. Wilson served the university as interim president for several months in 2018. She is responsible for sustaining and improving excellence in all academic matters, community partnerships, assessment and accreditation, institutional research, NCAA athletics, generating revenue, and strategic planning and implementation. Prior to appointment at Lock Haven University, Dr. Wilson served at Brooklyn College of the City University of New York as Associate Provost, Dean of Undergraduate Studies, Director of the CUNY Honors College, and faculty in the Department of Classics and the CUNY Graduate Center. Dr. Wilson was awarded a Leonard and Claire Tow Professorship, a Mrs. Giles Whiting Award for Excellence in Teaching in the Humanities, and multiple university grants to sponsor research in the Classics. The Harvard Center for Hellenic Studies awarded her a prestigious one-year fellowship to advance research on divine twins in Indo-European epic. Dr. Wilson holds a PhD in Classics from the University of Texas at Austin. She is the author of *Ransom, Revenge, and Heroic Identity in the Iliad* (2002, Cambridge University Press), articles, book chapters, and book reviews, and has delivered numerous invited lectures and refereed papers for learned societies.

Sharon P. Minnich
Vice Chancellor for Administration and Finance

The vice chancellor for administration and finance provides executive-level oversight and leadership for the effective execution of budget, finance, facilities management, human resources, labor relations, general administration, and shared services functions Systemwide while advising the chancellor regarding high-impact practices to advance the System Redesign efforts. She renders guidance in the development of policy and business procedures to be implemented by the chancellor and the Board. Such policy issues include accounting and financial policy and reporting; treasury operations including cash management, commercial banking, and investment programs; capital financing and planning; emergency management; physical plant planning; security management; insurance management; annual System budget development and management; and procurement management.

Ms. Minnich was appointed vice chancellor for administration and finance in January 2019. Prior to joining the System, she served as secretary of the Governor's Office of Administration, a position she held since 2015. As a member of Governor Tom Wolf's senior staff and cabinet, she led the agency responsible for oversight and administration of the enterprise functions of human resources, information technology, continuity of government and records management for nearly 80,000 employees under the Governor's jurisdiction, implementing shared services for both human resources and information technology. Ms. Minnich previously served as the assistant chief information officer for the Commonwealth, chief information officer for the Department of Revenue, deputy secretary for financial administration in the Office of the Budget, and deputy secretary for procurement at the Department of General Services. In these roles, she improved operations and managed significant process and system changes, including the implementation of a new financial shared services model for Pennsylvania, the implementation of Pennsylvania's tax amnesty project, and the state's enterprise resource planning system implementation. In addition to her work in state government, Ms. Minnich has worked as a consultant in the private sector, specializing in strategy and transformation. Her experience includes positions at Highmark Blue Cross/Blue Shield; Meridian Bank; SAP Business Consulting; and Deloitte Consulting, LLP. She served for 12 years on the Board of

Trustees for her alma mater, Albright College, where she earned a bachelor of arts in economics and political science, and holds a master's degree in government administration from the University of Pennsylvania.

Randy A. Goin, Jr.
Deputy Chancellor

The deputy chancellor provides executive-level oversight for effective and efficient operation of the Board of Governors and the Office of the Chancellor and works closely with leaders from the System, Universities, government, and business to ensure timely advancement of System strategic priorities.

Mr. Goin was appointed deputy chancellor in April 2019. He joined the System as chief of staff in December 2013. Prior to joining the System's leadership team, Mr. Goin was chief of staff for the Florida Board of Governors, which oversees the second largest university system in America. He also led the public affairs, governmental relations, and communications group, which worked to articulate a clear message and vision with all constituents. He launched his career in the private sector more than two decades ago and later moved into communications management roles in higher education. He ultimately served as associate vice president for marketing at Florida Atlantic University, where he helped build the communications organization and reposition the institution's brand. Mr. Goin was then named university chief of staff and worked closely with the president to reshape the institution's organizational structure by increasing focus on top priorities. He served as a conduit between the administration and the university trustees—enhancing board relations and operations. He earned a bachelor of architecture degree and a master's of arts degree with a focus in corporate and political communication from Florida Atlantic University.

The Presidents of the Universities

The presidents of the 14 Universities are appointed by the Board for a specified term. In an effort to ensure that the presidents are guiding the individual Universities toward the achievement of the System's unified goals, the chancellor reviews the goals and objectives of each president annually. As the chief executive officers of the Universities, the presidents are responsible for development and implementation of policies and procedures regarding personnel administration, fiscal management, admissions, discipline and expulsion guidelines, instructional programs, research programs, and public service programs within the framework prescribed by the Board.

The presidents must ensure that prudent fiscal policies are followed in the expenditure of all Commonwealth appropriations, tuition, fees, and all other available funds. They have the authority to obligate the System for ongoing contractual liabilities within the limitations of the operating budget of the university. Overall, their primary responsibility is to implement the policies of the Board and to perform all of those operations necessary for the orderly and judicious management of the university. Each president may attend any scheduled meeting of the university's council of trustees and address matters before such council, but may not vote.

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The 14 University presidents are listed below.

Dr. Bashar W. Hanna
Bloomsburg University of Pennsylvania

Ms. Geraldine M. Jones
California University of Pennsylvania

Mr. Aaron A. Walton
Cheyney University of Pennsylvania

Dr. Dale-Elizabeth Pehrsson
Clarion University of Pennsylvania

Dr. Marcia G. Welsh
East Stroudsburg University of Pennsylvania

Dr. Guiyou Huang (Effective 07/01/19)
Edinboro University of Pennsylvania

Dr. Michael A. Driscoll
Indiana University of Pennsylvania

Dr. Kenneth S. Hawkinson
Kutztown University of Pennsylvania

Mr. Robert M. Pignatello
Lock Haven University of Pennsylvania

Dr. Charles E. Patterson (Effective 07/01/19)
Mansfield University of Pennsylvania

Dr. Daniel A. Wubah
Millersville University of Pennsylvania

Dr. Laurie A. Carter
Shippensburg University of Pennsylvania

Dr. William J. Behre
Slippery Rock University of Pennsylvania

Dr. Christopher M. Fiorentino
West Chester University of Pennsylvania

The Councils of Trustees

Each University within the System maintains a council of trustees consisting of 11 members who are appointed by the Governor with the advice and consent of the Senate. At least two of these members must be alumni of the institution. Ten of the members serve terms of six years while one member must be a full-time undergraduate student, other than a freshman, enrolled for at least 12 semester hours at the institution of which he/she is a trustee. The student member serves a term of three years or for so long as he/she is a full-time undergraduate student in good academic standing, whichever period is shorter. Six members of a council constitute a quorum, and each council meets at least quarterly and additionally at the call of the president, or its chair, or upon the request of three of its members.

Each council's specific responsibilities include making recommendations to the chancellor for the appointment, retention, or dismissal of the president of its university following consultation with students, faculty, and alumni; reviewing and approving the recommendations of the president as to the standards for admission, discipline, and expulsion of students; and reviewing and approving the recommendations of the president as to the policies and procedures governing the use of institutional facilities and property, and the policies and procedures for the annual operating and capital budget requirements for submission to the Board. The council has the authority to approve schools and academic programs; to review and approve charges for room, board, and miscellaneous fees; to review and approve all contracts and purchases negotiated or awarded by the president, with or without competitive bidding, and all contracts for consulting services entered into by the president; and to take such action as may be necessary to effectuate the powers and duties delegated by Act 188.

Capital Facilities

The campuses of the 14 Universities encompass more than 4,700 acres. To date, there are almost 900 physical plant structures, with over 32 million gross square feet. Capital facilities in place prior to the System's inception in 1983, state-appropriated capital renovations of those facilities, and new state-appropriated capital facilities are made available to the System at no cost. In 2002, the Commonwealth transferred custody and control of these facilities to the System. Under this arrangement, the Commonwealth retains fee title for the facilities and continues to provide state appropriations for capital facilities construction and renovations. Capital facilities acquired and constructed after 1983 by the System from other than state appropriations, as well as capitalized renovations and capital assets, such as equipment, furnishings, and library books, are assets on the System's balance sheet and have a book value, as of June 30, 2018, of $1.9 billion net of accumulated depreciation. The current replacement cost of the total System capital facilities and infrastructure is estimated to be in excess of $11 billion.

Educational and General Facilities—The Commonwealth appropriates funds for capital repairs and renovations while the System contributes regular maintenance funded from its operating budget. In July 1996, the Board of Governors approved a facilities renovation partnership with the Commonwealth of Pennsylvania. Currently, the Commonwealth is providing approximately $70 million annually toward capital improvement for the System's academic facilities. The System contributes any additional funding for capital repairs and renovations needed through bond financing, operating funds, or fundraising. The System has expended approximately $2 billion for renovation of existing academic facilities since 1996, while the Commonwealth has appropriated approximately $1.7 billion over the same period.

Each University's capital budget request for the forthcoming fiscal year is submitted to the Office of the Chancellor. In order for a capital project to be included in the appropriations request to the Governor and to the General Assembly, the Office of the Chancellor assesses the project's priority using criteria that include: University priorities; academic benefit; space requirements; ADA, safety, and code compliance deficiencies; new revenue or matching funds potential; cost savings potential; and impact on deferred maintenance. The equitable distribution of capital funds to each of the Universities is also considered in developing the plan. The Office of the Chancellor conducts an in-depth review of each capital project request to determine the overall contribution of the project to the well-being of the System as a whole.

Auxiliary Facilities—The Board of Governors has determined that additional facilities may be needed at the Universities and has adopted a Construction Finance Policy, which permits the System to seek bond funding to finance construction of new auxiliary facilities such as residence halls, recreation centers, student unions, and such other facilities, equipment, real property, or other needs as the Board decides. Auxiliary facilities are sustained with student fees, not Commonwealth appropriations or tuition. Act 188 requires the maintenance of an Auxiliary Facilities Reserve Fund established from mandatory resident student fees to accumulate funds with which to repair or construct new residence halls. To ensure longevity of existing residence halls, a capital renewal fee is charged per resident student for use in implementing capital maintenance projects. The monies collected are restricted for the specific purpose of roof replacement, floor replacement, or any major repair/replacement project that will significantly prolong the usable life of the building for use as a residence hall. The System has expended approximately $1.6 billion for auxiliary facilities since 1996.

Accreditation

All of the System universities are fully accredited by the Middle States Association of Colleges and Secondary Schools (Middle States). Certain academic programs are accredited individually by various other national professional organizations.

Cheyney University—In November 2015, Cheyney University was placed under probation by Middle States because of insufficient evidence that the institution was in compliance with Standard 3 (Institutional Resources). In June 2017, Middle States required the university to show cause as to why its accreditation should not be withdrawn. In November 2017, Middle States extended Cheyney's accreditation for an additional year, noting that Cheyney had made "significant progress toward the resolution of its non-compliance issues" and was "making a good-faith effort to remedy existing deficiencies." It further stated that there was "a reasonable expectation that such deficiencies will be remedied within the period of the extension" of the university's accreditation. In September 2018, Cheyney submitted a report to Middle States demonstrating its progress on the remaining accreditation issues. In November 2018, Middle States extended Cheyney's accreditation for an additional year recognizing the progress the university had made to strengthen both its financial and institutional resources.

To maintain Middle States accreditation, Cheyney University has undertaken many steps to address the out-of-compliance status of multiple standards. The university is overhauling its academic enterprise, rightsizing the staff and administration, and concentrating operations into fewer buildings. In addition, the university is seeking to develop new financial resources to adequately support its educational programs and assure long-term financial stability.

To be in compliance with Middle States' request, Cheyney also must mitigate the debt owed to other State System universities. To that end, the university is implementing budget reductions in accordance with a System-approved full loan forgiveness program. This should alleviate a considerable component of the out-of-compliance finding for the Middle States financial resources standard, and will result in the forgiveness of all State System funds lent to or spent on behalf of Cheyney University over four fiscal years, through FY 2020/21 ($30.5 million State System loans and $4.5 million from the Office of the Chancellor spent directly on behalf of Cheyney).

Kutztown University—On June 21, 2018, the Middle States Commission on Higher Education ("MSCHE") acted "[t]o warn [Kutztown University] that its accreditation may be in jeopardy because of insufficient evidence that the institution is currently in compliance with Standard V (Educational Effectiveness Assessment)." Standard V addresses the need for a university to effectively assess its academic programs. Kutztown University believes that the warning was issued because, during the February 2018 MSCHE site visit, the university's assessment process was not sufficient to meet the recently updated Standard V requirement. Noting that the university remains accredited while on warning, MSCHE requested "a monitoring report due March 1, 2019, documenting that the institution has achieved and can sustain ongoing compliance with Standard V." In June 2019, Middle States reaffirmed accreditation with the institution being in compliance with Standard V.

Degrees Awarded

A range of undergraduate and graduate degree programs is offered across the System; 842 undergraduate and 316 graduate programs are offered in 258 major academic areas. In addition, certification programs are offered in 173 areas. The System awarded 18,924 bachelor's degrees and 5,331 master's degrees in 2017/18. The System also awarded 234 doctoral degrees through Bloomsburg, Indiana, and Slippery Rock Universities of Pennsylvania and 1,368 associate's degrees through all the Universities.

Enrollment

The following data shows the System's fall semester enrollment by headcount and full-time equivalent enrollment for the last five academic years.

	2014/15	2015/16	2016/17	2017/18	2018/19
Headcount					
Undergraduate	95,804	92,818	89,802	86,971	82,805
Graduate	13,802	14,308	14,977	15,330	15,289
Total	109,606	107,126	104,779	102,301	98,094
Full-Time	92,788	89,845	86,905	84,098	79,694
Part-Time	16,818	17,281	17,874	18,203	18,400
Total	109,606	107,126	104,779	102,301	98,094
Full-Time Equivalent					
Undergraduate	89,478	86,622	83,611	80,788	76,786
Graduate	7,916	8,207	8,606	8,825	8,758
Total	97,394	94,829	92,217	89,613	85,544

The declining number of high school graduates in Pennsylvania is a contributing factor in declining enrollment.

Applications and Admissions

The following data shows the fall semester application/enrollment figures for the System for five academic years, including the current year.

	2014/15	2015/16	2016/17	2017/18	2018/19
Applied	78,878	79,468	79,426	81,619	77,528
Accepted	62,312	63,965	63,606	66,409	64,123
Enrolled	19,719	18,913	18,137	18,008	17,133
% Accepted	79.0%	80.5%	80.1%	81.4%	82.7%
% Enrolled/Accepted	31.6%	29.6%	28.6%	27.1%	26.7%

Tuition, Student Fees, and Competition

The following includes the current and previous four years of Systemwide average in-state full-time undergraduate tuition and fees.

Full-Time Undergraduate Tuition and Student Fees

	2014/15	2015/16	2016/17	2017/18	2018/19
System Average	$9,418	$9,766	$10,436	$10,876	$11,309

System Universities compete with many other colleges and universities for qualified applicants. The undergraduate tuition and required fees collected by various higher education sectors in Pennsylvania during the current year are illustrated in the following table. The private colleges and universities listed were chosen because of geographic location, similar academic offerings, and similar selectivity ratios.

	2018/19 Required Fees and Tuition
Selected Private Colleges and Universities	
Washington and Jefferson College	$47,964
Elizabethtown College	$46,940
Juniata College	$45,597
Delaware Valley College	$39,440
Gannon University	$32,136
State-Related Universities (in-state)	
The University of Pittsburgh	$19,080
The Pennsylvania State University	$18,454
Temple University	$16,970
Community Colleges (in-state)	
Community Colleges Average (full-time equivalent course load)	$5,322
Pennsylvania's State System of Higher Education (in-state)	
System Average	$11,309

Source: *The College Board*

Freshmen Enrollment Composition

The following tables highlight the high school rank and average SAT scores of the System's incoming freshmen for the years indicated.

Percentage of Freshmen by High School Rank

Quintile	2014	2015	2016	2017	2018
1	21.4%	20.9%	19.6%	21.0%	21.1%
2	29.4%	28.7%	27.5%	28.0%	28.2%
3	25.6%	26.5%	26.8%	26.5%	26.3%
4	17.5%	17.9%	19.0%	18.6%	18.4%
5	6.1%	6.0%	7.1%	5.9%	6.1%

Average SAT Scores

	2014	2015	2016	2017*	2018
Verbal	490	491	488	534	538
Math	496	493	489	524	526
Total	986	984	977	1058	1064

**SAT score for 2017 represents the new SAT score for tests taken on or after March 1, 2016. The Verbal score for 2017, and future years, is now the Evidence-Based Reading & Writing (ERW) score (combination of old SAT Writing and Critical Reading section scores). The changes in scoring resulted in higher test scores overall.*

Student Financial Aid

Ninety percent of all first-time, full-time, degree-seeking undergraduate students attending State System universities during academic year 2017/18 received financial aid. Thirty-nine percent of these students received awards from federal grant aid; while 40 percent received awards from the Commonwealth or local agencies. Thirty-nine percent of these students received awards from the institution. Seventy-nine percent of all first-time, full-time undergraduates received a student loan.

The major sources of financial aid available to System students are the Federal Pell Grant Program, Pennsylvania State Grant Program, Federal Supplemental Educational Opportunity Grant Program, Federal Work Study Program, Federal Perkins Loan Program, and Federal Direct Loan Program. Of the financial aid programs available, the three main sources of financial aid received by System students are the Federal Pell Grant, Pennsylvania State Grant, and Federal Direct Loans. Each University maintains a fully functioning student financial aid office.

Commonwealth Appropriations

In Act 188, the General Assembly defined the System as an instrumentality of state government and declared its operating costs ordinary expenses of state government, entitling it to preferred appropriations status under Article III, Section 11, of the Pennsylvania Constitution. Preferred appropriations are authorized only for state government, public schools, and payment of the public debt. Preferred appropriations bills require only a simple majority vote of the General Assembly, while "nonpreferred appropriations" bills, authorized by Article III, Section 30, of the Pennsylvania Constitution to fund state-related universities and private state-aided institutions, require a two-thirds majority vote.

One advantage of preferred appropriations status is that a smaller constitutional majority is required for passage of bills, thereby reducing the possibility of defeat. It also is settled law that, in exigent times, the Governor may reduce or entirely abate nonpreferred appropriations. See *Schnader v. Liveright*, 308 Pa. 35 (1932).

The State System's FY 2019/20 annual appropriation, based on the Commonwealth's spending plan as enacted on June 28, 2019, represents approximately 23 percent of total revenues. Receipt of an appropriation in a given year does not ensure an appropriation or the amount of such appropriation in the following year. The chart below shows the current fiscal year and a five-year history of total annual appropriations received by the System.

Fiscal Year	Appropriations
2019/20	$477,470,000
2018/19	$468,108,000
2017/18	$453,100,000
2016/17	$444,224,000
2015/16	$433,389,000
2014/15	$412,751,000

The FY 2019/20 budget includes an increase of $9.4 million (2 percent) in state appropriations. This increase, along with the $20.6 million (5 percent) provided in FY 2015/16, the $10.8 million (2.5 percent) increase in FY 2016/17, the $8.9 million (2 percent) in FY 2017/18, and the 15 million (3.3 percent) provided in FY 2018/19, restores approximately 71 percent of the $90.6 million cut made in FY 2011/12. At its July 2019 meeting, the Board of Governors voted to freeze tuition for FY 2019/20. In addition, the State System continues to receive state funding for deferred maintenance through a portion of the realty transfer tax.

Realty Transfer Tax

In 1993, the General Assembly and the Governor of Pennsylvania passed into law a dedicated allocation of 2.7 percent of the Pennsylvania Realty Transfer Tax to the System. These revenues are restricted to use for deferred maintenance on academic facilities. The chart below shows the current fiscal year and a four-year history of revenues the System received from this tax.

Fiscal Year	Revenue
2019/20	$17,608,000
2018/19	$18,371,000*
2017/18	$18,023,000
2016/17	$16,081,000
2015/16	$15,295,000

**Notified in June 2019 that an additional $1,705,000 was allocated to the State System for FY 2018/19.*

Statement of Revenues, Expenses, and Changes in Net Position

This statement reports the revenues earned and the expenses incurred in the fiscal year. The resulting net income or loss is reported as an increase or decrease in net position on the *Balance Sheet*.

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Pennsylvania's State System of Higher Education

Statement of Revenues, Expenses, and Changes in Net Position
For the Years Ended June 30, 2018 and 2017

(dollars in thousands)

	2018		2017	
Operating Revenues				
Tuition and fees	$ 1,089,509		$ 1,086,337	
Less discounts and allowances	(239,014)		(230,636)	
Net tuition and fees		$ 850,495		$ 855,701
Grants and contracts		156,285		158,108
Sales and services		41,717		39,968
Auxiliary enterprises, net of discounts of $1,516 in 2018 and $2,450 in 2017		317,398		327,781
Other revenues, net		19,322		19,849
Total Operating Revenues		1,385,217		1,401,407
Operating Expenses				
Instruction		755,638		779,814
Research		7,339		6,353
Public service		43,644		42,543
Academic support		191,062		185,411
Student services		190,322		189,610
Institutional support		265,714		253,007
Operations and maintenance of plant		162,005		159,295
Depreciation		136,422		132,267
Student aid		75,369		76,416
Auxiliary enterprises		255,111		258,970
Total Operating Expenses		2,082,626		2,083,686
Operating Loss		(697,409)		(682,279)
Nonoperating Revenues (Expenses)				
State appropriations, general and restricted		453,108		444,224
Pell grants		139,304		134,162
Investment income, net of related investment expense of $370 in 2018 and $333 in 2017		39,367		35,035
Unrealized gain (loss) on investments		(19,595)		(19,704)
Gifts for other than capital purposes		21,300		20,877
Interest expense on capital asset-related debt		(37,105)		(38,228)
Loss on disposal/acquisition of assets		(2,267)		(54,820)
Other nonoperating revenue		11,279		12,125
Net Nonoperating Revenues		605,391		533,671
Loss before other revenues		(92,018)		(148,608)
State appropriations, capital		18,023		16,081
Capital gifts and grants		15,121		5,584
Decrease in Net Position		(58,874)		(126,943)
Net position—beginning of year		(248,925)		(121,982)
Restatement for July 1, 2017, OPEB liabilities and related expenses		(1,280,301)		
Restatement for July 1, 2017, beneficial interests		13,497		
Net position—beginning of year, restated		(1,515,729)		
Net position—end of year		$ (1,574,603)		$ (248,925)

Investment of Working Capital

The System invests its working capital in accordance with the Board of Governors' Investment Policy. The investment priorities of the System as stated in this policy are, in order of priority: (1) safety of principal, (2) liquidity, and (3) yield. This policy expressly prohibits leverage and speculative investment strategies.

Unrestricted Net Position

Unrestricted net position, which totals -$2,521.5 million, includes the effects of three unfunded liabilities: the liability of net pension totaled $937.8 million for the year ended June 30, 2018 (see financial statements note 7 for more information); the liability for postretirement benefits for employees who participate in the System plan totaled $2,324.6 million for the year ended June 30, 2018 (see financial statements note 8 for more information); and the liability for compensated absences totaled $126.2 million for the year ended June 30, 2018 (see financial statements note 6 for more information). Without the effect of these liabilities, total unrestricted net position would equal $867.1 million.

Faculty and Staff

As of October 31, 2018, System faculty numbered 4,611 full-time members and 1,335 part-time members. Of the full-time faculty members, 3,095 have been awarded tenure, and 967 are tenure-track.

As of October 31, 2018, the System employed 6,130 full-time staff members and 218 part-time staff members. The System believes that it provides a competitive compensation program for its staff, and that it is able to attract persons with outstanding qualifications.

The System participates in three different retirement systems funded in part each year from each University's operating budget: the State Employees' Retirement System (SERS), the Public School Employees' Retirement System (PSERS), and the Alternative Retirement Plan (ARP, which includes Fidelity and TIAA). Liabilities of the respective retirement systems are not the responsibility of the System. The basic benefits for each program are outlined below (see also financial statements note 7).

(1) State Employees' Retirement System (SERS). The employee's contribution rate is 5.00 percent of gross salary for Class A and 6.25 percent of gross salary for Class AA. An employee is vested upon completion of five years of service with the state government for these classes. The employee's contribution rate is 6.25 percent of gross salary for Class A-3 and 9.3 percent of gross salary for Class A-4. Class A-3 and Class A-4 are applicable to new members enrolling after January 1, 2011. An employee in Class A-3 or A-4 is vested upon completion of ten years of service with the state government. The employee's contribution rate is 8.25 percent of gross salary (5 percent defined benefit pension and 3.25 percent defined contribution investment) for Class A-5 and 7.5 percent of gross salary (4 percent defined benefit pension and 3.5 percent defined contribution investment) for Class A-6. Employee vesting for Class A-5 and A-6 is ten years for the defined benefit pension and three years for the employer share of the defined contribution investment. For Class 40 (straight defined contribution plan), the employee's contribution rate is 7.5 percent of gross salary, and the employer contribution rate is 3.5 percent. Employee vesting for Class 40 is three years for employer contributions.

(2) Public School Employees' Retirement System (PSERS). The employee's contribution rate ranges from 5.25 percent to 7.50 percent of gross salary, depending upon class and hire date. Most employees elected the 7.5 percent Class T-D when offered the higher benefit effective

January 1, 2002. An employee is vested upon completion of five years of service with the state government for these classes. The employee's contribution rate is 7.5 percent of gross salary for Class T-E and 10.3 percent of gross salary for Class T-F. Class T-E and Class T-F are applicable to new members enrolling after July 1, 2011. An employee in Class T-E or T-F is vested upon completion of ten years of service with the state government.

(3) Alternative Retirement Plan (ARP). The employee's contribution rate is 5.00 percent of gross salary. An employee is immediately vested in this retirement program upon employment. Early retirement can be requested at any age; however, the amount of annuity is based on the employee/employer contributions and investment income.

The following table summarizes the System's contribution rates for employee retirement benefits for five years (including the current year) for each of the above-mentioned retirement plans. All of the figures are a percent of the employee's gross salary. (See financial statements note 5 for the dollar amount of such contributions.)

	SERS*						
	Class A	**Class AA**	**Class A-3 and A-4**	**Class A-5 and A-6**	**401a Only**	**PSERS**	**ARP**
2018/19	27.71%	34.63%	23.94%	18.42%	18.39%	16.715%	9.29%
2017/18	27.55%	34.44%	23.80%	-	-	16.29%	9.29%
2016/17	23.96%	29.95%	20.70%	-	-	15.02%	9.29%
2015/16	19.89%	24.86%	17.18%	-	-	12.92%	9.29%
2014/15	15.94%	19.92%	13.77%	-	-	10.70%	9.29%

**There are five different rates for SERS employees, depending on their class. The majority of System employees are in Class AA. Newly enrolled employees hired after January 1, 2011, are in Class A-3 or A-4. Newly enrolled employees hired after January 1, 2019, are in Class A-5, A-6, or 401a Only.*

The System's employer contribution rates are certified each year as a result of the actuarial valuation of the SERS pension system, assessing the current funds, and determining the future expected liabilities. The employer contribution rate is set so that it can fund all retirement benefits earned by employees working during the year and pay toward any unfunded liabilities that may exist.

On June 12, 2017, Governor Tom Wolf signed into law a new retirement plan designed for future employees in the Public School Employees' Retirement System (PSERS) and State Employees' Retirement System (SERS). The new plan provides three retirement benefit options: two "side-by-side" hybrid retirement plans, which include a defined benefit and defined contribution component (Class A-5 and A-6), and a third stand-alone defined contribution retirement plan (Class 401a Only). The new SERS retirement plans were effective January 1, 2019, while PSERS took effect on July 1, 2019. Additional information can be found on the Governor's website and Pennsylvania Independent Fiscal Office website.

Most System employees are represented by various labor unions. The two that represent the largest number of employees are the American Federation of State, County and Municipal Employees (AFSCME) (ratified by membership, awaiting approval from the Commonwealth and the Board of Governors, contract termination date June 30, 2023), and the Association of Pennsylvania State College and University Faculties (APSCUF) (contract termination date June 30, 2019, for faculty and June 30, 2019, for nonfaculty coaches, which are two separate bargaining units). Other labor unions include the State College and University Professional Association (SCUPA) (contract termination date June 30, 2019); Office and Professional Employees International Union Healthcare Pennsylvania (OPEIU) (contract termination date June 30, 2019); Security, Police and Fire Professionals of America (SPFPA) (contract termination date August 31, 2020); the Pennsylvania

Doctor's Alliance (PDA) (contract termination date June 30, 2019); the Service Employees International Union (SEIU, Local 668) (ratified by membership, awaiting approval from the Commonwealth and the Board of Governors, contract termination date June 30, 2023); and the Police Officers Association (POA) a new union (negotiations underway for new contract). The System has complete autonomy in the negotiation processes for the APSCUF, SCUPA, SPFPA, and OPEIU contracts. However, the System engages in coalition bargaining with the Commonwealth of Pennsylvania on all other labor union contracts. Negotiations are currently underway with APSCUF, SCUPA, OPEIU, and PDA for successor collective bargaining agreements. The System experienced a three-day work stoppage with APSCUF in October 2016, but it did not result in any adverse financial situation.

Accounting Matters

The System's financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting in accordance with the accounting principles generally accepted in the United States of America, as prescribed by the Governmental Accounting Standards Board (GASB).

As of July 1, 1983, with the enactment of Act 188, the System became responsible for the use of all appropriations for all the Universities. Any funds unexpended at the end of any given fiscal year by any University or the Office of the Chancellor do not lapse to the Commonwealth, but remain in the respective accounts for future use. The presidents have the authority to expend their respective university's allocated funds as they deem proper and necessary, with review by the Office of the Chancellor. The amount of appropriations granted by the General Assembly and the Governor of Pennsylvania for the next fiscal year is not affected adversely by any cumulative amounts remaining unexpended by the Universities and the Office of the Chancellor from the prior fiscal year appropriations.

In the opinion of the System's management, there has been no material adverse change in the financial condition of the System since June 30, 2018.

Budgetary Matters

The president of each University is required to submit a projected operating budget for each fiscal year to the Office of the Chancellor. Periodically throughout the fiscal year, each president must submit an interim budget showing actual revenues received and expenditures incurred to date with estimated projections for the remainder of the fiscal year. These financial submissions are one tool that the Office of the Chancellor uses to monitor the financial condition of the respective universities throughout the year to ensure that deficits are not incurred.

Financial Statements Audit

The financial statements of the System as of and for the year ended June 30, 2018, included in Appendix II of this Official Statement, have been audited by CliftonLarsonAllen LLP, the System's independent auditors, as stated in their report appearing herein.

CliftonLarsonAllen LLP has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. CliftonLarsonAllen LLP also has not performed any procedures relating to this offering document.

Legal Matters

It is the opinion of the Chief Counsel to the System that, to the best of his knowledge after reasonable investigation, there is no action, suit, proceeding, or investigation at law or in equity before or by any court, public board, or body, pending or threatened, against or affecting the System, wherein an unfavorable decision, ruling, or finding would materially adversely affect the transactions contemplated by this Official Statement or the validity of the Loan Agreement and the Disclosure Agreement.

Legislative Matters

From time to time, legislation is introduced in the Pennsylvania General Assembly which may affect the System and, therefore, may affect certain portions of the description of the System contained in this Official Statement. The System cannot predict if such legislation or other legislation will be enacted into law now or in the future and, if enacted, how any such legislation may affect the System's ability to perform its obligations with respect to the Bonds.

On April 25, 2018, the Legislative Budget and Finance Committee, a committee of the Pennsylvania General Assembly, issued a report regarding a study undertaken by the RAND Corporation to identify options that would improve the long-term sustainability and viability of the universities in Pennsylvania's State System. No legislative action has been taken up as a result of the issuance of the report.

On April 10, 2019, Senate Bill 536 was introduced by prime sponsor Senator Patrick M. Browne, establishing the Public Higher Education Funding Commission to review and make recommendations related to higher education funding, affordability, and effectiveness of administration and operations. SB 536 was then introduced as part of Senate Bill 700 and signed into law as Act 70 on July 2, 2019. The legislation charges the commission with issuing a report of its findings and recommendations to the General Assembly and other related committees by July 2, 2020.

Contingencies, Commitments, and Concentrations

See financial statements note 13 for more information on such matters.

Future Financing

Currently, there are some additional auxiliary and academic-related capital projects (e.g., student housing, recreational centers, and classroom buildings) under feasibility study and/or design. Although academic projects have Commonwealth capital funding available, not all projects are fully funded by capital appropriations. Some of these projects may come to fruition and require financing in future years. The amount to be financed for all projects is expected to be approximately $75 to $100 million in FY 2020/21. The System has wrapped up its development of public-private student housing projects with affiliated 501(c)(3) organizations. These affiliates have developed student housing both on and off campus on a nonrecourse project finance basis using tax-exempt and taxable debt. To date, such affiliates have financed and completed approximately 22,413 beds for approximately $1.4 billion of financing. Most housing projects are replacement stock, and some are designed to meet perceived needs for more modern housing options.

Outstanding Indebtedness

As of June 30, 2019, the outstanding indebtedness of the System is as follows:

	Issuance Date	Original Issuance Amount	Current Outstanding Principal	Maturity Date
Series AH	07/17/08	$140,760,000	$7,770,000	06/15/33
Series AI	08/07/08	32,115,000	190,000	06/15/25
Series AJ*	07/09/09	123,985,000	76,870,000	06/15/39
Series AK*	09/03/09	47,310,000	11,830,000	06/15/24
Series AL	07/08/10	135,410,000	53,940,000	06/15/35
Series AM	07/12/11	119,085,000	85,040,000	06/15/36
Series AN	03/30/12	76,810,000	29,595,000	06/15/23
Series AO	07/18/13	30,915,000	24,475,000	06/15/38
Series AP	05/07/14	46,110,000	36,770,000	06/15/24
Series AQ	05/07/15	94,975,000	71,075,000	06/15/36
Series AR	09/10/15	102,365,000	92,750,000	06/15/40
Series AS	06/07/16	47,280,000	41,235,000	06/15/37
Series AT	09/07/16	298,110,000	278,685,000	06/15/55
Series AU	09/14/17	128,260,000	120,705,000	06/15/42
Series AV	09/06/18	236,945,000	223,730,000	06/15/45
Total		$1,660,435,000	$1,154,660,000	

**Anticipated to be redeemed with proceeds from Series AW Bonds.*

The System has no other existing long-term indebtedness, except for the installment purchase and lease of office equipment, computer equipment, energy conservation equipment, and similar types of acquisitions. See note 9 of the 2018 Audited Financial Statements for further information pertaining to the leases.

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Maturities of long-term debt for the current fiscal year, as well as the next five fiscal years, are as follows:

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Series AH	$410,000	$430,000	$445,000	$465,000	$485,000	$505,000
Series AI	30,000	30,000	30,000	30,000	35,000	35,000
Series AJ	6,995,000	7,515,000	8,145,000	8,680,000	9,295,000	4,785,000
Series AK	3,255,000	—	30,000	75,000	8,470,000	—
Series AL	6,845,000	6,780,000	4,055,000	4,260,000	4,480,000	4,695,000
Series AM	5,215,000	5,495,000	5,775,000	6,080,000	6,420,000	6,770,000
Series AN	21,530,000	2,825,000	2,965,000	2,275,000	—	—
Series AO	1,210,000	1,255,000	1,320,000	1,370,000	1,310,000	1,365,000
Series AP	6,775,000	7,030,000	7,300,000	7,650,000	8,015,000	—
Series AQ	8,250,000	7,965,000	6,960,000	7,880,000	8,275,000	8,690,000
Series AR	2,860,000	3,000,000	3,150,000	3,315,000	3,475,000	3,650,000
Series AS	3,115,000	3,175,000	3,245,000	2,850,000	2,990,000	3,135,000
Series AT	7,765,000	8,140,000	8,105,000	8,480,000	8,880,000	9,305,000
Series AU	6,165,000	7,525,000	8,715,000	9,135,000	7,245,000	7,660,000
Series AV	6,170,000	10,520,000	12,150,000	11,190,000	11,200,000	6,010,000
Total	$86,590,000	$71,685,000	$72,390,000	$73,735,000	$80,575,000	$56,605,000

Strategic System Redesign

In March 2017, the National Center for Higher Education Management Systems (NCHEMS) was selected as the consulting firm to assist the Board of Governors with a Strategic System Review of the 14 universities and the Office of the Chancellor. On July 21, 2017, NCHEMS released the results of the report, which made various recommendations to increase efficiency throughout the State System. The recommendations included, *inter alia*, shifting from a Board of Governors to a Board of Regents, leveraging Systemwide and regional resources to deliver programming, and sharing administrative functions more efficiently. These recommendations have been taken under advisement by the Board of Governors.

In 2018, the System moved from "review" to "redesign" mode. The Board of Governors affirmed its commitment to the long-term stability of all 14 universities in the State System so that each may continue to serve students, its region, and the Commonwealth. A successful redesign will have a positive impact on students, promoting both affordability and long-term sustainability of the System. In September 2018, the System launched phase 2 of the redesign to develop a vision for the transformed System, including detailed implementation plans. The System Redesign is guided by three strategic priorities approved by the Board of Governors in January 2019: (1) ensuring student success, (2) leveraging university strengths, and (3) transforming the governance/leadership structure. Small, tactical groups are being utilized to support each of the three strategic priorities. Interested investors can track the progress of the redesign on the System's website.

U.S. Department of Education Program Review of Cheyney

On August 8, 2019, Cheyney University ("Cheyney") received a letter (the "DOE Letter") from the U.S. Department of Education ("USDOE") relating to USDOE'S proposed resolution of its Program Review of Cheyney (the "Program Review"), asserting that Cheyney's overall response to the Program Review did not fully address USDOE's findings or accurately document the federal student aid funds disbursed during the periods under review (the 2011-2012, 2012-2013 and 2013-2014 award years). The USDOE Letter stated further that under normal circumstances USDOE would assess Cheyney full Federal Pell Grant and Federal Direct Loan liabilities in the amount of

$57,531,566 for the award years reviewed. However, USDOE did acknowledge that Cheyney has, since the beginning of the review, undertaken significant steps to accurately document its administration of federal student aid funds despite being limited in its ability to do so by the past deficiencies and, accordingly, expressed a willingness to presume that significant amounts of the financial aid funds were provided to, and earned by, the students and to conclude the Program Review in consideration of Cheyney's (1) payment of $14,308,377, (2) waiver of its rights to any administrative appeal, and (3) entry into an acceptable repayment agreement with USDOE. The USDOE Letter appears to imply that if Cheyney does not accept the settlement offer, USDOE will seek recovery from Cheyney of the full $57,531,566.

Both the System and Cheyney are evaluating the USDOE offer. Neither the System nor Cheyney has reached any conclusion about the Program Review or made any determination with respect to a response to the USDOE's settlement offer. An "acceptable repayment agreement" would, among other things, necessarily take into account Cheyney's annual operating budget (currently approximately $27 million). Neither a prediction as to the likelihood or timing of any settlement nor an estimate of the amount to be repaid, if any, is made in this Official Statement.

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Appendix II

2018 Audited Financial Statements

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PENNSYLVANIA'S STATE SYSTEM OF HIGHER EDUCATION

Pennsylvania's
STATE SYSTEM
of Higher Education

FINANCIAL STATEMENTS
JUNE 30, 2018

Pennsylvania's State System of Higher Education
Financial Statements
June 30, 2018

Table of Contents

CliftonLarsonAllen

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INDEPENDENT AUDITORS' REPORT

Board of Governors
Pennsylvania State System of Higher Education
Harrisburg, Pennsylvania

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities and the aggregate discretely presented component units of Pennsylvania's State System of Higher Education ("the State System"), a component unit of the Commonwealth of Pennsylvania as of and for the years ended June 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the State System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We did not audit the financial statements of certain of the discretely presented component units, which represent 81.5 percent, 82.7 percent, and 79.8 percent, respectively, of the 2018 assets, net assets, and revenues and 82.3 percent, 85.9 percent, and 79.6 percent, respectively, of the 2017 assets, net assets, and revenues of the discretely presented component units. Those statements were audited by other auditors whose reports have been furnished to us, and our opinion, insofar as it relates to the amounts included for the discretely presented component units, is based solely on the reports of the other auditors. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Board of Governors
Pennsylvania's State System of Higher Education

Opinions

In our opinion, based on our audit and the reports of other auditors, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the aggregate discretely presented component units of the State System as of June 30, 2018 and 2017, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note (1) to the financial statements, the State System implemented the provisions of Governmental Accounting Standards Board (GASB) Statements No. 75 – *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* and No. 81 – *Irrevocable Split-Interest Agreements,* for the year ended June 30, 2018, which represent changes in accounting principle. As of July 1, 2017, the State System's net position was restated to reflect the impact of adoption. A summary of the restatement is presented in Note (1). Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3-18, and the various schedules of Proportionate Share of Net Pension Liability, OPEB Liability, Proportionate Share of Net OPEB Liability, and Contributions on pages 55-58 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Harrisburg, Pennsylvania
September 26, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS
(Unaudited)

As members of the Commonwealth of Pennsylvania's (Commonwealth) public four-year higher education system, the 14 universities of Pennsylvania's State System of Higher Education (State System) are charged with providing high-quality education at the lowest possible cost to the students. With approximately 100,000 degree-seeking students enrolled, and thousands more enrolled in certificate and other career-development programs, the State System is the state's largest higher education provider. Students can choose from 190 undergraduate programs and 123 graduate programs offered in 30 major academic areas, as well as certification programs offered in 144 areas.

The campuses of the 14 universities encompass more than 4,700 acres and 900 physical plant structures. The universities function independently, but being part of the State System enables them to share administrative resources and academic courses and benefit from economies of scale.

The State System's financial statements comprise:

- Bloomsburg University of Pennsylvania.
- California University of Pennsylvania.
- Cheyney University of Pennsylvania.
- Clarion University of Pennsylvania, including its branch campus in Oil City.
- East Stroudsburg University of Pennsylvania.
- Edinboro University of Pennsylvania.
- Indiana University of Pennsylvania, including its branch campuses in Freeport and Punxsutawney.
- Kutztown University of Pennsylvania.
- Lock Haven University of Pennsylvania, including its branch campus in Clearfield.
- Mansfield University of Pennsylvania.
- Millersville University of Pennsylvania.
- Shippensburg University of Pennsylvania.
- Slippery Rock University of Pennsylvania.
- West Chester University of Pennsylvania.
- Office of the Chancellor, including the Dixon University Center in Harrisburg and the State System @ Center City Philadelphia.

Following is an overview of the State System's financial activities for the year ended June 30, 2018, as compared to the year ended June 30, 2017. The tables throughout do not include the effects of Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, or Statement No. 81, *Irrevocable Split-Interest Agreements*, for years presented prior to fiscal year 2017/18.

FINANCIAL HIGHLIGHTS

In fiscal year 2017/18, the State System received $453.1 million in General Fund **appropriations** from the Commonwealth, a 2.0% increase over the $444.2 million received in the prior fiscal year. Over the last three years, state appropriations have increased $40.4 million, or 9.8%, but still are about $51 million less than received in fiscal year 2007/08, just before the onset of the recession that severely impacted both the state and national economies and led to several years of funding cuts to the State System.

The State System received an $18.0 million Realty Transfer Tax allocation from the Commonwealth's **Key '93** (Keystone Recreation, Park and Conservation) Fund, an increase of $1.9 million, or 11.8%, from fiscal year 2016/17. With the exception of fiscal years 2009/10 and 2010/11, when no funding was received, Key '93 funds have provided a consistent revenue stream for university deferred maintenance projects since 1993.

The State System was allocated $65 million in **Commonwealth capital funding** for fiscal year 2017/18, primarily for the renovation or replacement of existing educational and general (E&G) buildings. The State System has been allocated $65 million in Commonwealth capital funding annually since fiscal year 2000/01, except for fiscal years 2009/10 and 2010/11, when the capital funding allocated to the State System was $130 million each year. Except for associated furnishings and equipment, the universities do not record the value of Commonwealth-funded capital projects as revenue, since the Commonwealth retains title to any part of a capital project for which they directly provide funding.

To reward the universities for demonstrated success and continued improvement in student achievement, university excellence, and operational efficiency, and as a driver to better serve students and the Commonwealth, the State System's Board of Governors (Board) allocated $39.1 million of the general fund appropriation for **performance funding** in fiscal year 2017/18, equal to the amount allocated in fiscal year 2016/17. Performance funding allocated in fiscal year 2015/16 was $38.5 million.

Fall 2017 student headcount was 102,301, a decrease of 2,471 students, or 2.4%, from fall 2016. This is the seventh year in a row that the State System has experienced an **enrollment decline**, following 14 years of record growth.

Year	Fall Enrollment	% Change from Prior Year
2017	102,301	(2.4%)
2016	104,779	(2.2%)
2015	107,126	(2.3%)
2014	109,606	(2.2%)
2013	112,028	(2.1%)
2012	114,471	(3.2%)
2011	118,224	(1.1%)
2010	119,513	2.2%

Following is a breakdown of selected enrollment information, with nontraditional students defined as those 25 years of age or older:

Fall Enrollment	2017/18		2016/17	
Full-time	84,098	82%	86,905	83%
Part-time	18,203	18%	17,874	17%
Total	102,301		104,779	
Undergraduate	86,971	85%	89,802	86%
Graduate	15,330	15%	14,977	14%
Total	102,301		104,779	
Traditional	82,537	81%	85,320	81%
Nontraditional	19,764	19%	19,459	19%
Total	102,301		104,779	

In academic year 2016/17, the universities awarded 25,541 degrees, a 2% increase over the 24,985 degrees awarded in academic year 2015/16, and a slight decrease from the 25,556 degrees awarded in academic year 2014/15.

Degrees Awarded (Academic Year)	2016/17	2015/16	2014/15
Undergraduate	19,604	19,397	20,138
Master's	5,285	5,075	4,802
Doctoral	185	168	196
Associate's	467	345	420
Total	25,541	24,985	25,556

The Board approved a 2017/18 academic year base **tuition increase** of 3.5% over the 2016/17 academic year. The $127-per-semester increase sets the tuition rate for most full-time Pennsylvania residents—who comprise about 90% of all State System university students—at $3,746 per term, or $7,492 for the full year. Nonresident, undergraduate tuition also increased by 3.5%, with rates ranging from $11,238 to $18,730 for the 2017/18 academic year. The resident graduate tuition rate was $500 per credit, an increase of $17 over the prior year. The typical nonresident graduate tuition rate increased by $25 per credit, to $750.

The Board approved a $16 increase to the **technology tuition fee** ($464 annually) for full-time resident undergraduate students and a $24 increase ($706 annually) for full-time nonresident undergraduate students. All funds raised by the technology tuition fee are used directly to benefit student learning. Universities have used the funds to install multimedia classrooms, design online instructional materials, increase university capacity for connectivity for students, and provide hardware, software, and support for students and faculty, among other projects.

Mandatory student fees set by the universities increased, on average, by 5.1%. These increases, combined with the increase in tuition and reduction in enrollment, resulted in tuition and mandatory fee revenue (before discounts) of $1.12 billion, a 0.2% increase over fiscal year 2016/17. The average increase in mandatory student fees in fiscal year 2016/17 was 6.9% over the prior year.

Auxiliary revenue from **room and board fees** (excluding privatized student housing revenue recorded by affiliates) was $265.9 million in fiscal year 2017/18, a decrease of $9.7 million, or 3.5%, from fiscal year 2016/17. This compares to a fiscal year 2016/17 increase of 3.2%, or $8.5 million, in room and board revenues over the prior fiscal year. The fiscal year 2017/18 decrease is attributed primarily to the decline in enrollment, while the 2016/17 increase was a result of the additional room fees from student housing that was newly acquired by several universities from their affiliated organizations.

The State System's typical **price of attendance** (tuition, mandatory fees, room, and board) of $21,481 in 2017/18 was $711 above the average among all four-year public universities in the United States, but $1,174 less than the average for the Middle States region, which was $22,655.

The State System purchased $159.8 million in **capital assets** in fiscal year 2017/18, which included $138.5 million to build or improve academic and auxiliary facilities across all 14 universities.

During fiscal year 2017/18, the State System issued Series AU bonds, totaling $128.3 million. Of this amount, $91.7 million was used to advance refund a portion of the Series AH bonds, and the remaining $36.6 million was used to undertake various **capital projects** at the universities, comprising:

- $2.6 million to renovate and repurpose a residence hall and $2.2 million in athletic stadium compliance upgrades and improvements at Indiana University.
- $4.9 million in compliance upgrades and other improvements for the library, $4.9 million in renovations of a classroom building, and $13.3 million in energy improvements and upgrades at Slippery Rock University.
- $8.7 million to construct a parking garage at West Chester University.

Bond principal of $68.6 million and bond interest of $46.8 million were paid, and $97.0 million of bond principal was refunded, bringing the total outstanding **bond debt** to $1.0 billion at June 30, 2018.

Moody's Investors Service, Inc., continues to assign an Aa3 credit rating to the State System's outstanding bonds. Fitch Ratings, Inc., has assigned the State System's bonds with an A+ rating, a downgrade from last year's AA- rating. In August 2018, both Moody's and Fitch revised their outlooks for the ratings **from negative to stable**.

The Financial Statements

Balance Sheet

The *Balance Sheet* reports the balances of the assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position of the State System as of the end of the fiscal year.

- *Assets* include cash; investments reported at market value; the value of outstanding receivables due from students and other parties; and land, buildings, and equipment reported at cost, less accumulated depreciation.

- *Deferred Outflows of Resources*, defined as a consumption of net position that applies to future periods, reports the deferred loss on bond defeasance and certain items associated with the pension and other postemployment benefits liabilities.

- *Liabilities* include payments due to vendors, employees, and students; revenues received but not yet earned; the balance of bonds payable; and amounts estimated to be due for items such as workers' compensation (the State System is self-insured), compensated absences (the value of sick and annual leave earned by employees), pension benefits, and other postemployment benefits (health and tuition benefits expected to be paid to certain current and future retirees).

- *Deferred Inflows of Resources*, defined as an acquisition of net position that applies to future periods, reports the deferred gain on bond defeasance and certain items associated with the pension and other postemployment benefits liabilities.

- *Net Position*, informally referred to as *Net Assets* or *Fund Balance* (as it was previously called), is the sum of Assets plus Deferred Outflows of Resources less Liabilities less Deferred Inflows of Resources.

Statement of Revenues, Expenses, and Changes in Net Position

The *Statement of Revenues, Expenses, and Changes in Net Position* reports the revenues earned and the expenses incurred during the fiscal year. The result is reported as an increase or decrease in net position.

In accordance with GASB requirements, the State System has classified revenues and expenses as either operating or nonoperating. GASB has determined that all public colleges' and universities' **state appropriations are nonoperating revenues**. In addition, GASB requires classification of gifts, Pell grants, investment income and expenses, unrealized gains and losses on investments, interest expense, and gains and losses on disposals and acquisitions of assets as nonoperating. The State System classifies all of its remaining activities as operating.

Statement of Cash Flows

The *Statement of Cash Flows* provides information about the State System's cash receipts and cash payments. It can be used to determine the State System's ability to generate future net cash flows and meet its obligations as they come due and its need for external financing.

Net Position

In accordance with GASB requirements, the State System reports three components of net position:

- *Net investment in capital assets*, informally referred to as *NIP* (from its former name, *Net Investment in Plant*), is the cost of land, buildings, improvements, equipment, furnishings, and library books, net of accumulated depreciation, less any associated debt (primarily bonds payable). This balance is not available for the State System's use in ongoing operations since the underlying assets would have to be sold in order to use the balance to pay current or long-term obligations. The Commonwealth prohibits the State System from selling university land and buildings without prior approval.

- *Restricted* net position represents the portion of balances of funds received from the Commonwealth, donors, or grantors who have placed restrictions on the purpose for which the funds must be spent. *Nonexpendable* restricted net position represents the corpus of endowments and similar arrangements in which only the associated investment income can be spent. *Expendable* restricted net position represents the portion of restricted funds that is available for expenditure as long as any external purpose and time restrictions are met.

- *Unrestricted* net position includes funds that the Board, chancellor, or university presidents have designated for specific purposes, auxiliary funds, and all other funds not appropriately classified as restricted or invested in capital assets.

Unrestricted net position includes **three liabilities that the State System does not fund**. Because these liabilities will be realized gradually over future years, and because of their size, the universities are expected to fund these liabilities only on a "pay-as-you-go" basis; i.e., as they become due.

- The liability for **compensated absences** represents the dollar value of annual and sick leave that employees have earned and could potentially receive in the form of cash payouts upon retirement or other termination. The dollar value is based on an employee's current salary. All full-time employees are eligible to be paid, upon termination, for the dollar value of the number of days of unused annual, personal, and holiday leave that they have accumulated, with a maximum annual leave accumulation of 45 days. The liability for annual leave is the dollar value of the total number of days that employees have accumulated at June 30. Sick leave payouts, however, are subject to vesting requirements, and the dollar value of accumulated unused sick leave is paid only to those employees who meet certain service and/or age requirements and is capped at various levels depending upon the number of days accumulated. The associated liability is estimated based on a calculation of historical leave payouts for terminated employees compared to the dollar value of sick days that the terminated employees had accumulated, applied to employees' current leave balances.

  As employees earn and accumulate leave, the compensated absences liability is increased; as employees use leave, and as terminated employees receive payouts, the liability is decreased. The compensated absences liability increased by $6.7 million to $126.2 million for the year ended June 30, 2018, compared to a $4.1 million increase from the prior year for the year ended June 30, 2017. Universities fund this liability only as cash payouts are made to employees for annual and vested sick leave balances upon termination or retirement.

- The **net pension liability** is the State System's allocated share of the difference between the Commonwealth's defined benefit pension obligations and the funding set aside by the Commonwealth in a qualified trust to pay the future benefits that are promised to current employees, retirees, and their beneficiaries. The annual increase in the liability is the amount that current employees earn each fiscal year as a pension benefit, actuarially calculated based on years of service, age, and estimates of future service and employee longevity. The liability decreases when funding of the qualified trust increases and when employees or retirees leave the pension plans. The liability decreased by $84.7 million to $937.8 million for the year ended June 30, 2018, primarily due to improved interest rates, compared to an increase of $83.9 million for the year ended June 30, 2017. Universities fund this liability on a "pay-as-you-go" basis; that is, they fund only the annual contractually required contributions to the State Employees Retirement System (SERS) and the Public School Employees Retirement System (PSERS).

- The liability for **other postemployment benefits, or OPEB,** represents the estimated future healthcare costs for current and future retirees. The annual increase in the liability is the amount that current employees earn each fiscal year as a retiree healthcare benefit, actuarially calculated based on years of service, age, and estimates of future service and employee longevity. The liability also increases as healthcare costs increase. The liability decreases when required contributions by retirees are increased, when the number of eligible employees decreases, and when retirees leave the plan. The liability increased by $1.18 billion to $2.32 billion for the year ended June 30, 2018, compared to an increase of $38.5 million for the year ended June 30, 2017. This exceptionally large increase primarily was due to the implementation of GASB Statement No. 75 and comprises the following:
  - $315.0 million increase for the State System plan, a self-insured plan administered by the State System. Under GASB Statement No. 45, the liability recorded at June 30, 2017, was $1.15 billion. With the implementation of GASB Statement No. 75, the June 30, 2017, liability increased to $1.56 billion, but dropped to $1.46 billion at June 30, 2018, primarily due to improved interest rates.
  - $860.9 million for the Retired Employees Health Program (REHP), administered by the Commonwealth, and not previously recorded as a State System liability.
  - $3.7 million for the PSERS Health Insurance Premium Assistance Program, administered by the Commonwealth, and not previously recorded as a State System liability.

Like the pension liability, universities fund these liabilities on a "pay-as-you-go" basis: For the State System plan, universities make biweekly contributions to fund the actual claims incurred by retirees during the year; for the REHP and PSERS OPEB plans, the universities make contractually required contributions as determined by the Commonwealth.

With the implementation of GASB Statement No. 75 in fiscal year 2017/18, the State System's combined liabilities related to **unfunded future pension and retiree healthcare costs now total $3.26 billion**. The System has virtually no control over $1.8 billion of this amount, which represents its share of the plans administered by the Commonwealth, since the Commonwealth determines the associated benefits as well as the employer and employee contribution rates for these plans.

Recently enacted Commonwealth **pension legislation** will modify the pension benefits for new hires, slowing the rate of growth of the pension liability, but it will not aid in reducing the existing liability. No legislation has been enacted or proposed to either reduce or slow the growth of the OPEB liabilities administered by the Commonwealth, in which the American Federation of State, County, and Municipal Employees (AFSCME) employees participate. The State System, however, closed the State System OPEB plan to new employees hired after January 2016, with the exception of the Association of Pennsylvania State College and University Faculties (APSCUF) employees. Although this will not reduce the existing liability, these new hires bring no additional liability, now or in the future.

The **Commonwealth's combined net pension and OPEB liabilities totaled $87.4 billion** at June 30, 2018. Credit rating agencies consistently site these growing liabilities as significant challenges for both the State System and the Commonwealth and as factors that have contributed to credit rating downgrades.

Following is a summary of the net pension and OPEB liabilities for the State System and the Commonwealth. The pension and OPEB liabilities are shown at the net amount; that is, net of any assets dedicated in a trust to fund the liabilities. The funded ratio equals the value of any trust assets as a percentage of the total liability. The State System's Alternative Retirement Plan (ARP) is a defined contribution plan and has no liability. The State System's OPEB plan is a defined benefit plan with no assets in a trust dedicated to fund the liability.

(in millions)

Summary of Net Pension and OPEB Liabilities for the State System and the Commonwealth

	June 30, 2018			June 30, 2017		
	State System Share	Net Liabilities Commonwealth Plans	Plan Funded Ratio	State System Share*	Net Liabilities Commonwealth Plans	Plan Funded Ratio
SERS Pension	$848.3	$15,950.4	63.0%	$931.6	$17,767.1	57.8%
PSERS Pension	89.4	49,388.4	51.8%	90.8	49,556.8	50.1%
REHP OPEB Plan	860.9	20,054.3	1.4%	931.9	21,710.3	0.9%
PSERS OPEB Plan	3.7	2,037.4	5.7%	3.9	2,154.0	5.5%
Total Commonwealth Pension and OPEB Liabilities	1,802.3	$87,430.5		1,958.2	$91,188.2	
State System Alternative Retirement Plan	0		N/A	0		N/A
State System OPEB Plan	1,460.0		0%	1,559.1		0%
Total Pension and OPEB Liabilities	$3,262.3			$3,517.3		

Liabilities are shown net of the value of assets placed in a dedicated trust to fund the liability.
**The State System's share of the REHP and PSERS OPEB plans at June 30, 2017, were not recorded in the fiscal year 2016/17 financial statements.*

Following is a summary of the State System's balance sheet at June 30, 2018, 2017, and 2016.

(in millions)

Balance Sheet

	June 30, 2018	Change from Prior Year	June 30, 2017	Change from Prior Year	June 30, 2016	Change from Prior Year
Assets						
Cash and investments	$1,305.8	(4.4%)	$1,365.7	(0.8%)	$1,376.2	3.2%
Capital assets, net	1,920.4	1.1%	1,899.4	14.9%	1,653.3	4.0%
Other assets and deferred outflows	410.1	(3.5%)	424.8	12.8%	376.6	42.7%
Total assets and deferred outflows	$3,636.3	(1.5%)	$3,689.9	8.3%	$3,406.1	6.9%
Liabilities						
Workers' compensation	$22.4	9.8%	$20.4	(7.7%)	$22.1	(2.2%)
Compensated absences	126.2	5.6%	119.5	3.6%	115.4	0.7%
Net pension liability	937.8	(8.3%)	1,022.5	8.9%	938.6	17.5%
Net OPEB liability	2,324.6	103.0%	1,145.1	3.5%	1,106.6	4.5%
Bonds payable	1,035.6	(3.5%)	1,072.9	27.3%	842.6	5.3%
Other liabilities and deferred inflows	764.3	36.9%	558.4	11.1%	502.8	11.6%
Total liabilities and deferred inflows	5,210.9	32.3%	3,938.8	11.6%	3,528.1	8.7%
Net Position						
Net investment in capital assets	798.7	10.6%	722.4	1.8%	709.3	1.3%
Restricted	148.2	22.3%	121.3	6.0%	114.4	16.6%
Unrestricted	(2,521.5)	130.8%	(1,092.6)	15.5%	(945.7)	(10.4%)
Total net position	(1,574.6)	532.6%	(248.9)	104.0%	(122.0)	(108.5%)
Total liabilities, deferred inflows, and net position	$3,636.3	(1.5%)	$3,689.9	8.3%	$3,406.1	6.9%

Overall, **net position decreased by $1.326 billion** in fiscal year 2017/18. This compares to a decrease of $126.9 million in fiscal year 2016/17 from fiscal year 2015/16, and a decrease of $63.4 million in fiscal year 2015/16 from fiscal year 2014/15. The exceptionally large decrease in fiscal year 2017/18 is primarily the result of the implementation of GASB Statement No. 75, which alone caused net position to decrease by $1.280 billion over the prior year.

Revenues and Gains
Following is a summary of revenues and gains for the years ending June 30, 2018, 2017, and 2016.

(in millions)

Revenues and Gains

	June 30, 2018	Change from Prior Year	June 30, 2017	Change from Prior Year	June 30, 2016	Change from Prior Year
Operating revenues						
Tuition and fees, net	$850.5	(0.6%)	$855.7	2.0%	$839.0	2.7%
Grants and contracts	156.3	(1.1%)	158.1	1.7%	155.5	3.2%
Auxiliary enterprises, net	317.4	(3.2%)	327.8	1.4%	323.4	(0.2%)
Other	61.0	2.0%	59.8	29.7%	46.1	(12.4%)
Total operating revenues	1,385.2	(1.2%)	1,401.4	2.7%	1,364.0	1.5%
Nonoperating revenues and gains						
State appropriations	471.1	2.3%	460.3	2.5%	449.1	5.3%
Investment income, net	39.4	12.6%	35.0	45.8%	24.0	(22.6%)
Unrealized gain on investments	-	-	-	(100.0%)	2.6	-
Gifts, nonoperating grants, and other	187.0	8.3%	172.7	(7.5%)	186.7	6.9%
Total nonoperating revenues and gains	697.5	4.4%	668.0	0.8%	662.4	4.8%
Total revenues and gains	$2,082.7	0.6%	$2,069.4	2.1%	$2,026.4	2.6%

Overall, fiscal year 2017/18 **operating revenues** decreased by 1.2% from the prior fiscal year. Nonoperating revenues increased by 4.4%, for an overall increase in revenues and gains of 0.6%.

Tuition and fees are shown net of scholarship discounts and allowances and bad debt expense. In accordance with a formula prescribed by the National Association of College and University Business Officers (NACUBO), the State System allocates the cost of scholarships, waivers, and other student financial aid between scholarship discounts and allowances and student aid expense. Scholarships and waivers of room and board fees are reported in Auxiliary enterprises. The cost of tuition waivers granted to employees is reported as employees' benefits expense. Bad debt expense is an estimate of the amount owed by students that will not be collected.

With the decline in enrollment, overall net tuition and fee revenue decreased by $5.2 million, or 0.6%, from fiscal year 2016/17, compared to an increase of $16.7 million, or 2.0%, in fiscal year 2016/17 over fiscal year 2015/16. The fiscal year 2016/17 increase was attributed to a combination of the increase in tuition and fee rates and the newly implemented flexible tuition pricing programs at several universities.

Auxiliary enterprises revenue, which includes food service sales, housing fees, and fees for the operation, maintenance, debt service, and renewal of student union and recreation centers, decreased by $10.4 million, or 3.2%, from fiscal year 2016/17. This compares to an increase of $4.4 million in fiscal year 2016/17 over fiscal year 2015/16. The 2017/18 decrease can be attributed to declining enrollment, while the 2016/17 increase was due primarily to the additional revenue that some universities recorded from the housing operations that were newly acquired from their affiliates.

State appropriations include cash as well as capital appropriations that are received in the form of noncash furnishings and equipment for the Commonwealth-funded construction projects. The fiscal year 2017/18 general cash appropriation was $453.1 million, an $8.9 million increase over fiscal year 2016/17, while capital appropriations were

$18.0 million, a $1.9 million increase over fiscal year 2016/17.

Investment income (net of related investment expenses) for fiscal year 2017/18 was $39.4 million. This represents an increase of $4.4 million over fiscal year 2016/17, despite a decline of $59.8 million in cash and investments. The increase is due partly to rising interest rates during the fiscal year. Rates moved from a low of 1.20% in fiscal year 2016/17 to a high of 2.10% during fiscal year 2017/18. The overall average change in rates from fiscal year 2016/17 to fiscal year 2017/18 was an increase of 40 basis points, or 30.8%. Also contributing to the increase in investment income is $15.9 million of investment earnings in the reimbursement bond investment portfolio, which is dedicated to pay associated debt service.

Expenses and Losses
Following is a summary of expenses and losses for the years ending June 30, 2018, 2017, and 2016.

(in millions)

Expenses and Losses

	June 30, 2018	Change from Prior Year	June 30, 2017	Change from Prior Year	June 30, 2016	Change from Prior Year
Operating expenses						
Instruction	$755.6	(3.1%)	$779.8	4.1%	$749.3	1.3%
Research	7.3	14.1%	6.4	1.6%	6.3	8.6%
Public service	43.7	2.6%	42.5	7.9%	39.4	5.1%
Academic support	191.1	3.1%	185.4	0.8%	184.0	2.7%
Student services	190.3	0.4%	189.6	2.7%	184.7	2.0%
Institutional support	265.7	5.0%	253.0	(1.7%)	257.2	3.5%
Operations and maintenance of plant	162.0	1.7%	159.3	(0.4%)	159.9	4.2%
Depreciation	136.4	3.1%	132.3	8.7%	121.7	1.7%
Student aid	75.4	(1.3%)	76.4	(3.4%)	79.1	8.5%
Auxiliary enterprises	255.1	(1.5%)	259.0	2.0%	253.8	(0.7%)
Total operating expenses	2,082.6	(0.1%)	2,083.7	2.4%	2,035.4	2.1%
Other expenses and losses						
Interest expense on capital asset-related debt	37.1	(2.9%)	38.2	12.7%	33.9	(7.4%)
Loss on disposal/acquisition of assets	2.3	(95.8%)	54.8	167.3%	20.5	113.5%
Unrealized loss on investment	19.6	(0.5%)	19.7	-	-	-
Total other expenses and losses	59.0	(47.6%)	112.7	107.2%	54.4	(8.3%)
Total expenses and losses	$2,141.6	(2.5%)	$2,196.4	5.1%	$2,089.8	1.8%

Universities spent $755.6 million on **instruction**, or 36.3% of total operating expenses, in fiscal year 2017/18. This represents a decrease of $24.2 million, or 3.1%, over fiscal year 2016/17, the first decrease in spending on instruction since fiscal year 2011/12. University spending on instruction had been steadily rising for the last five years.

Financial aid to students in the form of grants, waivers, and scholarships was $308.6 million in fiscal year 2017/18. In accordance with a formula prescribed by the National Association of College and University Business Officers (NACUBO), in fiscal year 2017/18 the State System reported $232.7 million of financial aid as *discounts,* which are netted against tuition and fees, and $75.9 million as *student aid*, which is reported as an expense. Of these amounts, $2.2 million of discounts and $0.6 million of student aid expense were reported in Auxiliary enterprises.

Including the financial aid that is recorded as a discount against tuition and fees, financial aid increased in fiscal year 2017/18 by $8.7 million from the previous year. This is primarily because the universities granted an additional $9.3 million in tuition, housing, and dining waivers in fiscal year 2017/18. Federal Pell grants increased by $5.1 million, while Pennsylvania Higher Education Assistance Agency (PHEAA) grants decreased by $5.1 million over fiscal year 2016/17, and financial aid from all other sources decreased by $0.6 million. Following is the breakdown of financial aid in fiscal years 2017/18 and 2016/17.

(in millions)

Student Financial Aid

	2017/18	2016/17
Federal Pell grants	$139.3	$134.2
Other federal aid	5.5	5.7
State financial aid including PHEAA grants	86.3	91.4
Local government financial aid	0.3	0.4
Scholarships from endowments and restricted gifts and grants	17.7	18.1
Unrestricted scholarships and fellowships	11.7	11.6
Tuition and fee waivers	45.1	36.6
Housing and dining waivers	2.7	1.9
Total	$308.6	$299.9

Interest expense on capital asset-related debt was $37.1 million, a decrease of $1.1 million over fiscal year 2016/17. The decrease is due primarily to the State System's annual practice of refunding existing debt with debt that carries lower interest rates. Also offsetting debt increases is the faster amortization of the State System's older, more expensive, debt, as a higher ratio of debt service is applied to principal rather than interest in the later years of the payment schedules.

Salaries and benefits totaled $1.4 billion in fiscal year 2017/18. Salary and wage expenses increased by $5.5 million, or 0.6%, while benefits expenses decreased by $22.4 million, or 4.2%, over fiscal year 2016/17, for an overall decrease of $16.9 million. The decrease in benefits expenses was caused primarily by a $23.5 million decrease in the actuarially calculated pension and OPEB expense, which dropped due to improving interest rates, rather than to the contributions actually paid by the universities, which increased, as described in detail in the next sections. Following is a summary of salaries, wages, and benefits expenses for the years ending June 30, 2018, 2017, and 2016.

(in millions)

Salaries, Wages, and Benefits

	June 30, 2018	Change from Prior Year	June 30, 2017	Change from Prior Year	June 30, 2016	Change from Prior Year
Salaries and wages	$912.0	0.6%	$906.5	3.0%	$880.4	(1.3%)
Benefits						
Employee healthcare	128.2	(2.3%)	131.2	(4.3%)	137.1	5.2%
Pension benefits	183.5	(6.4%)	196.1	19.6%	163.9	21.6%
Retiree healthcare	98.8	(9.9%)	109.6	(12.3%)	125.0	4.8%
Other benefits	102.4	4.1%	98.4	1.2%	97.2	(2.5%)
Total benefits	512.9	(4.2%)	535.3	2.3%	523.2	8.1%
Total salaries, wages, and benefits	$1,424.9	(1.2%)	$1,441.8	2.7%	$1,403.6	2.0%

The $5.5 million increase in **salaries and wages** in fiscal year 2017/18 is the result of the salary increases granted in collective bargaining agreements, or directly authorized by the Board in the case of nonrepresented employees, partially offset by overall reductions in complement. Total permanent salaried complement, which excludes temporary and wage employees, decreased to 10,200 in fall 2017, compared to 10,343 in fall 2016 and 10,380 in fall 2015. The universities have reduced staff by 9.2%, or 1,029 employees, since fall 2008, when total permanent salaried complement was 11,229.

The employer share of **employee healthcare contributions** decreased 2.3% from fiscal year 2016/17, for a total decrease of $3.0 million. This follows a decrease of 4.3% ($5.9 million) in fiscal year 2016/17, and an increase of 5.2% ($6.8 million) in fiscal year 2015/16, over the prior fiscal years. The current year decrease can be attributed in part to a reduction in the number of employees receiving benefits, as well as design changes in the plan administered by the State System, which increased employees' share of expenses through higher employee premium contributions, copays, deductibles, and coinsurance. These reductions were partially offset, however, by a premium increase of 3.96%, or $1.3 million, in the plan administered by the PEBTF. The employer share of combined **retiree pension and healthcare contributions**, increased slightly over fiscal year 2016/17, for a total increase of $0.3 million. This follows an increase of 5.6% ($11.0 million) and an increase of 11.9% ($20.8 million) in fiscal years 2016/17 and 2015/16, respectively, over the prior fiscal years. Following is a summary of the State System's contributions for retiree pension and healthcare benefits for the years ending June 30, 2018, 2017, and 2016.

(in millions)

State System Employer Contributions for Retiree Pension and Healthcare Benefits

	June 30, 2018	Increase (Decrease) from Prior Year	June 30, 2017	Increase (Decrease) from Prior Year	June 30, 2016	Increase (Decrease) from Prior Year
Pension						
SERS	$94.7	13.1%	$83.8	21.3%	$69.0	20.6%
PSERS	8.0	10.9%	7.1	18.2%	6.0	14.8%
ARP	45.1	(0.5%)	45.3	3.2%	43.9	(1.5%)
Healthcare						
System Plan	37.7	(2.1%)	38.5	(2.8%)	39.6	7.3%
REHP	21.4	(32.7%)	31.9	(13.9%)	37.0	20.4%
PSERS Healthcare	0.2	1.1%	0.2	.7%	0.2	(9.0%)
Totals	$207.1	0.1%	$206.8	5.6%	$195.7	11.9%

- **Employer contributions to SERS**, a defined benefits pension plan, were 34.4% of a participating employee's salary for the vast majority of participants in fiscal year 2017/18. This rate has been steadily and significantly increasing since fiscal year 2010/11, when the rate was 4.11% of an employee's salary. The rate increases to 34.63% in fiscal year 2018/19, and is expected to remain at about the same rate for the near future. Approximately 40% of the State System's employees are enrolled in SERS.

- **Employer contributions to PSERS**, a defined benefits pension plan, were 15.87% of a participating employee's salary in fiscal year 2017/18. This rate also has been significantly increasing, with some fluctuation, since fiscal year 2010/11, when the rate was 2.82% of an employee's salary. The rate increases to 16.3% in fiscal year 2018/19, and is expected to remain at about the same rate for the near future. The Commonwealth makes annual pension contributions to PSERS on behalf of State System employees at the same annual rate. Since approximately only 7% of the State System's employees are enrolled in PSERS, the impact of contribution rate increases from PSERS is far less than the impact from SERS.

- **Employer contributions to the ARP**, a defined contribution plan, were 9.29% of a participating employee's salary in fiscal year 2017/18, the same rate since the plan's inception, and is expected to remain at the same rate for the near future. Approximately 49% of the State System's employees are enrolled in the ARP.

- **Employer contributions to the State System OPEB Plan**, a defined benefits retiree healthcare plan administered by the State System, are made to a third-party health insurance vendor based on claims estimates agreed to by the State System and the third-party vendor. The vendor charges an additional assessment or issues a cash refund in the following year to reconcile to the actual claims paid. Despite the increasing population of retirees and rising healthcare costs, the State System has seen flat or declining healthcare spending in this plan from retirees for the last several years. This can be attributed in part to design changes that increased retirees' share of expenses through higher employee premium contributions, copays, deductibles, and coinsurance. The rate for fiscal year 2017/18 was set at $188 per active participating employee per pay, compared to a rate of $175.25 in fiscal year 2010/11. The rate has been decreased to $184 in fiscal year 2018/19, but may be increased in future years, depending upon actual claims experience.

- **Employer contributions to the REHP**, a defined benefits retiree healthcare plan administered by the PEBTF, were $300 per active participating employee in the first half of fiscal year 2017/18, but dropped to $188 in the second half. The contribution rate is set at the discretion of the Commonwealth and periodically fluctuates, ranging from $200 in fiscal year 2010/11 to $418 in fiscal year 2015/16. The rate will be back to $300 in fiscal year 2018/19.

- **Employer contributions to the PSERS Health Insurance** Premium Assistance Program, a defined benefits retiree healthcare plan administered by PSERS, were 0.415% of a participating employee's salary in fiscal year 2017/18. The rate has been and is expected to remain at approximately the same amount. Any State System retiree who is a member of PSERS is eligible for this additional healthcare benefit, which offers up to $100 per month of reimbursements for healthcare costs, including insurance premiums.

The cost for **all other employee benefits**, such as Social Security and workers' compensation, increased by a total of $4.0 million, or 1.4%, over fiscal year 2016/17, compared to a fiscal year 2016/17 increase of $1.2 million, or 1.2%, over fiscal year 2015/16. The fiscal year 2017/18 increase can be attributed to the increase in salaries and wages, since these benefits are based on a percentage of salaries and wages.

Future Economic Factors

The **Commonwealth** ended fiscal year 2017/18 with $34.6 billion in General Fund collections, more than 9% higher than the previous year, resulting in a projected $22 million surplus. In June 2018, Governor Tom Wolf signed a fiscal year 2018/19 Commonwealth budget with a $32.7 billion spending plan that does not raise any broad-based taxes. The Commonwealth budget, which is highly dependent on a growing economy, faces the challenges of continually increasing pension obligations, wages and benefits, debt service, and medical and entitlement costs.

Moody's Investors Service, Inc., stated the following in its April 2018 Credit Opinion of the Commonwealth:

Pennsylvania's (Aa3 stable) below average state rating reflects its relatively high leverage and fixed cost burden, as well as lower than average job and revenue growth. Although the rating is below that of most states, the above challenges are balanced by the state's very large economic base, solid income statistics and sound financial position.

System Redesign

The State System is undertaking a System Redesign, which began last year with a top-to-bottom review of the universities and the Office of the Chancellor. As a result of that review, the Board established three priorities:

- Ensuring student success;
- Leveraging university strengths; and
- Transforming the governance/leadership structure.

The Board also affirmed its commitment to ensuring the long-term sustainability of all 14 institutions within the System so that each may continue to serve students, its region, and the Commonwealth.

As part of the Redesign, a dozen new degree programs intended to be responsive to student and employer demand will be offered this fall under an accelerated degree approval process that shortens the time it takes for approval. Earlier this year, nine new degree programs were approved using the same process, bringing to 21 the total number of new programs approved since January 2018. During the same time, 15 degree programs have been placed in moratorium to ensure that all programs remain relevant.

Updated information on the System Redesign can be found at http://systemredesign.passhe.edu.

Leadership

As a result of a national search launched in fall 2017, Daniel Greenstein was selected as the next chancellor of the State System, effective September 4, 2018. For the past six years, Dr. Greenstein led the Postsecondary Success strategy at the Bill and Melinda Gates Foundation, and previously he was a top administrator in the University of California system. Dr. Greenstein has a bachelor's degree and a master's degree in history from the University of Pennsylvania, studied at the London School of Economics, and received his Ph.D. in social studies from Oxford University. Dr. Greenstein will lead the System Redesign effort with a commitment to the mission of providing accessible, affordable, quality higher education to students of all backgrounds while serving the needs of the Commonwealth.

Revenue
In fiscal year 2018/19, the State System will receive $468.1 million in **General Fund appropriations**, an increase of $15.0 million, or 3.3%, over fiscal year 2017/18. This compares to a 2.0% increase received in 2017/18 over the prior fiscal year. Over the last four years, the Commonwealth has restored about $55 million of the nearly $90 million in funding that was cut from the State System's annual appropriation at the beginning of the recession. During the same time, however, the System's mandated pension costs have increased by about $65 million, and other costs have risen as the result of inflation and other factors. Even with the four consecutive years of increases, the current year's appropriation is about the same as what the System received 12 years ago, in fiscal year 2006/07.

The Commonwealth has continued its commitment to fund the State System's capital needs through **both capital appropriations and deferred maintenance funds**. Annual capital appropriations are expected to increase from $65 to $70 million in fiscal year 2018/19, with the additional $5 million intended to fund demolition projects. The State System has received a $16.7 million Realty Transfer Tax allocation from the Key '93 funds in fiscal year 2018/19. This is a decrease of 7.2% from the $18.0 million received in fiscal year 2016/17, but adjustments in the amount received sometimes occur later in the year based on the real estate sales transactions within the Commonwealth during the fiscal year.

In July 2018 the Board approved a 2.99% **tuition increase** for the 2018/19 academic year, the second smallest tuition increase in more than a decade. The small increase was possible largely because of a fourth consecutive year of increased state funding, combined with expected healthcare and energy cost savings. Even with the increase, the State System universities will remain the **lowest-cost option** among all four-year colleges and universities in the state, and less than half the amount charged by most others. The $112-per-semester increase sets the base tuition rate for most full-time Pennsylvania residents—who comprise about 90% of all State System university students—at $3,858 per term, or $7,716 for the full year.

Nonresident, undergraduate tuition will increase by 2.99% beginning in fall 2018, ranging from $11,574 to $19,290 for the 2018/19 academic year. The resident, **graduate tuition** rate will be $516 per credit, an increase of $16. The typical nonresident, graduate tuition rate will increase by $24 per credit, to $774. The **technology tuition fee** will be $478 for full-time in-state students, and $728 for full-time out-of-state students.

The above increases, coupled with the 3.3% increase in state appropriations, will help offset mandatory cost increases across the System, but an **additional $20 million in budget reductions** by the universities still will be necessary. Significant cost increases in salaries are expected this year as a result of collective bargaining agreements but will be partially offset by a projected decrease in healthcare expenditures. The universities already have reduced expenditures by a combined nearly $360 million over the last dozen years in order to balance their budgets and help hold down student costs.

Performance Funding
Fiscal year 2017/18 is the last year of the current model of the State System's performance funding program, which was begun in 2011. In January 2018, the Board approved a transitional model built upon the System's historical performance funding concepts and most recent plan design, allocating **$39.1 million** in performance funding for fiscal year 2018/19, the same amount that was allocated in fiscal year 2017/18. It is expected that a new, longer-term funding program will be developed in the near future to better align with System Redesign and new System priorities, and that the continued development of performance funding will be part of the upcoming comprehensive review of the System's allocation of state resources.

Enrollment
With an undergraduate population comprising approximately 90% Pennsylvania residents—and the majority of those being traditional-age students enrolling right out of high school—the State System's enrollment historically has been closely tied to the state's high school demographic trends. As the number of high school graduates in the state continues to drop, most of the universities are expecting their enrollments to decline slightly, resulting in reduced revenue. In its April 2018 Credit Opinion of the Commonwealth, Moody's Investors Service, Inc., notes that Pennsylvania's population growth is the seventh slowest of the 50 states, and that it has the seventh oldest population of the 50 states, measured by the share of residents aged

55 or older. Following is the projected number of Pennsylvania **high school graduates** based on estimates from the Pennsylvania Department of Education.

Projected Pennsylvania High School Graduates

Fiscal Year	Number of Graduates	% Increase (Decrease)
2018/19	123,982	(1.2%)
2019/20	121,210	(2.2%)
2020/21	122,183	0.8%
2021/22	122,950	0.6%
2022/23	121,152	(1.5%)
2023/24	122,657	1.2%
2024/25	124,448	1.5%
2025/26	124,200	(0.2%)

Cash Flow

The universities record their share of the State System pooled deposits and investments account at cost; that is, without regard to the fair value of the underlying investments. The associated markup or markdown for the fair value, as well as the annual unrealized gains or losses on investments, are recorded only at the consolidated level. In fiscal year 2017/18, the unrealized loss on the State System pooled deposits and investments account was $23.6 million, while the accumulated fair value markup at June 30, 2018, was $68.8 million. This compares to an unrealized loss on investments in fiscal year 2016/17 of $26.1 million and an accumulated fair value markup of $92.4 million at June 30, 2017. The fiscal year 2017/18 unrealized loss was a result of the rise in interest rates during the year, which caused the prices of fixed-income securities to decline from the prior fiscal year. It is important to note that the strategy of the investment portfolio is to buy quality investments and hold to maturity; therefore, unrealized gains and losses will not be realized.

The combination of factors such as years of stagnant appropriations, declining enrollment, low interest rates, increasing personnel costs, and high long-term debt continues to cause cash flow pressures for some State System universities. Overall operating cash decreased by $41.6 million, or 3.5% in fiscal year 2017/18, to $1.16 billion, compared to a balance of $1.20 billion at June 30, 2017. Cash flow weaknesses, which can seriously challenge financial viability, have more significantly affected the smaller State System universities, especially during the summer months between spring and fall tuition collections. The larger universities are better able to absorb declines in cash balances, and their cash positions remain relatively strong.

- **Cheyney University's cash flow** has been further stressed by the federal Department of Education's (ED) unwillingness to transfer $9.6 million in federal student financial aid funds from fiscal year 2017/18, $2.4 million from fiscal year 2016/17, and $380,000 from fiscal year 2015/16. The ED has released no funds to Cheyney since April 2018, and this protracted delay in the receipt of student financial aid funds is causing further pressure on the university's severe cash shortage.

  To meet Cheyney's biweekly payroll cash needs, the Office of the Chancellor has been issuing interest-free short-term appropriation anticipation notes to Cheyney, which are paid back as the monthly appropriations are received. In addition, in spring 2018, the Office of the Chancellor issued a $6.5 million loan, which, along with the $1.5 million interest-free loan issued in June 2017, are intended to be paid back when the funds are received from the ED. In April 2018, the Office of the Chancellor gave Cheyney a $200,817 loan to repair flood damage, which is to be paid back when anticipated insurance proceeds are received.

  In addition, over the last four years, Cheyney has borrowed a total of $30.5 million from the State System pooled deposits and investments account. The university's E&G and Auxiliary cash both would be in deficits without these borrowed funds. As detailed later in this document, in August 2017, the Board of Governors approved an action to forgive the $30.5 million owed by Cheyney University to the other 13 universities, provided that Cheyney meets certain fiscal conditions over the next four years. Assuming the conditions are met, the cash will be transferred from the other 13 universities over the next four years. This will cause additional cash flow stress to the other universities, especially to those that have relatively low cash balances.

  To ensure the security of the cash inflows to Cheyney that have been restricted as to purpose by the donor or grantor, separate bank and investment accounts have been established for these funds, and access to them requires the approval of the Office of the Chancellor. The university continues to reduce expenditures and is seeking alternative sources of revenue in an effort to stabilize its cash flow and balance its budget.

- **Clarion University's cash** has stabilized. Clarion's combined E&G and Auxiliary cash and investments increased by 5.9%, or $0.8 million, in fiscal year 2017/18 over fiscal year 2016/17. Since June 30, 2014, Clarion's unrestricted cash and investments have decreased by 60.6%, or $21.7 million, from $35.9 million at June 30, 2014, to $14.1 million at June 30, 2018. The Office of the Chancellor continues to work with Clarion University to monitor its cash flows.

- Despite significant efforts to reduce staff and engage in other cost-cutting measures, as well as new tuition pricing strategies begun in fiscal year 2016/17, **Mansfield University's** combined E&G and Auxiliary cash and investments have again experienced a relatively significant decline. Unrestricted balances decreased by $2.4 million to $14.4 million in fiscal year 2017/18, compared to $16.8 million at June 30, 2017. Since June 30, 2014, Mansfield's unrestricted cash and investments have decreased by 38.5%, or $9.0 million, from $23.4 million at June 30, 2014, to $14.4 million at June 30, 2018. The Office of the Chancellor continues to work with Mansfield University to closely monitor its cash flows.

- The remaining universities have **relatively stronger cash balances**, although some have experienced sharp fiscal year decreases in unrestricted cash, while a few have increased cash. California University's unrestricted cash balance, which had dropped to $19.1 million at June 30, 2015, has now increased to $40.6 million at June 30, 2018. Several universities have cash and investment balances close to or exceeding $100 million at June 30, 2018, with West Chester University having an unrestricted cash and investment balance of more than $216 million. Overall, university E&G cash and investments increased by $15.4 million in fiscal year 2017/18, to a balance of $705.8 million at June 30, 2018. Auxiliary cash and investments, however, decreased by $43.1 million in fiscal year 2017/18, for a balance of $283.4 million at June 30, 2018. This compares to an increase of $31.4 million in E&G cash and investments and a decrease of $10.4 million in Auxiliary cash and investments in fiscal year 2016/17 over fiscal year 2015/16. The Office of the Chancellor is monitoring universities whose cash balance, revenue, expenditure, and enrollment trends may be an indication of future cash flow weaknesses.

Compensation Costs
In January 2018, the Board approved a one-year collective bargaining agreement with **APSCUF** that runs from July 1, 2018, through June 30, 2019. Under the terms of the agreement, faculty received a salary increase of either 2.5% or 5%, depending on their pay level, effective the first pay of the 2018 fall semester, and they will receive an additional 2.5% general pay increase effective at the start of the spring 2019 semester.

All collective bargaining agreements will expire June 30, 2019, except for the agreement with the Security Police and Fire Professionals of America (SPFPA), which expires August 31, 2020.

The Board has not approved any future merit increases for employees not represented by a union.

Energy Costs
Energy costs are expected to decrease in fiscal year 2018/19 by about $2.4 million. Since fiscal year 2005/06, the universities have avoided about $250 million in energy costs through the completion of a variety of energy conservation projects that have made campus facilities more efficient, and lower rates have been achieved through System-wide procurement. The savings resulting from those avoided costs continue to accumulate at a rate of more than $20 million a year.

Shared Services
The universities have generated millions more in cost savings by sharing a variety of services, including payroll, labor relations, human resources, construction support, legal services, and library resources, which otherwise would require massive duplication at each institution. The System manages more than 70 strategically sourced contracts, participates in numerous procurement co-ops, and utilizes state and local governmental contracts and pricing to produce additional savings.

Debt Refunding
The Tax Cuts and Job Act that was signed on December 22, 2017, included legislation to eliminate tax-exempt advance refunding of tax-exempt bonds after December 31, 2017. Over the past ten years, the State System has saved in excess of $30.6 million by taking advantage of lower interest rates through tax-exempt advanced refundings, but this strategy for reducing the cost of debt no longer will be an option for the State System.

Cheyney University

As further detailed in the disclosures attached to these financial statements under note 13, *Contingencies and Commitments*, Cheyney University's accreditation status was placed on probation by the Middle States Commission on Higher Education (Middle States) in November 2015. The university was given two years to address the deficiencies noted by Middle States. In June 2017, Middle States required Cheyney to show cause as to why its accreditation should not be withdrawn, and Cheyney submitted the required documentation. In November 2017, Middle States extended Cheyney's accreditation for an additional year, noting that Cheyney had made "significant progress toward the resolution of its non-compliance issues" and is "making a good-faith effort to remedy existing deficiencies." Middle States further stated that there is "a reasonable expectation that such deficiencies will be remedied within the period of the extension" of the university's accreditation. In September 2018, Cheyney submitted a report to Middle States demonstrating its progress on the remaining accreditation issues, and a response from Middle States as to whether or not Cheyney's accreditation will be further extended is expected in November 2018.

To help the university secure continued accreditation, in August 2017, the Board approved a motion that, if over the next four years the university demonstrates fiscal stability, the more than $30 million in loans made to Cheyney from the 13 other universities and the Office of the Chancellor will be forgiven. One-third will be forgiven when Cheyney cuts $7.5 million from its fiscal year 2017/18 budget and maintains a balanced budget for fiscal year 2018/19. The next two-thirds will be forgiven when Cheyney demonstrates a balanced budget in each of the following two fiscal years. Cheyney has advised the Board that is has successfully met the first criteria of cutting $7.5 million dollars from its fiscal year 2017/18 budget when the expenditure cuts are viewed on an annualized basis.

The university continues to make cuts to administration and staff and reorganize business and campus operations and has placed some academic programs into moratorium to additionally help balance the budget and better align academic programs with the future of the university.
As also detailed in note 13, in August 2015, Cheyney University voluntarily self-reported to the U.S. Department of Education (ED) that $29.6 million of federal student financial aid was improperly administered and delivered in fiscal years 2011/12, 2012/13, and 2013/14, covering almost 4,400 student records. The State System has been under continual review with the ED since reporting these findings. The ED is requiring the university to take specified corrective actions, including submitting file reviews, reconciliations, and updated policies and procedures, and further requires that Cheyney engage an independent Certified Public Accountant to attest to the file reviews and reconciliations.

One consequence of the university's past deficiencies in administering federal student aid is that in September 2015 the ED placed the university on Heightened Cash Monitoring 2 (HCM2) status, meaning that the university does not receive federal student financial aid funds in advance, but must use its own cash to grant federal financial aid to its students and then request reimbursement from the ED. After demonstrating compliance with HCM2 requirements, the university has begun to slowly receive its funds, but only after providing extensive detailed documentation for nearly every student's financial aid awards. As previously mentioned, at June 30, 2018, Cheyney was awaiting receipt of $12.4 million in federal student financial aid funds from fiscal years 2015/16, 2016/17, and 2017/18.

In January 2016, the U.S. Department of Justice (DOJ) notified the State System that it was investigating the application and use of federal student financial aid by Cheyney University and the oversight of the university by the State System. The DOJ requested that the university and State System preserve and produce certain documents. The State System has fully complied with the DOJ's request. No action has been taken at this point by the DOJ, and the possible resulting outcomes from the investigation are uncertain until communication is received from the DOJ.

Despite unrestricted revenues increasing slightly, and unrestricted expenditures decreasing by $2.6 million, Cheyney University ended fiscal year 2017/18 with a $3.2 million loss in E&G activity and a $1.4 million loss in Auxiliary activity, for a total unrestricted loss of $4.6 million, bringing the university's unrestricted net position deficit to $29.6 million at June 30, 2018 (excluding unfunded pension, OPEB, and compensated absences liabilities). This follows a $7.4 million loss in unrestricted funds in fiscal year 2016/17, a $5.7 million loss in unrestricted funds in fiscal year 2015/16, a $5.5 million loss in unrestricted funds in fiscal year 2014/15, and a $4.2 million loss in fiscal year 2013/14.

Cheyney's fall 2018 headcount enrollment is less than 500, significantly lower than its fall 2017 enrollment of 755. For comparison, Cheyney's enrollment was 746 students in fall 2016 and 711 students in fall 2015.

The State System, through the Office of the Chancellor, continues to provide oversight to Cheyney's leadership in an attempt to stabilize its financial condition and implement a comprehensive plan that includes timely and accurate financial aid processing, increasing student enrollment, revitalizing its academic program array, and right-sizing personnel and facilities.

Rating Agencies

In August 2018, **Fitch Ratings, Inc.**, assigned an A+ rating to the State System's Series AV bonds, and downgraded the rating on the State System's remaining portfolio of outstanding bonds from AA- to A+, but revised the outlook from *negative* to *stable*. Fitch cited as the primary rating driver for the downgrade the State System's "continued erosion in enrollment, which is expected to persist as demographic and economic challenges across [the State System's] broad reach continue." Fitch also attributed the rating to continually weakened operations for the past five fiscal years, which they project will persist through fiscal year 2019, though with "steadier, rather than worsening results." Fitch notes that the State System's available fund levels are solid and have remained healthy, and that the debt burden remains manageable.

In its August 13, 2018, *Credit Opinion*, **Moody's Investors Service, Inc.**, reaffirmed the State System's bond rating of Aa3, and revised the outlook from *negative* to *stable*. Moody's notes:

> *The system has regularly demonstrated an ability to adjust operations to align with continued enrollment declines. [The State System] has strong unrestricted liquidity and good reserves providing operating flexibility as it works to adjust its expense base. A significant expense constraint is that nearly all of its faculty and staff are subject to collective bargaining agreements that are regularly negotiated. This exposes the system to both rising compensation costs and potential work stoppages. Although it has high leverage, [the State System] has manageable debt plans coupled with a fairly rapid debt amortization that should at least maintain debt levels.*

Moody's notes as the State System's challenges: continued cost containment efforts critical to sustaining credit quality in the face of declining enrollment; financial flexibility constrained by collective bargaining agreements and required pension and OPEB contributions; potential challenges in executing recommendations from System strategic review, and high leverage, with $2.3 billion of total debt when the debt of affiliates' student housing is included. Moody's notes as the State System's strengths: its substantial balance sheet reserves; its significant scale as one of the nation's largest higher education systems; effective System governance and management, including strong fiscal oversight and debt management, with System Redesign underway; good, although thinning cash flow; and modest near-term debt plans with significant principal repayment expected.

*For **further information** about these financial statements, contact Pennsylvania's State System of Higher Education, Accounting Office, 2986 North Second Street, Harrisburg, PA 17110.*

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Pennsylvania's State System of Higher Education

Balance Sheet

(dollars in thousands)

Assets and Deferred Outflows of Resources

	June 30, 2018	June 30, 2017
Current Assets		
Cash and cash equivalents	$ 44,017	$ 17,829
Short-term investments	588,029	680,955
Accounts receivable, students, net of allowance for doubtful accounts of $37,302 in 2018 and $34,067 in 2017	45,413	44,446
Accounts receivable, other	29,324	30,178
Governmental grants and contracts receivable	19,095	23,194
Prepaid expenses	13,599	12,732
Current portion of loans receivable, net	8,969	9,032
Due from component units	15,058	16,676
Other current assets	7,266	5,574
Total Current Assets	770,770	840,616
Noncurrent Assets		
Restricted cash and cash equivalents	25	25
Long-term investments, including endowments	673,748	666,842
Beneficial interests	23,493	-
Loans receivable, net	31,145	31,810
Due from component units	946	8,767
Capital assets, net of accumulated depreciation	1,920,448	1,899,382
Other noncurrent assets	1,300	1,371
Total Noncurrent Assets	2,651,105	2,608,197
Total Assets	3,421,875	3,448,813
Deferred Outflows of Resources	214,403	241,108
Total Assets and Deferred Outflows of Resources	$ 3,636,278	$ 3,689,921

See accompanying notes to financial statements.

Pennsylvania's State System of Higher Education

Balance Sheet *(continued)*
(dollars in thousands)

Liabilities, Deferred Inflows of Resources, and Net Position

	June 30, 2018	June 30, 2017
Current Liabilities		
Accounts payable and accrued expenses	$ 173,522	$ 176,567
Unearned revenue	49,959	51,139
Deposits	5,717	6,571
Current portion of workers' compensation liability	4,630	4,305
Current portion of compensated absences liability	11,401	10,620
Current portion of OPEB liability	59,098	-
Current portion of capitalized lease obligations	4,075	3,778
Current portion of bonds payable	74,270	70,605
Due to component units	11,894	10,490
Other current liabilities	113,541	117,144
Total Current Liabilities	508,107	451,219
Noncurrent Liabilities		
Unearned revenue	2,030	3,175
Workers' compensation liability, net of current portion	17,818	16,062
Compensated absences liability, net of current portion	114,800	108,906
Net pension liability	937,757	1,022,458
OPEB liability, net of current portion	2,265,515	1,145,088
Capitalized lease obligations, net of current portion	39,173	42,528
Bonds payable, net of current portion	961,300	1,002,310
Other noncurrent liabilities	94,998	99,826
Total Noncurrent Liabilities	4,433,391	3,440,353
Total Liabilities	4,941,498	3,891,572
Deferred Inflows of Resources	269,383	47,274
Net Position		
Net investment in capital assets	798,665	722,365
Restricted for:		
Nonexpendable:		
Scholarships and fellowships	55,200	37,361
Student loans	5,050	5,345
Other	3,249	3,272
Expendable:		
Scholarships and fellowships	29,599	26,153
Capital projects	37,405	32,847
Other	17,765	16,292
Unrestricted	(2,521,536)	(1,092,560)
Total Net Position	(1,574,603)	(248,925)
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 3,636,278	$ 3,689,921

See accompanying notes to financial statements.

Pennsylvania's State System of Higher Education

Statement of Revenues, Expenses, and Changes in Net Position
For the Years Ended June 30, 2018 and 2017
(dollars in thousands)

	2018		2017	
Operating Revenues				
Tuition and fees	$ 1,089,509		$ 1,086,337	
Less discounts and allowances	(239,014)		(230,636)	
Net tuition and fees		$ 850,495		$ 855,701
Grants and contracts		156,285		158,108
Sales and services		41,717		39,968
Auxiliary enterprises, net of discounts of $1,516 in 2018 and $2,450 in 2017		317,398		327,781
Other revenues, net		19,322		19,849
Total Operating Revenues		1,385,217		1,401,407
Operating Expenses				
Instruction		755,638		779,814
Research		7,339		6,353
Public service		43,644		42,543
Academic support		191,062		185,411
Student services		190,322		189,610
Institutional support		265,714		253,007
Operations and maintenance of plant		162,005		159,295
Depreciation		136,422		132,267
Student aid		75,369		76,416
Auxiliary enterprises		255,111		258,970
Total Operating Expenses		2,082,626		2,083,686
Operating Loss		(697,409)		(682,279)
Nonoperating Revenues (Expenses)				
State appropriations, general and restricted		453,108		444,224
Pell grants		139,304		134,162
Investment income, net of related investment expense of $370 in 2018 and $333 in 2017		39,367		35,035
Unrealized gain (loss) on investments		(19,595)		(19,704)
Gifts for other than capital purposes		21,300		20,877
Interest expense on capital asset-related debt		(37,105)		(38,228)
Loss on disposal/acquisition of assets		(2,267)		(54,820)
Other nonoperating revenue		11,279		12,125
Net Nonoperating Revenues		605,391		533,671
Loss before other revenues		(92,018)		(148,608)
State appropriations, capital		18,023		16,081
Capital gifts and grants		15,121		5,584
Decrease in Net Position		(58,874)		(126,943)
Net position—beginning of year		(248,925)		(121,982)
Restatement for July 1, 2017, OPEB liabilities and related expenses		(1,280,301)		
Restatement for July 1, 2017, beneficial interests		13,497		
Net position—beginning of year, restated		(1,515,729)		
Net position—end of year		$ (1,574,603)		$ (248,925)

See accompanying notes to financial statements.

Pennsylvania's State System of Higher Education

Statement of Cash Flows
For the Years Ended June 30, 2018 and 2017
(dollars in thousands)

	2018	2017
Cash Flows from Operating Activities		
Tuition and fees	$ 848,577	$ 852,254
Grants and contracts	160,206	152,507
Payments to suppliers for goods and services	(486,334)	(471,080)
Payments to employees	(1,339,840)	(1,331,148)
Loans issued to students	(5,328)	(5,462)
Loans collected from students	6,054	5,726
Student aid	(75,935)	(76,910)
Auxiliary enterprise charges	315,836	325,798
Sales and services	41,119	41,059
Other receipts	39,268	66,846
Net cash used in operating activities	(496,377)	(440,410)
Cash Flows from Noncapital Financing Activities		
State appropriations	453,108	444,224
Gifts and nonoperating grants for other than capital purposes	160,327	154,847
PLUS, Stafford, and other loans receipts (non-Perkins)	908,840	919,357
PLUS, Stafford, and other loans disbursements (non-Perkins)	(909,075)	(919,385)
Agency transactions, net	4,190	(1,570)
Other	1,279	2,104
Net cash provided by noncapital financing activities	618,669	599,577
Cash Flows from Capital Financing Activities		
Proceeds from capital debt and leases	140,916	86,534
Capital appropriations	18,023	15,511
Capital grants and gifts received	11,840	4,751
Proceeds from sales of capital assets	61	90
Purchases of capital assets	(149,390)	(173,783)
Principal paid on capital debt and leases	(169,461)	(71,488)
Interest paid on capital debt and leases	(49,851)	(46,567)
Net cash used in capital financing activities	(197,862)	(184,952)
Cash Flows from Investing Activities		
Proceeds from sales and maturities of investments	31,642,468	34,702,266
Interest on investments	38,549	34,654
Purchase of investments	(31,579,257)	(34,713,825)
Net cash provided by (used in) investing activities	101,760	23,095
Net Increase (Decrease) in Cash and Cash Equivalents	26,188	(2,690)
Cash and cash equivalents—beginning of year	17,854	20,544
Cash and cash equivalents—end of year	$ 44,042	$ 17,854

See accompanying notes to financial statements.

Pennsylvania's State System of Higher Education

Statement of Cash Flows *(continued)*
For the Years Ended June 30, 2018 and 2017
(dollars in thousands)

	2018	2017
Reconciliation of Operating Loss to Net Cash Used in Operating Activities		
Operating loss	$ (697,409)	$ (682,279)
Adjustments to reconcile operating loss to net cash used in operating activities:		
Depreciation expense	136,422	132,267
Expenses paid by Commonwealth or donor	7,251	6,532
Effect of changes in operating assets and liabilities:		
Receivables, net	2,212	(6,547)
Other assets	3,060	8,944
Accounts payable	(6,502)	983
Unearned revenue	(2,222)	(601)
Student deposits	(854)	504
Compensated absences	6,675	4,103
Loans to students and employees	726	264
Defined benefit pensions	(84,702)	83,821
Other postemployment benefits liability (OPEB)	(100,775)	38,445
Other liabilities	(10,153)	7,084
Deferred outflows of resources related to pensions	86,962	(51,180)
Deferred outflows of resources related to OPEB	(59,306)	-
Deferred inflows of resources related to pensions	23,534	17,250
Deferred inflows of resources related to OPEB	198,704	-
Net cash used in operating activities	$ (496,377)	$ (440,410)
Noncash Activities		
Capital assets included in payables	$ 6,166	$ 13,761
Capital assets acquired by new capital leases	797	1,348
Capital assets acquired by gift or appropriation	3,464	1,309
Student housing capital assets acquired	-	191,829
Like-kind exchanges	1	22
Debt acquired for student housing acquisition	-	243,090

See accompanying notes to financial statements.

Pennsylvania's State System of Higher Education

Component Units Statement of Financial Position

(dollars in thousands)

	June 30, 2018	June 30, 2017
Assets		
Cash and cash equivalents	$ 160,515	$ 155,724
Accounts receivable	20,408	7,544
Contributions/pledges receivable	18,349	16,978
Due from universities	11,692	10,756
Prepaid expenses	2,339	2,641
Inventories	6,000	6,098
Short-term investments	63,417	60,685
Investments	459,532	440,646
Capital assets:		
Land	34,393	33,072
Buildings	1,222,725	1,167,813
Building improvements	20,139	19,140
Improvements other than buildings	7,481	7,344
Equipment and furnishings	72,125	72,170
Construction in progress	7,541	40,906
	1,364,404	1,340,445
Less accumulated depreciation	(301,158)	(270,679)
Capital assets, net	1,063,246	1,069,766
Other assets	125,394	121,182
Total Assets	$ 1,930,892	$ 1,892,020
Liabilities		
Accounts payable and accrued expenses	$ 31,236	$ 29,443
Deferred revenue	22,568	10,030
Interest payable	7,856	8,779
Annuity liabilities	6,706	7,140
Due to universities	15,445	24,973
Deposits payable	27,991	25,806
Interest rate swap agreements	42,910	58,565
Capitalized leases	27,554	28,662
Bonds payable	901,934	913,142
Notes payable	318,474	319,078
Other liabilities	12,615	16,392
Total Liabilities	1,415,289	1,442,010
Net Assets		
Unrestricted	102,571	58,516
Temporarily restricted	117,129	114,750
Permanently restricted	295,903	276,744
Total Net Assets	515,603	450,010
Total Liabilities and Net Assets	$ 1,930,892	$ 1,892,020

See accompanying notes to financial statements.

Pennsylvania's State System of Higher Education

Component Units Statement of Activities
For the Years Ended June 30, 2018 and 2017
(dollars in thousands)

	2018	2017
Revenues and Gains		
Contributions	$ 48,070	$ 43,946
Sales and services	43,317	45,122
Student fees	33,902	33,188
Grants and contracts	10,010	10,843
Rental income	152,405	149,294
Investment income, gains, and losses	51,971	69,155
Other revenues and gains	22,830	68,937
Total Revenues and Gains	362,505	420,485
Expenses and Losses		
Program services:		
Scholarships and grants	17,160	17,211
Student activities and programs	27,627	27,882
University stores	24,368	26,983
Housing	134,207	142,417
Other university support	25,227	15,486
Other programs	21,156	24,492
Management and general	32,891	32,577
Fundraising	11,308	10,701
Other expenses and losses	2,968	5,990
Total Expenses and Losses	296,912	303,739
Change in Net Assets	65,593	116,746
Net assets—beginning of year	450,010	333,264
Net assets—end of year	$ 515,603	$ 450,010

See accompanying notes to financial statements.

NOTES TO FINANCIAL STATEMENTS

Years Ended June 30, 2018 and 2017

(1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization

Pennsylvania's State System of Higher Education (State System) is a body corporate and politic, created by the State System of Higher Education Act of November 12, 1982, P.L. 660, No. 188, as amended (Act 188). The State System is a component unit of the Commonwealth of Pennsylvania (Commonwealth) and is governed by a Board of Governors (Board), as provided for in Act 188. The State System comprises the 14 universities and the Office of the Chancellor.

Reporting Entity

The State System functions as a Business Type Activity, as defined by the Governmental Accounting Standards Board (GASB).

Certain affiliated organizations are included in the State System's financial statements as discretely presented component units. Some of the organizations, such as university student associations, are included because the Board has oversight responsibility for the organizations. The criteria used in determining the organizations for which the State System has oversight responsibility include financial interdependency, the ability to select members of the governing body, the ability to designate management, the ability to influence operations significantly, and accountability for fiscal matters. Other affiliated organizations for which the Board does not have oversight responsibility, such as university foundations and alumni associations, are included when the economic resources received or held by the organization are entirely or almost entirely for the direct benefit of the State System, the activity of the organization is significant to the State System universities, and the State System historically has received a majority of these economic resources. Neither the State System nor its universities control the timing or amount of receipts from these organizations.

The State System does not consider any of its component units to be major, and has aggregated all component unit information into a separate set of financial statements. Information on individual component units can be obtained by contacting the respective universities.

Transactions between the universities and the Office of the Chancellor have been eliminated in the accompanying financial statements.

Measurement Focus, Basis of Accounting, and Basis of Presentation

The accompanying financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America (GAAP), as prescribed by GASB. The economic resources measurement focus reports all inflows, outflows, and balances that affect an entity's net assets. Under the accrual basis of accounting, revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Grants and similar items are recognized as revenue as soon as all eligibility requirements have been met.

The accompanying financial statements of the component units, which are all private nonprofit organizations, are reported in accordance with Financial Accounting Standards Board (FASB) requirements, including FASB Statement No. 117, *Financial Reporting for Not-for-Profit Organizations*. As such, certain revenue recognition criteria and presentation features are different from GASB revenue recognition criteria and presentation features. No modifications for these differences have been made to the component units' financial information presented herein.

Operating Revenues and Expenses
The State System records tuition; all academic, instructional, and other student fees; student financial aid; auxiliary activity; corporate partnerships; and revenue from cogeneration sales as operating revenue. In addition, governmental and private grants and contracts in which the grantor receives equal value for the funds given to the university are recorded as operating revenue. All expenses, with the exception of interest expense and extraordinary expenses, are recorded as operating expenses. Appropriations, gifts, investment income, parking and library fines, capital grants, gains and losses on investments, gains and losses on the acquisition and disposal of assets, and governmental and private research grants and contracts in which the grantor does not receive equal value for the funds given to the university are reported as nonoperating.

Deferred Outflows and Deferred Inflows of Resources
The balance sheet reports separate sections for *Deferred Outflows of Resources* and *Deferred Inflows of Resources*.

Deferred Outflows of Resources, reported after *Total Assets,* is defined by GASB as a consumption of net position that applies to future periods. The expense is recognized in the applicable future period(s). *Deferred Inflows of Resources,* reported after *Total Liabilities,* is defined by GASB as an acquisition of net position that applies to future periods. The revenue is recognized in the applicable future period(s).

Transactions are classified as deferred outflows of resources or deferred inflows of resources only when specifically prescribed by GASB standards.

The State System is required to report the following as Deferred Outflows of Resources or Deferred Inflows of Resources.

- Deferred gain or loss on bond refundings, which results when the carrying value of a refunded bond is greater or less than its reacquisition price. The difference is deferred and amortized over the remaining life of the old bond or the life of the new bond, whichever is shorter.
- For defined benefit pension plans and other postemployment benefit (OPEB) plans: the difference between expected (actuarial) and actual experience, changes in actuarial assumptions, the net difference between projected (actuarial) and actual earnings on pension and OPEB plan investments, changes in the State System's proportion of expenses and liabilities to the pension and OPEB plans as a whole, differences between the State System's pension and OPEB contributions and its proportionate share of contributions, and State System pension and OPEB contributions subsequent to the respective pension or OPEB plan valuation measurement date.

Net Position
Net position is the residual of Assets, plus Deferred Outflows of Resources, less Liabilities, less Deferred Inflows of Resources. The State System maintains the following classifications of net position.

Net investment in capital assets: Capital assets, net of accumulated depreciation and outstanding principal balances of debt attributable to the acquisition, construction, repair, or improvement of those assets.

Restricted—nonexpendable: The portion of net position subject to externally imposed conditions requiring that it be maintained by the State System in perpetuity.

Restricted—expendable: The portion of net position use of which is subject to externally imposed conditions that can be fulfilled by the actions of the State System or by the passage of time.

Unrestricted: All other categories of net position. Unrestricted net position may be designated for specific purposes by the Board.

When both restricted and unrestricted funds are available for expenditure, the decision as to which funds are used first is left to the discretion of the universities.

Cash Equivalents and Investments
The State System considers all demand and time deposits and money market funds to be cash equivalents. Investments purchased are stated at fair value. Investments received as gifts are recorded at their fair value or appraised value as of

the date of the gift. The State System classifies investments as short-term when they are readily marketable and intended to be converted to cash within one year.

Accounts and Loans Receivable
Accounts and loans receivable consist of tuition and fees charged to current and former students and amounts due from federal and state governments in connection with reimbursements of allowable expenditures made pursuant to grants, contracts, and other miscellaneous sources.

Accounts and loans receivable are reported at net realizable value. Accounts are written off when they are determined to be uncollectible based upon management's assessment of individual accounts. The allowance for doubtful accounts is estimated based upon the universities' historical losses and periodic review of individual accounts.

Inventories
Inventories are stated at the lower of cost or market, with cost being determined principally on the weighted average method.

Capital Assets
Land and buildings at the 14 university campuses acquired or constructed prior to its creation on July 1, 1983, are owned by the Commonwealth and made available to the universities of the State System. Since the State System neither owns such assets nor is responsible to service associated bond indebtedness, no value is ascribed thereto in the accompanying financial statements. Likewise, no value is ascribed to the portion of any land or buildings acquired or constructed using capital funds appropriated by the Commonwealth after June 30, 1983, and made available to the universities.

All assets with a purchase cost, or fair value if acquired by gift, in excess of $5,000, with an estimated useful life of two years or greater, are capitalized. Buildings, portions of buildings, and capital improvements acquired or constructed by the universities after June 30, 1983, through the expenditure of university funds or the incurring of debt are stated at cost less accumulated depreciation.

Equipment and furnishings are stated at cost less accumulated depreciation. Library books are capitalized on a composite basis in the year of purchase. Assets under capital leases are recorded at the lower of the present value of the minimum lease payments or the fair value of the asset. The State System provides for depreciation on the straight-line method over the estimated useful lives of the related assets. Buildings and improvements are depreciated over useful lives ranging from 10 to 40 years. Equipment and furnishings are depreciated over useful lives ranging from 3 to 10 years. Library books are depreciated over 10 years. Amortization of assets under capital leases is included in depreciation expense. Normal repair and maintenance expenditures are not capitalized because they neither add to the value of the property nor materially prolong its useful life.

The State System does not capitalize collections of art, rare books, historical items, etc., as they are held for public exhibition, education, or research rather than financial gain.

Impairment of Capital Assets
Management reviews capital assets for impairment whenever events or changes in circumstances indicate that the service utility of an asset has declined significantly and unexpectedly. Any write-downs due to impairment are charged to operations at the time impairment is identified. No write-down of capital assets was required for the years ended June 30, 2018 and 2017.

Unearned Revenue
Unearned revenue includes amounts for tuition and fees, grants, corporate sponsorship payments, and certain auxiliary activities received prior to the end of the fiscal year but earned in a subsequent accounting period.

Compensated Absences
The estimated cost of future payouts of annual leave and sick leave that employees have earned for services rendered, and which the employees may be entitled to receive upon termination or retirement, is recorded as a liability.

Pension Plans and OPEB Plans
Eligible employees of the State System enroll in one of three available pension plans immediately upon employment. The State System also offers healthcare and tuition benefits to eligible employees upon employment, which vary depending upon the employee's labor group.

Scholarships and Waivers
In accordance with a formula prescribed by the National Association of College and University Business Officers (NACUBO), the State System allocates the cost of scholarships, waivers, and other student financial aid between *Discounts and allowances* (netted against tuition and fees) and *Student aid expense*. Scholarships and waivers of room and board fees are reported in Auxiliary enterprises. The cost of tuition waivers granted to employees is reported as employees' benefits expense.

Income Taxes
The State System and its member universities are tax-exempt; accordingly, no provision for income taxes has been made in the accompanying financial statements.

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

Reclassifications
Certain amounts in the prior period presented have been reclassified to conform to the current period financial statement presentation. These reclassifications have no effect on the previously reported net position or changes therein.

New Accounting Standards
The State System has implemented GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. Statement No. 75 requires the State System to report its share of the liabilities, expense, deferred outflows of resources, and deferred inflows of resources allocated to it by the Retired Employees Health Program and the Public School Employees' Retirement System Health Insurance Premium Assistance Program, both of which are defined benefit retiree healthcare plans administered by the Commonwealth of Pennsylvania. Statement No. 75 also has significantly increased the liability that the State System records for the defined benefit retiree healthcare and tuition benefits plan that the State System administers, and requires the recording of deferred outflows of resources and deferred inflows of resources associated with the plan. The July 1, 2017, balances of these other postemployment benefit liabilities (with "other" meaning "other than pensions"), known as OPEB liabilities, and related deferred outflows of resources and deferred inflows of resources, are reported in the Statement of Revenues, Expenses, and Changes in Net Position as a restatement to the *2017 Net position—beginning of year*. The plans did not provide sufficient information to restate the June 30, 2017, financial statements.

In addition, the State System has implemented GASB Statement No. 81, *Irrevocable Split-Interest Agreements*. Under Statement No. 81, the State System is reporting as beneficial interests, along with the associated deferred inflows of resources, the value of irrevocable split-interest agreements held by a third party of which the university is the beneficiary. The State System also is reporting as beneficial interests the value of funds held in perpetual trusts by third parties of which the university is the beneficiary. The July 1, 2017, balances of these beneficial interests and related deferred inflows of resources are reported in the Statement of Revenues, Expenses, and Changes in Net Position as a restatement to the *2017 Net position—beginning of year*.

(in thousands)	2017
Net position—beginning of year, as previously stated	($248,925)
July 1, 2017, balance of the OPEB liabilities and related deferred outflows of resources and deferred inflows of resources	(1,280,301)
July 1, 2017, balance of the beneficial interests and related deferred inflows of resources	13,497
Net position—beginning of year, restated	($1,515,729)

GASB has issued several accounting standards that are required to be adopted by the State System in future years. The State System is evaluating the impact of the adoption of these standards on its financial statements as discussed below.

In June 2017, GASB issued Statement No. 87, *Leases*. Statement No. 87 establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. In other words, most leases currently classified as operating leases will be accounted for and reported in a similar manner as capital leases, with assets and liabilities recorded at lease inception. The State System has determined that the effect on net position and results of operations will be immaterial. The provisions in Statement No. 87 are effective for reporting periods beginning after December 15, 2019.

In March 2018, GASB issued Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements.* Statement No. 88 is intended to improve the information that is disclosed in notes to government financial statements related to debt. The State System has determined that Statement No. 88 will have no effect on its financial statements.

In June 2018, GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period.* Statement No. 89 requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred, and should no longer be capitalized as part of the cost of an asset. The State System has determined that the effect of Statement No. 89 on its financial statements will vary from year to year, depending upon the amount of new debt incurred for capital assets. The provisions of Statement No. 89 are effective for reporting periods beginning after December 15, 2019.

In August 2018, GASB issued Statement No. 90, *Majority Equity Interests.* Statement No. 90 is intended to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. The State System has determined that Statement No. 90 will have no effect on its financial statements.

(2) Deposits and Investments

On June 30, 2018 and 2017, the carrying amount of the State System's demand and time deposits and certificates of deposit for all funds was $44,056,000 and $17,868,000, respectively, compared to bank balances of $43,469,000 and $17,354,000, respectively. The difference is caused primarily by items in transit. Of the bank balances, $5,389,000 and $3,684,000, respectively, were covered by federal government depository insurance or collateralized by a pledge of U.S. Treasury obligations held by Federal Reserve banks in the name of the banking institutions; $1,164,000 and $521,000, respectively, were uninsured and uncollateralized; and $36,916,000 and $13,149,000, respectively, were uninsured and uncollateralized but covered under the collateralization provisions of the Commonwealth of Pennsylvania Act 72 of 1971, as amended. Act 72 allows banking institutions to satisfy the collateralization requirements by pooling eligible investments to cover total public funds on deposit in excess of federal insurance. Such pooled collateral is pledged with the financial institutions' trust departments.

Board of Governors Policy 1986-02-A: *Investment*, authorizes the State System to invest in obligations of the U.S. Treasury, repurchase agreements, commercial paper, certificates of deposit, banker's acceptances, U.S. money market funds, municipal bonds, corporate bonds, collateralized mortgage obligations (CMOs), asset-backed securities, and internal loan funds. Restricted nonexpendable funds and amounts designated by the Board or university trustees may be invested in the investments described above as well as in corporate equities and approved pooled common funds. For purposes of convenience and expedience, universities use local financial institutions for activities such as deposits of cash. In addition, universities may accept gifts of investments from donors as long as risk is limited to the investment itself. Restricted gifts of investments fall outside the scope of the investment policy.

In keeping with its legal status as a system of public universities, the State System recognizes a fiduciary responsibility to invest all funds prudently and in accordance with ethical and prevailing legal standards. Investment decisions are intended to minimize risk while maximizing asset value. Adequate liquidity is maintained so that assets can be held to maturity. High quality investments are preferred. Reasonable portfolio diversification is pursued to ensure that no single security or investment or class of securities or investments will have a disproportionate or significant impact on the total portfolio. Investments may be made in U.S. dollar-denominated debt of high quality U.S. and non-U.S. corporations. Investment performance is monitored on a frequent and regular basis to ensure that objectives are attained and guidelines are followed.

Safety of principal and liquidity are the top priorities for the investment of the State System's operating funds. Within those guidelines, income optimization is pursued. Speculative investment activity is not allowed: this includes investing in asset classes such as commodities, futures, short-sales, equities, real or personal property, options, venture capital investments, private placements, letter stocks, and unlisted securities.

The State System's operating funds are invested and reinvested in the following types of instruments with qualifications as provided. (See Board of Governors Policy 1986-02-A: *Investment*, for a complete list of and more details on permissible investments and associated qualifications.)

Investment Categories	Qualifications/Moody's Ratings Requirements
United States Government Securities	Together with repurchase agreements, must comprise at least 20% of the market value of the fund.
Repurchase Agreements	Underlying collateral must be direct obligations of the U.S. Treasury and be in the State System's or its agent's custody.
Commercial Paper	P-1 and P-2 notes only, with no more than 5% and 3%, respectively, of the market value of the fund invested in any single issuer. Total may not exceed 20% of the market value of the fund.
Municipal Bonds	Bonds must carry long-term debt rating of A or better. Total may not exceed 20% of the market value of the fund.
Corporate Bonds	15% must carry long-term debt rating of A or better; 5% may be rated Baa2 or better. Total may not exceed 20% of the market value of the fund.
Collateralized Mortgage Obligations (CMOs)	Must be rated Aaa and guaranteed by the U.S. government. Total may not exceed 20% of the market value of the fund.
Asset-Backed Securities	Must be Aaa rated. Total may not exceed 20% of the market value of the fund, with no more than 5% invested in any single issuer.
System Investment Fund Loans (university loans and bridge notes)	Total may not exceed 20% of the market value of the fund, and loan terms may not exceed 5 years.

CMO Risk: CMOs sometimes are based on cash flows from interest-only (IO) payments or principal-only (PO) payments and are sensitive to prepayment risks. The CMOs in the State System's portfolio do not have IO or PO structures; however, they are subject to extension or contraction risk based on movements in interest rates.

Moody's Rating: The State System uses ratings from Moody's Investors Service, Inc., to indicate the credit risk of investments; i.e., the risk that an issuer or other counterparty to an investment will not fulfill its obligations. An *Aaa* rating indicates the highest quality obligations with minimal credit risk. Ratings that begin with *Aa* indicate high quality obligations subject to very low credit risk; ratings that begin with *A* indicate upper-medium-grade obligations subject to low credit risk; and ratings that begin with *Baa* indicate medium-grade obligations, subject to moderate credit risk, that may possess certain speculative characteristics. Moody's appends the ratings with numerical modifiers *1*, *2*, and *3*, with *1* indicating a higher ranking and *3* indicating a lower ranking within the category. For short-term obligations, a rating of *P-1* indicates that issuers have a superior ability to repay short-term debt obligations, and a rating of *P-2* indicates that issuers have a strong ability to repay short-term debt obligations.

Modified Duration: The State System denotes interest rate risk, or the risk that changes in interest rates will affect the fair value of an investment, using *modified duration*. *Duration* is a measurement in years of how long it takes for the price of a bond to be repaid by its internal cash flows. *Modified duration* takes into account changing interest rates. The State System maintains a portfolio duration target of 1.8 years with an upper limit of 2.5 years for the intermediate-term component of the operating portion of the investment portfolio. The State System's duration targets are not applicable to its long-term investments.

Fair Value Hierarchy: GASB Statement No. 72, *Fair Value Measurement and Application*, requires that investments be classified according to a "fair value hierarchy." With respect to Statement No. 72's fair value hierarchy, GASB defines "inputs" as "the assumptions that market participants would use when pricing an asset or liability, including assumptions about risk." Statement No. 72 further categorizes inputs as *observable* or *unobservable*: *Observable inputs* are "inputs that are developed using market data, such as publicly available information about actual events or transactions, and which reflect the assumptions that market participants would use when pricing an asset or liability"; *Unobservable inputs* are "inputs for which market data are not available and that are developed using the best information available about the assumptions that market participants would use when pricing an asset or liability."

Statement No. 72's fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three "levels":

Level 1: Investments whose values are based on unadjusted quoted prices for identical assets or liabilities in an active market, such as stocks listed in the S&P 500 or NASDAQ. If an up-to-date price of the investment can be found on a major exchange, it is a Level 1 investment.

Level 2: Investments whose values are based on their quoted prices in inactive markets or whose values are based on models, and the inputs to those models are observable either directly or indirectly for substantially the full term of the asset or liability.

Level 3: Investments that trade infrequently, and as a result do not have many reliable market prices. Valuations of Level 3 investments typically are based on management assumptions or expectations. For example, a private equity investment or complex derivative would likely be a Level 3 investment.

In addition, the fair value of certain investments that do not have a readily determinable fair value is classified as *NAV*, meaning Net Asset Value per share, when the fair value is calculated in a manner consistent with the Financial Accounting Standards Board's measurement principles for investment companies.

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt and equity securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Securities classified in Level 3 of the fair value hierarchy lack an independent pricing source and so are valued using an internal fair value as provided by the investment manager.

Commonfund investments, held locally by some of the universities, are valued based upon the unit values (NAV) of the funds held by the universities at year end. Unit values are based upon the underlying assets of the funds derived from inputs principally from or corroborated by observable market data, by correlation, or other means. Redemption restrictions for the Commonfund vary, depending upon the type of fund in which the universities have invested, and are restricted to withdrawals only on a weekly basis or the last business day of the month. All withdrawals require five days' notice.

State System Pooled Deposits and Investments
The carrying values (fair values) of deposits and investments for the State System's pooled funds in M&T Bank on June 30, 2018 and 2017, follow.

State System Pooled Deposits and Investments
June 30, 2018
(in thousands)

	Fair Value Hierarchy Level	Moody's Rating (if applicable)	Modified Duration (if applicable)	Fair Value
Deposits				
Demand and time deposits				$3
Money market funds				29,931
Total deposits				29,934
Investments				
Commercial paper	2	Aaa	0.09	147,471
Government money market mutual fund	2	Aaa	0.00	57,489
	2	Aa3	1.41	5,158
U.S. government and agency obligations	2	Aaa	1.31	432,013
Asset-backed securities	2	Aaa	0.59	112,737
	2	Aa1	0.75	28,079
Collateralized mortgage obligations (CMOs)	2	Aaa	2.23	158,433
Corporate bonds and notes	2	Aa1	0.01	2,001
	2	Aa2	1.17	4,509
	2	Aa3	0.74	7,984
	2	A1	1.91	57,849
	2	A2	1.38	50,449
	2	A3	1.31	75,863
	2	Baa1	1.85	42,985
	2	Baa2	1.29	15,625
	2	Baa3	0.00	726
Total investments				1,199,371
Total deposits and investments				$1,229,305

State System Pooled Deposits and Investments
June 30, 2017
(in thousands)

	Fair Value Hierarchy Level	Moody's Rating (if applicable)	Modified Duration (if applicable)	Fair Value
Deposits				
Money market funds				$6,163
Total deposits				6,163
Investments				
Commercial paper	2	P1	0.15	218,032
Government money market mutual fund	2	Aaa	0.00	141,939
U.S. government and agency obligations	2	Aaa	2.10	362,456
Asset-backed securities	2	Aaa	0.85	103,492
Collateralized mortgage obligations (CMOs)	2	Aaa	2.29	199,721
Corporate bonds and notes	2	Aaa	0.38	6,011
	2	Aa1	0.51	8,710
	2	Aa2	0.75	7,734
	2	Aa3	0.97	13,332
	2	A1	1.38	62,803
	2	A2	1.53	56,579
	2	A3	1.87	45,265
	2	Ba1	0.25	3,140
	2	Baa1	1.70	35,555
	2	Baa2	1.74	22,805
	2	Baa3	0.00	726
Total investments				1,288,300
Total deposits and investments				$1,294,463

Of the investments noted above at June 30, 2018 and 2017, $22,312,000 and $17,381,000, respectively, were held by a trustee to be used for projects funded under the Pennsylvania Higher Educational Facilities Authority/State System of Higher Education bond issues (note 10). Such investments are made subject to the restrictions of the bond indenture and may be liquidated only for the payment of costs associated with the projects described in the bond indenture.

University Local Deposits and Investments

The carrying values (fair values) of local university deposits and investments on June 30, 2018 and 2017, follow.

University Local Deposits and Investments
June 30, 2018
(in thousands)

	Fair Value Hierarchy Level	Moody's Rating (if applicable)	Modified Duration (if applicable)	Fair Value
Deposits				
Demand and time deposits				$14,108
Certificates of deposit				14
Total deposits				14,122
Investments				
U.S. government and agency obligations	2		0.51	78
Bond mutual funds	1		5.07	2,434
	NAV		5.11	12,690
Debt securities	2	Aa1	7.70	19
	2	Aaa	3.35	375
Equity/balanced mutual funds	1			13,558
	2			5,853
	3			1,665
	NAV			22,997
Common stock	1			2,723
Total investments				62,392
Total deposits and investments				$76,514

University Local Deposits and Investments
June 30, 2017
(in thousands)

	Fair Value Hierarchy Level	Moody's Rating (if applicable)	Modified Duration (if applicable)	Fair Value
Deposits				
Demand and time deposits				$11,691
Certificates of deposit				14
Total deposits				11,705
Investments				
U.S. government and agency obligations	2	N/A	0.51	100
Bond mutual funds	1		5.36	1,058
	2		5.61	1,321
	NAV		4.85	11,457
Debt securities	2	Aa1	4.20	25
	2	Aa2	0.99	55
Equity/balanced mutual funds	1			5,932
	2			5,993
	3			9,361
	NAV			21,692
Common stock	1			2,489
Total investments				59,483
Total deposits and investments				$71,188

(3) Beneficial Interests

At June 30, 2018, the fair value of beneficial interests totaled $23,493,000. Of this amount, $23,483,000 represents gifts that donors placed in trust in perpetuity with third parties, with the respective universities receiving a restricted revenue stream in accordance with the donors' wishes, and $10,000 represents a split-interest agreement that a donor placed in trust with a third party, and to which the university will take title upon the death of the donor.

(4) Capital Assets

The classifications of capital assets and related depreciation at June 30, 2018 and 2017, follow.

(in thousands)

	Balance June 30, 2016	2016/17 Additions	2016/17 Retirements/ Adjustments	Balance June 30, 2017	2017/18 Additions	2017/18 Retirements/ Adjustments	Balance June 30, 2018
Land	$32,360	-	-	$32,360	$153	-	$32,513
Construction in progress	80,012	$140,455	($37,164)	183,303	91,004	($168,125)	106,182
Total capital assets not being depreciated	112,372	140,455	(37,164)	215,663	91,157	(168,125)	138,695
Buildings, including improvements	2,213,463	209,277	9,975	2,432,715	40,696	144,644	2,618,055
Improvements other than buildings	285,136	6,383	6,678	298,197	6,814	2,976	307,987
Equipment and furnishings	470,347	25,208	(7,582)	487,973	20,487	(5,230)	503,230
Library books	81,314	731	(1,311)	80,734	663	(1,895)	79,502
Total capital assets being depreciated	3,050,260	241,599	7,760	3,299,619	68,660	140,495	3,508,774
Less accumulated depreciation:							
Buildings and improvements	(916,706)	(90,456)	11,118	(996,044)	(95,205)	12,274	(1,078,975)
Land improvements	(139,286)	(10,526)	100	(149,712)	(10,904)	2,047	(158,569)
Equipment and furnishings	(379,315)	(29,563)	13,182	(395,696)	(28,775)	9,085	(415,386)
Library books	(74,036)	(1,723)	1,311	(74,448)	(1,538)	1,895	(74,091)
Total accumulated depreciation	(1,509,343)	(132,268)	25,711	(1,615,900)	(136,422)	25,301	(1,727,021)
Total capital assets being depreciated, net	1,540,917	109,331	33,471	1,683,719	(67,762)	165,796	1,781,753
Capital assets, net	$1,653,289	$249,786	($3,693)	$1,899,382	$23,395	($2,329)	$1,920,448

(5) Workers' Compensation

The State System is self-insured for workers' compensation losses. For claims occurring prior to July 1, 1995, State System universities must pay up to $100,000; for claims occurring on or after July 1, 1995, State System universities must pay up to $200,000. Claims in excess of the self-insurance limits are funded through the Workers' Compensation Collective Reserve Fund (Reserve Fund), to which all State System universities contribute an amount determined by an independent actuarial study. Based on updated actuarial studies, the universities contributed $1,633,000, $372,000, and $1,405,000 to the Reserve Fund during the years ended June 30, 2018, 2017, and 2016, respectively.

For the years ended June 30, 2018, 2017, and 2016, the aggregate liability for claims under the self-insurance limit was $9,327,000, $8,554,000, and $9,345,000, respectively. The Reserve Fund assets of $13,121,000, $11,813,000, and $12,746,000 are equal to the liability for claims in excess of the self-insurance limits for the years ended June 30, 2018, 2017, and 2016, respectively. Changes in the workers' compensation claims liability in fiscal years 2018, 2017, and 2016 follow.

(in thousands)

Year	Beginning Balance	Current Year Claims and Changes in Estimates	Claim Payments	Ending Balance
2016	$22,550	$3,465	$3,924	$22,091
2017	$22,091	$2,313	$4,037	$20,367
2018	$20,367	$6,049	$3,968	$22,448

(6) Compensated Absences

Compensated absences are absences, such as vacation and sick leave, for which employees will be paid in cash at termination or retirement. Changes in the compensated absences liability in fiscal years 2018 and 2017 are as follows.

(in thousands)

Year	Beginning Balance	Current Changes in Estimates	Less Payouts	Ending Balance
2017	$115,423	$13,776	$9,673	$119,526
2018	$119,526	$17,061	$10,386	$126,201

(7) Pension Benefits

Employees of the State System enroll in one of three available retirement plans immediately upon employment: the Commonwealth of Pennsylvania State Employees' Retirement System (SERS), the Public School Employees' Retirement System (PSERS), or the Alternative Retirement Plan (ARP).

Following is the total of the State System's pension liabilities, deferred outflows and inflows of resources related to pensions, and the pension expense for the fiscal years ended June 30, 2018 and 2017.

(in thousands)

	SERS		PSERS		ARP		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Net pension liabilities	**$848,315**	**$931,620**	**$89,442**	**$90,838**	**$0**	**$0**	**$937,757**	**$1,022,458**
Deferred outflows of resources:								
Difference between expected and actual experience	$14,343	$13,448	$933	–	–	–	$15,276	$13,448
Net difference between projected and actual investment earnings on pension plan investments	–	78,293	2,073	$5,063	–	–	2,073	83,356
Changes in assumptions	42,472	56,905	2,430	3,279	–	–	44,902	60,184
Difference between employer contributions and proportionate share of contributions	–	–	506	555	–	–	506	555
Changes in proportion	20,281	14,478	1,602	2,576	–	–	21,883	17,054
Contributions after the measurement date	53,756	51,532	7,880	7,107	–	–	61,636	58,639
Total deferred outflows of resources	**$130,852**	**$214,656**	**$15,424**	**$18,580**	**$0**	**$0**	**$146,276**	**$233,236**
Deferred inflows of resources:								
Difference between expected and actual experience	$16,107	$20,844	$540	$757	–	–	$16,647	$21,601
Net difference between projected and actual investment earnings on pension plan investments	33,729	–	–	–	–	–	33,729	–
Difference between employer contributions and proportionate share of contributions	4,899	4,323	–	–	–	–	4,899	4,323
Changes in proportion	13,301	19,754	1,297	662	–	–	14,598	20,416
Total deferred inflows of resources	**$68,036**	**$44,921**	**$1,837**	**$1,419**	**$0**	**$0**	**$69,873**	**$46,340**
Pension expense	**$118,342**	**$130,551**	**$19,902**	**$20,223**	**$45,118**	**$45,343**	**$183,362**	**$196,117**
Contributions recognized by pension plans	**$94,727**	**$83,754**	**$7,880**	**$7,107**	**N/A**	**N/A**	**$102,607**	**$90,861**

The State System will recognize the $53,756,000 reported as 2018 SERS deferred outflows of resources resulting from pension contributions after the measurement date, and the $7,880,000 reported as 2018 PSERS deferred outflows of resources resulting from pension contributions after the measurement date, as reductions of the respective net pension liabilities in the year ended June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows.

(in thousands)

	Amortization	
Fiscal Year Ended	**SERS**	**PSERS**
June 30, 2019	$19,052	$1,991
June 30, 2020	$14,230	$2,868
June 30, 2021	($7,666)	$1,301
June 30, 2022	($17,155)	($453)
June 30, 2022	$599	$0
Totals	$9,060	$5,707

SERS

Plan Description

SERS is the administrator of a cost-sharing multiple-employer defined benefit plan established by the Commonwealth to provide pension benefits for employees of state government and certain independent agencies. SERS is a component unit of the Commonwealth and is included in the Commonwealth's financial report as a pension trust fund. SERS issues a publicly available annual financial report that includes financial statements and required supplementary information for the plan. A copy of the report may be obtained from the SERS website at www.sers.state.pa.us.

Membership in SERS is mandatory for most state employees. Members and employees of the General Assembly, certain elected or appointed officials in the executive branch, department heads, and certain employees in the field of education are not required, but are given the option, to participate.

Benefits Provided

SERS provides retirement, death, and disability benefits. Article II of the Commonwealth's Constitution assigns the authority to establish and amend the benefit provision of the plan to the General Assembly. Cost of Living Adjustments (COLA) are provided ad hoc at the discretion of the General Assembly.

Employees who were hired prior to January 1, 2011, and retire at age 60 with three years of service, or with 35 years of service if under age 60, are entitled to a normal annual retirement benefit; members of the General Assembly and certain employees classified in hazardous duty positions can retire with full benefits at age 50 with at least three years of service. Act 120 of 2010 (Act 120) preserved all benefits in place for members, but mandated a number of benefit reductions for new members effective January 1, 2011. The benefit reduction included a new class of membership that accrues benefits at 2% of members' final average salary instead of the previous 2.5%. The vesting period changed from 5 to 10 years of credited service, and the option to withdraw lump-sum accumulated deductions was eliminated. The new normal retirement age is 65 for most employees and 55 for members of the General Assembly and certain employees classified in hazardous duty positions.

According to the State Employees' Retirement Code (SERC), all obligations of SERS will be assumed by the Commonwealth should SERS terminate.

Contributions

The contribution rate for both active members and the State System depends upon when the active member was hired and what benefits class was selected. Section 5507 of the SERC (71 Pa. C.S. §5507) requires the Commonwealth and other employers whose employees are SERS members to make contributions on behalf of all active members and annuitants to fund the liabilities and provide the annuity reserves required to pay benefits. The SERS funding policy, as set by the SERS Board, provides for periodic active member contributions at statutory rates. The SERS funding policy also provides for periodic employer contributions at actuarially determined rates based on SERS' funding valuation, expressed as a percentage of annual retirement covered payroll, such that the employer contributions, along with employee contributions and an actuarially determined rate of investment return, are adequate to accumulate assets to pay benefits when due.

The State System contributed at actuarially determined rates of between 23.80% and 34.44%

of active members' annual covered payroll at June 30, 2018. The State System's contributions to SERS for the years ended June 30, 2018, 2017, and 2016, were $94,727,000, $83,754,000, and $69,021,000, respectively, equal to the required contractual contribution.

Contribution rates for most active members is 6.25% of gross salary. The contribution rate for other members ranges between 5% and 9.3% of salary, depending upon when the member was hired and what class of membership was elected.

Actuarial Methods and Assumptions
Every five years, SERS is required to conduct an actuarial experience study to determine whether the assumptions used in its annual actuarial valuations remain accurate based on current and anticipated demographic trends and economic conditions. The *18th Investigation of Actuarial Experience* study for the period 2011–2015 was released in March 2016. The actuary, under oversight of the SERS Board, reviewed economic assumptions (such as the assumed future investment returns and salary increases) as well as demographic assumptions (such as employee turnover, retirement, disability, and death rates). Some assumption adjustments increased projected cost and some decreased it, but the overall result was a slight increase to the net pension liability. The SERS Board adopted the actuarial assumptions set forth in the *18th Investigation of Actuarial Experience* at its March 2016 meeting. In addition, SERS reviews its investment return assumption in light of economic conditions every year.

The following methods and assumptions were used in the actuarial valuation for the December 31, 2017, measurement date.

- Entry age actuarial cost method.
- Straight-line amortization on a closed-period basis of investments over five years and amortization of assumption changes and noninvestment gains/losses over the average expected remaining service lives of all employees that are provided benefits.
- Inflation of 2.60%.
- Investment return of 7.25%, net of expenses and including inflation.
- Salary increases based on an average of 5.60%, with a range of 3.70% to 8.90%, including inflation.
- Asset valuation using fair (market) value.
- Mortality rates based on the projected RP-2000 Mortality Tables, adjusted for actual plan experience and future improvement.
- No cost of living adjustments.

The long-term expected real rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of manager fees and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in SERS' target asset allocation as of December 31, 2017, are summarized below.

Asset Class	Target Allocation	Long-Term Real Rate of Return
Private equity	16.00%	8.00%
Global public equity	43.00%	5.30%
Real estate	12.00%	5.44%
Multi-strategy	12.00%	5.10%
Fixed income	14.00%	1.63%
Cash	3.00%	(0.25%)
	100.00%	

At its April 2017 meeting, the SERS Board approved a reduction in the assumed investment rate of return to 7.25%. As a result of a portfolio examination, several changes were made to the asset allocation during the fourth quarter of 2017. The portfolio was restructured to add Multi-strategy as a new asset class. Targets will be updated to reflect the new assumed investment rate of return and asset classes in the *2018-19 Investment Plan*.

The discount rate used to measure the total SERS pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the rates applicable for each member and that employer contributions will be made based on rates determined by the actuary and as set by statute. Based on those assumptions, SERS' fiduciary net position was projected to be available to make all projected future benefit payments of current active and non-active SERS members. The long-term expected rate of return on SERS' investments, therefore, was applied to all periods of projected benefit payments to determine the total pension liability.

The following presents the State System's proportionate share of the SERS net pension liability at June 30, 2018, calculated using the discount rate of 7.25%, as well as what the SERS net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.25%) or one percentage point higher (8.25%) than the current rate.

Sensitivity of the State System's Proportionate Share of the SERS Net Pension Liability to Changes in the Discount Rate
(in thousands)

1% Decrease 6.25%	Current Rate 7.25%	1% Increase 8.25%
$1,076,776	$848,315	$652,611

The following presents the State System's proportionate share of the SERS net pension liability at June 30, 2017, calculated using the discount rate of 7.25%, as well as what the SERS net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.25%) or one percentage point higher (8.25%) than the current rate.

Sensitivity of the State System's Proportionate Share of the SERS Net Pension Liability to Changes in the Discount Rate
(in thousands)

1% Decrease 6.25%	Current Rate 7.25%	1% Increase 8.25%
$1,152,923	$931,620	$742,106

Fiduciary Net Position
The fiduciary net positions of SERS, as well as additions to and deductions from SERS fiduciary net positions, have been determined on the same basis as they are reported in the SERS financial statements, which can be found at www.sers.state.pa.us. The plan schedules of SERS are prepared using the accrual basis of accounting and economic resources measurement focus in accordance with U.S. GAAP as prescribed by the GASB. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer has a legal requirement to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Investment purchases and sales are recorded on a trade-date basis. Detailed information on investment valuation can be found in the SERS financial statements. Management of SERS has made certain estimates and assumptions relating to employer allocation schedules, and actual results could differ.

Proportionate Share
At June 30, 2018, the amount recognized as the State System's proportionate share of the SERS net pension liability, measured at December 31, 2017, was $848,315,000. At June 30, 2017, the amount recognized as the State System's proportionate share of the SERS net pension liability, measured at December 31, 2016, was $931,620,000.

The allocation percentage assigned to each participating employer is based on a projected-contribution method. For the allocation of the December 2017 amounts, this methodology applies the most recently calculated contribution rates for fiscal year 2018/19, from the December 31, 2017, funding valuation, to the expected funding payroll. For the allocation of the December 2016 amounts, this methodology applies the most recently calculated contribution rates for fiscal year 2017/18, from the December 31, 2016, funding valuation, to the expected funding payroll. At the December 31, 2017, measurement date, the State System's proportion was 4.906%, an increase of 0.07% from its proportion calculated as of the December 31, 2016, measurement date.

PSERS
Plan Description
PSERS is a governmental cost-sharing multiple-employer defined benefit pension plan that provides retirement, disability, and death benefits to public school employees of the Commonwealth. The members eligible to participate in PSERS include all full-time public school employees, part-time hourly public school employees who render at least 500 hours of service in the school year, and part-time per diem public school employees who render at least 80 days of service in the school year in any of the reporting entities in Pennsylvania. The Public School Employees' Retirement Code (Act No. 96 of October 2, 1975, as amended) (24 Pa. C.S. §§8101–8535) (the Code) is the authority by which PSERS benefits provisions and contribution requirements are established. The Commonwealth's General Assembly has the authority to amend the benefit terms by passing

bills in the Senate and House of Representatives and sending them to the Governor for approval. The Code requires contributions by active members, the employer (State System), and the Commonwealth. PSERS is a component unit of the Commonwealth and is included in the Commonwealth's financial report as a pension trust fund. PSERS issues a comprehensive annual financial report that may be obtained at www.psers.state.pa.us.

Benefits Provided
Members who joined prior to July 1, 2011, are eligible for monthly retirement benefits upon reaching age 62 with at least one year of credited service, age 60 with 30 or more years of credited service, or any age with 35 or more years of service. Act 120 preserved the benefits of members who joined prior to July 1, 2011, and introduced benefit reductions for individuals who become new members on or after July 1, 2011, by creating two new membership classes: Class T-E and Class T-F. To qualify for normal retirement, Class T-E and Class T-F members must complete a minimum of 35 years of service with a combination of age and service that totals 92 or greater, or they must work until age 65 with a minimum of three years of service.

Depending upon membership class, benefits are generally 2% or 2.5% of the member's final average salary (as defined in the Code) multiplied by the number of years of credited service. Members who joined prior to July 1, 2011, vest after completion of five years of service and may elect early retirement benefits. Class T-E and Class T-F members vest after completion of 10 years of service.

Participants are eligible for disability retirement benefits after completion of five years of credited service. Such benefits are generally equal to 2% or 2.5%, depending upon membership class, of the member's final average salary (as defined in the Code) multiplied by the number of years of credited service, but not less than one-third of such salary nor greater than the benefit the member would have had at normal retirement age. Members over normal retirement age may apply for disability benefits.

Death benefits are payable upon the death of an active member who has reached age 62 with at least one year of credited service (age 65 with at least three years of credited service for Class T-E and Class T-F members) or has at least five years of credited service (10 years for Class T-E and Class T-F members). Such benefits are actuarially equivalent to the benefit that would have been effective if the member had retired on the day before death.

Member Contributions
Active members who joined PSERS prior to July 22, 1983, contribute at 5.25% (Class T-C members) or at 6.50% (Class T-D members) of the member's qualifying compensation. Members who joined PSERS on or after July 22, 1983, and who were active or inactive as of July 1, 2001, contribute at 6.25% (Class T-C) or at 7.5% (Class T-D) of the member's qualifying compensation. Members who joined PSERS after June 30, 2001, and before July 1, 2011, contribute at 7.5% (Class T-D). For these hires and for members who elected Class T-D, the 7.5% contribution rate began with service rendered on or after January 1, 2002. Members who joined PSERS after June 30, 2011, contribute at the rate of 7.5% (Class T-E) or 10.3% (Class T-F) of their qualifying compensation. Class T-E and Class T-F members are subject to a "shared risk" provision in Act 120 that could cause the rate in future years to fluctuate between 7.5% and 9.5% for Class T-E and 10.3% and 12.3% for Class T-F.

Employer Contributions
The State System's contractually required contribution rate for PSERS for fiscal year ended June 30, 2018, was 31.74% of covered payroll, actuarially determined as an amount that, when combined with employee contributions, is expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Per §8327 of the Code, the Commonwealth is required to contribute 50% of the contribution rate directly to PSERS on behalf of the State System, meaning that the amount that the State System actually contributed was 15.87% of covered payroll. The State System's contribution to PSERS for the year ending June 30, 2018, June 30, 2017, and June 30, 2016, was $7,880,000, $7,107,000, and $6,012,000, respectively, equal to the required contractual contribution.

Actuarial Assumptions
The total PSERS pension liability as of June 30, 2017, was determined by rolling forward PSERS' total pension liability at June 30, 2016, to June 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement.

- Actuarial cost method is entry age normal, level percent of pay.
- Inflation of 2.75%.
- Investment return of 7.25%, including inflation.
- Salary increases based on an effective average of 5.0%, which comprises a 2.75% allowance for inflation and 2.25% for real wage growth and merit or seniority increases.
- Mortality rates based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

PSERS' policy in regard to the allocation of invested plan assets is established and may be amended by the PSERS Board of Trustees. Plan assets are managed with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension. Following is the PSERS Board of Trustees' adopted asset allocation policy and best estimates of geometric real rates of return for each major asset class as of June 30, 2017.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global public equity	20.0%	5.1%
Fixed income	36.0%	2.6%
Commodities	8.0%	3.0%
Absolute return	10.0%	3.4%
Risk parity	10.0%	3.8%
Infrastructure/MLPs	8.0%	4.8%
Real estate	10.0%	3.6%
Alternative investments	15.0%	6.2%
Cash	3.0%	0.6%
Financing (LIBOR)	(20.0%)	1.1%
	100.0%	

The discount rate used to measure the total PSERS pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate and that contributions from employers will be made at contractually required rates, actuarially determined. Based on those assumptions, PSERS' fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on PSERS' investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following presents the State System's proportionate share of the PSERS net pension liability at June 30, 2018, calculated using the discount rate of 7.25%, as well as what the PSERS net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.25%) or one percentage point higher (8.25%) than the current rate.

Sensitivity of the State System's Proportionate Share of the PSERS Net Pension Liability to Changes in the Discount Rate
(in thousands)

1% Decrease 6.25%	Current Rate 7.25%	1% Increase 8.25%
$110,096	$89,442	$72,005

The following presents the State System's proportionate share of the PSERS net pension liability at June 30, 2017, calculated using the discount rate of 7.25%, as well as what the PSERS net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.25%) or one percentage point higher (8.25%) than the current rate.

Sensitivity of the State System's Proportionate Share of the PSERS Net Pension Liability to Changes in the Discount Rate
(in thousands)

1% Decrease 6.25%	Current Rate 7.25%	1% Increase 8.25%
$111,119	$90,838	$73,795

Fiduciary Net Position
For purposes of measuring the net pension liability, deferred outflows of resources, and deferred inflows of resources related to pensions and pension expense, the fiduciary net position of PSERS and additions to or deductions from PSERS' fiduciary

net position have been determined on the same basis as they are reported in the PSERS' financial statements. For this purpose, benefit payments, including refunds of employee contributions, are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value. Detailed information about PSERS' fiduciary net position is available in the PSERS Comprehensive Annual Financial Report, which can be found at www.psers.state.pa.us.

Proportionate Share
The amount recognized as the State System's proportionate share of the PSERS net pension liability, plus the related PSERS pension support provided by the Commonwealth, is as follows.

(in thousands)	2018	2017
Total PSERS net pension liability associated with the State System	$178,884	$181,676
Commonwealth's proportionate share of the PSERS net pension liability associated with the State System	(89,442)	(90,838)
State System's proportionate share of the PSERS net pension liability	$89,442	$90,838

PSERS measured the 2018 and 2017 net pension liabilities as of June 30, 2017, and June 30, 2016, respectively. PSERS calculated the employer's proportion of the net pension liability using the employer's one-year reported covered payroll in relation to all participating employers' one-year reported covered payroll. At June 30, 2017, the State System's proportion was .1811%, a decrease of .0022% from its proportion calculated as of June 30, 2016.

ARP
The ARP is a defined contribution pension plan administered by the State System. Benefits equal amounts contributed to the plan plus investment earnings. Act 188 empowers the Board to establish and amend benefits provisions. The State Employees' Retirement Code establishes the employer contribution rate for the ARP, while the Board establishes the employee contribution rates. Active members contribute at a rate of 5% of their qualifying compensation. The State System recognizes annual pension expenditures equal to its contractually required contributions to the plan. The State System's contribution rate on June 30, 2018 and 2017, was 9.29% of qualifying compensation.

The contributions to the ARP for the years ended June 30, 2018 and 2017, were $45,118,000 and $45,343,000, respectively, from the State System; and $23,535,000 and $25,492,000, respectively, from active members. No liability is recognized for the ARP.

(8) Other Postemployment Benefits (OPEB)

Other postemployment benefits (OPEB) are benefits, such as healthcare benefits, that are paid in the period after employment and that are provided separately from a pension plan. OPEB does not include termination benefits or termination payments for sick leave. (See note 6.)

State System employees who retire after meeting specified service and age requirements are eligible to receive healthcare and tuition benefits in retirement. Employee members of the Association of Pennsylvania State College and University Faculties (APSCUF), the State College and University Professional Association (SCUPA), Security Police and Fire Professionals of America (SPFPA), Office and Professional Employees International Union (OPEIU), and nonrepresented employees participate in a defined benefit healthcare plan administered by the State System (System Plan). Employee members of the American Federation of State, County and Municipal Employees (AFSCME), Pennsylvania Doctors Alliance (PDA), and Pennsylvania Social Services Union (PSSU) participate in the Retired Employees Health Program (REHP), which is a defined benefit healthcare plan sponsored by the Commonwealth and administered by the Pennsylvania Employee Benefits Trust Fund (PEBTF). In addition to the above, any employee who participates in the Public School Employees' Retirement System (PSERS) pension plan is eligible to receive benefits from the PSERS Health Insurance Premium Assistance Program (Premium Assistance), a defined benefit plan, and all eligible retirees and their eligible dependents receive tuition waivers at any of the 14 State System universities.

Following is the total of the State System's OPEB liabilities, deferred outflows and inflows of resources related to OPEB, and the OPEB expense for the fiscal years ended June 30, 2018, and 2017.

(in thousands)

	System Plan		REHP		Premium Assistance		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Net OPEB liabilities	**$1,460,042**	**$1,145,088**	**$860,881**	*	**$3,690**	*	**$2,324,613**	**$1,145,088**
Deferred outflows of resources:								
Net difference between projected and actual investment earnings on OPEB plan investments	N/A	N/A	–	*	$4	*	$4	*
Contributions after the measurement date	$37,657	*	$21,441	*	204	*	59,302	*
Total deferred outflows of resources	**$37,657**	–	**$21,441**	–	**$208**	–	**$59,306**	–
Deferred inflows of resources:								
Net difference between projected and actual investment earnings on OPEB plan investments	N/A	N/A	$719	*	–	*	$719	*
Changes in assumptions	$119,334	*	78,438	*	$172	*	197,944	*
Changes in proportion	N/A	N/A	–	*	41	*	41	*
Total deferred inflows of resources	**$119,334**	–	**$79,157**	–	**$213**	–	**$198,704**	–
OPEB expense	**$58,709**	**$77,686**	**$39,964**	**$31,875**	**$303**	**$202**	**$98,976**	**$109,763**
Contributions recognized by OPEB plans	N/A	N/A	**$21,441**	**$31,875**	**$204**	**$202**	**$21,645**	**$32,077**

**Information is not reported because GASB 75 actuarial valuations were not performed for prior years and fiscal year 2016/17 was not restated.*

The State System will recognize the deferred outflows of resources resulting from contributions after the measurement date, totaling $37,657,000 for the System Plan, $21,441,000 for the REHP plan, and $204,000 for the PSERS OPEB plan, as reductions of the respective net OPEB liabilities in the year ended June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows.

(in thousands)

	Amortization		
Fiscal Year Ended	**System Plan**	**REHP**	**Premium Assistance**
June 30, 2019	$23,867	$16,835	$34
June 30, 2020	$23,867	$16,835	$35
June 30, 2021	$23,867	$16,835	$35
June 30, 2022	$23,867	$16,835	$35
June 30, 2023	$23,866	$11,824	$35
Thereafter	$0	($7)	$35
Totals	$119,334	$79,157	$209

System Plan

Plan Description

The System Plan is a single-employer defined benefit healthcare plan administered by the Office of the Chancellor. Act 188 empowers the Board to establish and amend benefit provisions and to require the Office of the Chancellor to pay OPEB as the benefits come due. The Office of the Chancellor discretely accounts for and accumulates all employer and employee System Plan contributions that have been collected from the universities, employees, and retirees, but not yet been paid to the provider; however, the System Plan has no assets accumulated in a trust in which the employer contributions are irrevocable, are dedicated to providing OPEB to plan members, or are legally protected from creditors.

The System Plan provides eligible retirees and their eligible dependents with healthcare benefits, including hospital, medical/surgical, prescription drugs, and major medical coverage, as well as a Medicare supplement for individuals over age 65. Retirees receive varying coverages based on the benefits in effect when they retired, and benefits may continue for the retiree's lifetime. Spouse benefits cease upon the retiree's death, but the surviving spouse may continue coverage at full cost. Non-spouse dependents may be covered until age 19 or until age 25 if a certified full-time student. SCUPA, SPFPA, OPEIU, and nonrepresented employees whose retirement date is on or after January 1, 2016, and APSCUF employees whose retirement date is on or after July 1, 2017, receive the same pre-Medicare benefits as active employees, with benefits changing as active employee benefits change. All other retirees continue to receive the same benefits to which they were entitled at retirement.

A total of 12,511 employees are covered by the benefit terms, including 7,762 inactive employees currently receiving benefit payments, 52 inactive employees entitled to but not yet receiving benefits, and 4,697 active employees. Effective January 16, 2016, the State System OPEB plan became closed to newly hired SCUPA, SPFPA, OPEIU, and nonrepresented employees, while newly hired APSCUF employees (faculty and coaches) continue to be eligible to participate in the plan.

Plan members receiving benefits contribute at various rates, depending upon when they retire, whether they are eligible for Medicare, the contribution rate in effect on the day of their retirement or the contribution rate for active employees, and applicable collective bargaining agreements. Following are the contribution rates of eligible plan members receiving benefits as of June 30, 2018.

- Plan members who retired prior to July 1, 2005, are not required to make contributions.
- Plan members, with the exception of nonfaculty coaches, who retired on or after July 1, 2005, and prior to July 1, 2008, and who are under age 65, pay the same dollar amount they paid as active employees on the day of retirement. When these plan members become eligible for Medicare, they pay 18% of the current cost of their Medicare coverage and current cost of coverage for covered dependents. The rate changes annually, and future adjustments will apply if contributions increase for active employees.
- Plan members, with the exception of nonfaculty coaches, who retire on or after July 1, 2008, pay 18% of the plan premium in effect for active employees on their retirement date. Future adjustments will apply if contributions increase for active employees.
- Nonfaculty coaches who retired on or after July 1, 2005, pay 2.75% of their final annual gross salary at the time of retirement.

Actuarial Assumptions and Other Inputs
The actuarial valuation on which the total OPEB liability is based is dated July 1, 2016. Update procedures were used to roll forward the total OPEB liability to the measurement date of July 1, 2017. The total OPEB liability was measured using the following actuarial assumptions and other inputs, applied to all periods included in the measurement, unless otherwise specified:

- Inflation of 2.2%.
- Healthcare cost trend rate of 6.0% in 2017 and 5.5% in 2018 through 2023, with rates gradually decreasing from 5.4% in 2024 to 3.9% in 2075 and later, based on the Society of Actuaries Long-Run Medical Cost Trend Model. The healthcare cost trend rate was updated based on the Society of Actuaries Getzen Model.
- Annual salary increase of 4%, updated from 3%.
- 90% of employees are assumed to elect coverage. 75% of vested former members who have not yet reached age 65 are assumed to begin electing coverage at age 65.
- The per capita claims cost for medical and prescription drugs is based on the expected portion of the group's overall cost attributed to individuals in specified age and gender brackets.
- The cost due to the excise tax under the Patient Protection and Affordable Care Act beginning in 2020 is 40% of the projected premiums in excess of the annual limits.
- The annual cost of living increase beginning in 2018 is assumed to be 2.2% per year.
- Retiree premium cost sharing is assumed to remain at 18% and increase at the same rate as the Health Care Cost Trend Rate.
- Mortality rates based on the RP-2014 Total Mortality Tables, which incorporate rates based on a generational projection using Scale MP-2017 to reflect mortality improvement, updated from Scale MP-2016.
- The discount rate increased from 2.49% to 3.13%, based on S&P Municipal Bond 20 Year High Grade Rate Index.
- Participant data is based on census information as of July 1, 2016.
- Experience was last reviewed in 2012 for withdrawal and retirement. Experience for election percentages were reviewed in 2017. Neither of these reviews were published in a formal study.

- Costs have been loaded by 0.7% to account for tuition waiver benefits, which are offered to all retirees, regardless of employee bargaining unit when active and including those not represented when active, who meet years of service and/or age criteria.

The following presents the System Plan's net OPEB liability, as well as what the liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower (5.0% decreasing to 2.9%) or one percentage point higher (7.0% decreasing to 4.9%) than the current healthcare cost trend rates (6.0% decreasing to 3.9%).

Sensitivity of the System Plan's Net OPEB Liability to Changes in the Healthcare Cost Trend Rate
(in thousands)

1% Decrease (5.0% decreasing to 2.9%)	Healthcare Cost Trend Rates (6.0% decreasing to 3.9%)	1% Increase (7.0% decreasing to 4.9%)
$1,208,892	$1,460,042	$1,787,836

The following presents the State System's net OPEB liability, as well as what the liability would be if it were calculated using a discount rate that is one percentage point lower (2.13%) or one percentage point higher (4.13%) than the current healthcare cost trend rates (3.13%).

Sensitivity of the System Plan's Net OPEB Liability to Changes in the Discount Rate
(in thousands)

1% Decrease 2.13%	Current Rate 3.13%	1% Increase 4.13%
$1,720,829	$1,460,042	$1,254,178

System Plan OPEB Liability
The System Plan's total OPEB liability of $1,460,042,000 was measured as of July 1, 2017, and was determined by an actuarial valuation as of July 1, 2016.

Changes in the System Plan Total OPEB Liability

(in thousands)	Fiscal Year Ending June 30, 2018
Balance at July 1, 2016	$1,559,134
Service Cost	48,636
Interest	39,441
Changes of Assumptions	(143,201)
Benefit Payments	(43,968)
Net Changes	(99,092)
Balance at July 1, 2017	$1,460,042

REHP

Plan Description
The Retired Employees Health Program (REHP) is a single-employer defined benefit OPEB plan that includes Commonwealth agencies and some component units. The REHP is established as a trust equivalent arrangement. The REHP is administered by the Pennsylvania Employees Benefit Trust Fund (PEBTF), which acts as a third-party administrator under an agreement with the Commonwealth. The REHP is provided as part of collective bargaining agreements with most Commonwealth labor unions. All policy decisions and types and levels of benefits for the REHP fall under the purview of the Commonwealth's Executive Board and the Secretary of Administration. The REHP does not have a governing board. Benefit provisions are established and may be amended under pertinent statutory authority. The REHP neither issues a stand-alone financial report nor is it included in the report of a public employee retirement system or other entity, but is reported in the Commonwealth's Comprehensive Annual Financial Report (CAFR) as a Pension (and Other Employee Benefit) Trust. The CAFR is an audited financial statement and is available at www.budget.pa.us.

The REHP provides eligible retirees and their eligible dependents with healthcare benefits, including hospital, medical/surgical, prescription drugs, and major medical coverage, as well as a Medicare supplement for individuals over age 65. Retirees receive varying coverages based on the plan they choose, and benefits may continue for the retiree's lifetime. Spouse benefits cease upon the retiree's death, but the surviving spouse may continue coverage at full cost. Non-spouse dependents may be covered until age 26.

Plan members receiving benefits contribute at various rates, depending upon when they retire, whether they are eligible for Medicare, and their salary at retirement. Following are the contribution rates of eligible plan members receiving benefits as of June 30, 2018.

- Plan members who retired prior to July 1, 2005, are not required to make contributions.
- Plan members who retired on or after July 1, 2005, and prior to July 1, 2007, pay 1% of their final annual salary.
- Plan members who retired on or after July 1, 2007, and prior to July 1, 2011, pay 3% of either final gross annual base salary or final average salary, whichever is less. Members eligible for Medicare pay 1.5% of either final gross annual base salary or final average salary, whichever is less.
- Plan members who retire on or after July 1, 2011, pay 3% of final average salary. Members eligible for Medicare pay 1.5% of final gross annual base salary.

Employer contribution requirements are established by the Commonwealth as provided by pertinent statutory authority. With the exception of certain employing agencies, employers contributed to the REHP Trust a retiree health assessment rate of $300 for each current REHP eligible active employee during the period July 1, 2017, through January 18, 2018, and $188 from January 19, 2018, though June 30, 2018. The rate was $362 per biweekly pay period during the fiscal year ended June 30, 2017.

Actuarial Assumptions and Other Inputs
The total OPEB liability in the July 1, 2016, actuarial valuation was determined using the following actuarial assumptions and other inputs, applied to all periods included in the measurement, unless otherwise specified:

- Inflation of 2.60%.
- Healthcare cost trend rate of 6.0% in 2017 and 5.9% in 2018, with rates gradually decreasing to 3.9% in 2075 and later, based on the SOA-Getzen trend rate model version 2016_a.
- Average career salary growth of 2.65% per year and an assumed 2.90% general salary increase.
- Projected benefits based on estimates of future years of service and projected health benefit costs.
- Mortality rates based on the RP-2000 Male and Female Combined Healthy Mortality Tables or the RP-2000 Male and Female Disabled Retiree Mortality Tables, as appropriate, adjusted to ensure sufficient margin improvement in certain age ranges.
- Participant data based on census information as of December 31, 2016.
- Projected benefits based on estimates of future years of service and projected health benefit costs.

The Commonwealth's State Employees' Retirement System (SERS) performs experience studies periodically to determine reasonable and appropriate economic and demographic assumptions for purposes of valuing the defined benefit pension plan. The most recent SERS experience study covered the years 2011 through 2015 and was presented to the SERS Board in March 2016. The approved recommendations from that study were used to determine the assumptions in the REHP valuation, where applicable.

The following assumptions were made with regard to the discount rate:

- Discount rate of 3.58% as of June 30, 2017, and 2.85% as of June 30, 2016.
- Since the REHP has insufficient assets to meet next year's projected benefit payments, the discount rate is based on the rate for the 20-year tax-exempt general obligation municipal bond index with an average rating of AA/Aa or higher as of the measurement date. The Commonwealth elected to determine the discount rate using the Bond Buyer 20-Bond General Obligation Index.
- The long-term expected rate of return on REHP plan investments is determined using a risk premium review. This review compares the current relationship between fixed income and equity and their relationship over long periods of time to come up with an expected rate of return. Other variables considered in the expected rates of return are a

reversion to the mean for each asset class. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation are summarized as follows:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. equity	47.00%	7.5%
International equity	20.00%	8.5%
Fixed income	25.00%	3.0%
Real estate	8.00%	3.0%
Cash	0.00%	1.0%
	100.00%	

The actuarial valuation on which the total REHP OPEB liability is based was dated July 1, 2017. The Commonwealth calculated an allocated share of the REHP OPEB liability for each participating employer based upon their actual contributions made to the REHP. The State System's proportion of the collective net OPEB liability was 4.37% for the measurement date of July 1, 2017.

The following presents the State System's share of the REHP net OPEB liability at June 30, 2018, as well as what the liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower (5.0% decreasing to 2.9%) or one percentage point higher (7.0% decreasing to 4.9%) than the current healthcare cost trend rates (6.0% decreasing to 3.9%).

Sensitivity of the REHP Net OPEB Liability to Changes in the Healthcare Cost Trend Rate
(in thousands)

1% Decrease (5.0% decreasing to 2.9%)	Healthcare Cost Trend Rates (6.0% decreasing to 3.9%)	1% Increase (7.0% decreasing to 4.9%)
$747,111	$860,881	$1,031,191

The following presents the State System's share of the REHP net OPEB liability at June 30, 2017, as well as what the liability would be if it were calculated using a discount rate that is one percentage point lower (2.58%) or one percentage point higher (4.58%) than the current healthcare cost trend rates (3.58%).

Sensitivity of the REHP Net OPEB Liability to Changes in the Discount Rate
(in thousands)

1% Decrease 2.58%	Current Rate 3.58%	1% Increase 4.58%
$1,008,673	$860,881	$762,857

REHP Fiduciary Net Position
The REHP is reported in the Commonwealth's Comprehensive Annual Financial Report (CAFR) as a Pension (and Other Employee Benefit) Trust. The REHP is reported using the economic resources measurement focus and the accrual basis of accounting. The CAFR is an audited financial statement and is available at www.budget.pa.us.

The assets of the REHP are managed by the Commonwealth's Treasury in an investment pool. The REHP investments are made based upon an interagency agreement, dated June 17, 2008, and the prudent investor standard set forth in the Commonwealth of Pennsylvania's amendment to fiscal code 72 P.S. §30.1, the principles of Prudent Investors Standards.

Premium Assistance
Plan Description
The Health Insurance Premium Assistance Program (Premium Assistance) is a governmental cost sharing, multiple-employer OPEB plan administered by the administrative staff of PSERS. The members eligible to participate in the program include all full-time public school employees, part-time hourly public school employees who render at least 500 hours of service in the school year, and part-time per diem public school employees who render at least 80 days of service in the school year in any of the reporting entities in Pennsylvania. The control and management of PSERS, including the investment of its assets, is vested in the Board of Trustees (PSERS Board). The Commonwealth's General Assembly has the authority to amend the benefit terms of PSERS by passing bills in the Senate and House of Representatives and sending them to the Governor for approval.

Effective January 1, 2002, under the provisions of Act 9 of 2001, participating eligible retirees are entitled to receive premium assistance payments equal to the lesser of $100 per month or their out-of-pocket monthly health insurance premium. To receive premium assistance, eligible retirees must obtain their health insurance through either their school employer or the PSERS Health Options Program.

Plan members receiving benefits are not required to make contributions.

Employer contribution rates for Premium Assistance are established to provide reserves in the Health Insurance Account that are sufficient for the payment of Premium Assistance benefits for each succeeding year. The contribution policy is governed by applicable provisions of the Retirement Code. The contractually required employer contribution rate was 0.83% of covered payroll for the fiscal years ended June 30, 2018 and 2017. Per §8327 of the Code, the Commonwealth is required to contribute 50% of the contribution rate directly to PSERS on behalf of the State System, meaning that the amount that the State System actually contributed was 0.415% of covered payroll.

Actuarial Assumptions and Other Inputs
The total OPEB liability as of June 30, 2017, was determined by rolling forward the PSERS total OPEB liability as of June 30, 2016, to June 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method was entry age normal, level percent of pay.
- Effective average salary growth of 5.0%, comprising 2.75% for inflation and 2.25% for real wage growth and for merit and seniority increases.
- Premium Assistance reimbursement benefits capped at $1,200 per year.
- Assumed healthcare cost trends were applied to retirees with less than $1,200 in premium assistance per year and assume a trend rate of between 5% and 8%.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.
- Eligible retirees pre-age 65 are assumed to participate at 50%, while eligible retirees post-age 65 are assumed to participate at 70%.

The following assumptions were used to determine the contribution rate:

- The results of the actuarial valuation as of June 30, 2015, determined the employer contribution rate for fiscal year 2016/17.
- Cost method was developed using the amount necessary to assure solvency of Premium Assistance through the third fiscal year after the valuation date.
- Asset valuation method was market value.
- Participation rate assumed that 63% of eligible retirees will elect premium assistance.
- Mortality rates and retirement ages were based on the RP-2000 Combined Healthy Annuitant Tables with age set-back 3 for both males and females for healthy annuitants and for dependent beneficiaries, with adjustments made for disabled annuitants.

The following assumptions were made with regard to the discount rate:

- The discount rate used to measure the total OPEB liability was 3.13% at June 30, 2017, and 2.71% at June 30, 2016.
- Under the plan's funding policy, contributions are structured for short-term funding of Premium Assistance. The funding policy sets contribution rates necessary to assure solvency of Premium Assistance through the third fiscal year after the actuarial valuation date.
- The Premium Assistance account is funded to establish reserves that are sufficient for the payment of Premium Assistance benefits for each succeeding year. Due to the short-term funding policy, the OPEB plan's fiduciary net position was not projected to be sufficient to meet projected future benefit payments; therefore, the plan is considered to be a pay-as-you-go plan. A discount rate of 3.13%, which represents the S&P 20-year Municipal Bond Rate at June 30, 2017, was applied to all projected benefit payments to measure the total OPEB liability.
- Investments consist primarily of short-term assets designed to protect the principal of the plan assets. The OPEB plan's policy with regard to the allocation of invested plan assets is established and may be amended by the PSERS Board. Under the program, as defined in the retirement code, employer contribution rates for Premium Assistance are established to provide reserves in the health insurance account that are sufficient for the payment of premium assistance benefits for each succeeding year. Following is the PSERS Board's adopted asset allocation policy and best estimates of geometric real rates of return for each major asset class, as of June 30, 2017.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Cash	76.4%	0.6%
Fixed income	23.6%	1.5%
	100.00%	

The actuarial valuation on which the total Premium Assistance OPEB liability is based was dated June 30, 2016. An employer's proportion is calculated utilizing the employer's one-year reported covered payroll as a percentage of total one-year reported covered payroll. The State System's proportion of the collective net OPEB liability was 0.18% for the measurement date of June 30, 2017.

The following presents the State System's share of the Premium Assistance net OPEB liability at June 30, 2018, as well as what the liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower (between 4% and 7%) or one percentage point higher (between 6% and 9%) than the current healthcare cost trend rates (between 5% and 8%).

Sensitivity of the Premium Assistance Net OPEB Liability to Changes in the Healthcare Cost Trend Rate
(in thousands)

1% Decrease (between 4% and 7%)	Healthcare Cost Trend Rates (between 5% and 8%)	1% Increase (between 6% and 9%)
$3,689	$3,690	$3,691

The following presents the State System's share of the Premium Assistance net OPEB liability at June 30, 2017, as well as what the liability would be if it were calculated using a discount rate that is one percentage point lower (2.13%) or one percentage point higher (4.13%) than the current healthcare cost trend rates (3.13%).

Sensitivity of the Premium Assistance Net OPEB Liability to Changes in the Discount Rate
(in thousands)

1% Decrease 2.13%	Current Rate 3.13%	1% Increase 4.13%
$4,194	$3,690	$3,271

Premium Assistance Fiduciary Net Position
For purposes of measuring the net OPEB liability, deferred outflows of resources, and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the PSERS, and additions to and deductions from PSERS' fiduciary net position, have been determined on the same basis as they are reported by PSERS. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value. Additional plan information can be found in the PSERS Comprehensive Annual Financial Report at www.psers.pa.gov.

(9) Leases

Total rent expense for the State System operating leases amounted to $15,033,000 and $15,132,000 for the years ended June 30, 2018 and 2017, respectively.

Capital assets acquired through leases that have been capitalized are as follows.

(in thousands)	June 30, 2018	June 30, 2017
Cost:		
Buildings	$76,133	$76,305
Equipment	3,826	3,648
Total	$79,959	$79,953
Accumulated Depreciation:		
Buildings	$46,246	$42,302
Equipment	1,800	1,670
Total	$48,046	$43,972

Future minimum payments, by year and in the aggregate, under capital and noncancelable operating leases, with initial or remaining terms of one year or more, are as follows.

(in thousands)	Operating Leases	Capital Leases
2019	$6,601	$5,907
2020	5,454	5,594
2021	3,541	5,443
2022	3,122	5,191
2023	2,354	4,999
Thereafter	63,955	27,526
Total minimum lease payments	$85,027	54,660
Amount representing interest on capital leases		11,412
Present value of net minimum capital lease payments		$43,248

Changes in the liability for capital leases in fiscal years 2018 and 2017 follow.

(in thousands)

Year	Beginning Balance	Capital Lease Additions	Capital Lease Payments	Ending Balance
2017	$48,646	$1,348	$3,688	$46,306
2018	$46,306	$798	$3,856	$43,248

(10) Bonds Payable

Bonds payable on June 30, 2018 and 2017, consisted of several outstanding tax-exempt revenue bond series issued by the Pennsylvania Higher Educational Facilities Authority (PHEFA). In connection with the bond issuance, the State System entered into a loan agreement with PHEFA under which the State System has pledged its full faith and credit for the repayment of the bonds. The loan constitutes an unsecured general obligation of the State System. The bonds were issued to provide funds to undertake various capital projects at the universities or to advance refund certain previously issued bonds.

Activity for the various bond series for the years ended June 30, 2018 and 2017, was as follows.

Bonds Payable
June 30, 2018 and 2017
(in thousands)

Description	Original Issuance	Weighted Average Interest Rate	Balance June 30, 2016	2017 Bonds Issued	2017 Bonds Redeemed/ Refunded	Balance June 30, 2017	2018 Bonds Issued	2018 Bonds Redeemed/ Refunded	Balance June 30, 2018	Current Portion
Series AG issued March 2008, final maturity June 2024	$101,335	4.52%	$48,145	-	$12,075	$36,070	-	$11,105	$24,965	$6,165
Series AH issued July 2008, final maturity June 2038	140,760	4.68%	110,350	-	4,655	105,695	-	97,535	8,160	390
Series AI issued August 2008, final maturity June 2025	32,115	4.27%	17,970	-	1,990	15,980	-	2,070	13,910	2,150
Series AJ issued July 2009, final maturity June 2039	123,985	4.86%	95,205	-	5,685	89,520	-	6,080	83,440	6,570
Series AK issued Sept. 2009, final maturity June 2024	47,310	4.00%	24,535	-	4,080	20,455	-	4,220	16,235	4,405
Series AL issued July 2010, final maturity June 2035	135,410	5.00%	74,420	-	8,000	66,420	-	5,955	60,465	6,525
Series AM issued July 2011, final maturity June 2036	119,085	4.66%	99,550	-	4,655	94,895	-	4,900	89,995	4,955
Series AN issued March 2012, final maturity June 2023	76,810	5.00%	63,130	-	9,430	53,700	-	9,705	43,995	14,400
Series AO issued July 2013, final maturity June 2038	30,915	4.44%	27,880	-	1,105	26,775	-	1,130	25,645	1,170
Series AP issued May 2014, final maturity June 2024	46,110	4.60%	40,485	-	1,200	39,285	-	1,240	38,045	1,275
Series AQ issued May 2015, final maturity June 2036	94,975	4.65%	93,095	-	6,685	86,410	-	7,480	78,930	7,855
Series AR issued Sept. 2015, final maturity June 2040	102,365	3.95%	100,545	-	2,475	98,070	-	2,595	95,475	2,725
Series AS issued June 2016, final maturity June 2037	47,280	3.83%	47,280	-	850	46,430	-	2,135	44,295	3,060
Series AT issued Sept. 2016, final maturity June 2055	298,110	3.43%	-	$298,110	4,900	293,210		7,100	286,110	7,425
Series AU issued Sept. 2017, final maturity June 2042	128,260	3.51%	-	-	-	-	$128,260	2,355	125,905	5,200
Total	**$1,524,825**		**$842,590**	**$298,110**	**$67,785**	**$1,072,915**	**$128,260**	**$165,605**	**$1,035,570**	**$74,270**

Principal and interest requirements to maturity are as follows.

(in thousands)	Principal	Interest	Total
2019	$74,270	$44,867	$119,137
2020	82,625	41,478	124,103
2021	67,825	37,645	105,470
2022	68,240	34,552	102,792
2023	69,240	31,242	100,482
2024–2028	267,245	111,236	378,481
2029–2033	188,670	60,553	249,223
2034–2038	137,055	27,238	164,293
2039–2043	70,895	7,556	78,451
2044–2048	4,710	1,652	6,362
2049–2053	3,505	865	4,370
2054–2055	1,290	89	1,379
Total	**$1,035,570**	**$398,973**	**$1,434,543**

(11) Rating Actions

The State System's outstanding bonds are assigned an Aa3 rating from Moody's Investors Service, Inc., as well as an A+ rating from Fitch Ratings, a downgrade from last year's AA- rating. In August 2018, both Moody's and Fitch revised their outlooks for the ratings from *negative* to *stable*.

(12) Deferred Outflows of Resources and Deferred Inflows of Resources

The classifications of deferred outflows of resources and deferred inflows of resources at June 30, 2018 and 2017, follow.

(in thousands)	June 30, 2018	June 30, 2017
Deferred Outflows of Resources		
Pension related (see note 7)	$146,276	$233,236
OPEB related (see note 8)	59,306	-
Unamortized loss on refunding of debt	8,821	7,872
Total Deferred Outflows of Resources	$214,403	$241,108
Deferred Inflows of Resources		
Pension related (see note 7)	$69,873	$46,340
OPEB related (see note 8)	198,704	-
Unamortized gain on refunding of debt	796	934
Split-interest agreements	10	-
Total Deferred Inflows of Resources	$269,383	$47,274

(13) Contingencies and Commitments

Contingencies

The nature of the educational industry is such that, from time to time, the State System is exposed to various risks of loss related to torts; alleged negligence; acts of discrimination; breach of contract; labor disputes; disagreements arising from the interpretation of laws or regulations; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. While some of these claims may be for substantial amounts, they are not unusual in the ordinary course of providing educational services in a higher education system.

The State System receives support from federal and Commonwealth grant programs, primarily for student financial assistance. Entitlement to the resources requires compliance with terms of the grant agreements and applicable regulations, including the expenditure of the resources for eligible purposes. Substantially all grants are subject to financial and compliance audits by the grantors. As of June 30, 2018, the State System estimates that adjustments, if any, as a result of such audits would not have a material adverse effect on the accompanying financial statements, with the exception of potential adjustments related to Cheyney University of Pennsylvania, as detailed in the following section.

Cheyney University of Pennsylvania

In November 2015, the Middle States Commission on Higher Education (Middle States) accreditation organization placed Cheyney University on probation "because of insufficient evidence that the institution is currently in compliance with Standard 3 (Institutional Resources)." Standard 3 requires, among other things, that an institution demonstrate that it has sufficient resources to support both its programs of study and students' academic progress. The university was given two years to address the deficiencies noted by Middle States. As required, the university submitted monitoring reports that documented its plan for remediation. In June 2017, Middle States required Cheyney to show cause, by September 1, 2017, as to why its accreditation should not be withdrawn, and Cheyney submitted the required documentation. In November 2017, Middle States extended Cheyney's accreditation for an additional year, noting that Cheyney had made "significant progress toward the resolution of its non-compliance issues" and is "making a good-faith effort to remedy existing deficiencies." Middle States further stated that there is "a reasonable expectation that such deficiencies will be remedied within the period of the extension" of the university's accreditation. In September 2018, Cheyney submitted a report to Middle States demonstrating its progress on the remaining accreditation issues, and a response from Middle States as to whether or not Cheyney's accreditation will be further extended is expected in November 2018.

To help the university secure continued accreditation, in August 2017, the Board approved a motion that it will forgive more than $30 million in loans, made to Cheyney from the 13 other universities and the Office of the Chancellor, if the university demonstrates fiscal stability. One-third will be forgiven when Cheyney cuts $7.5 million from its fiscal year 2017/18 budget and maintains a balanced budget for fiscal year 2018/19. The next two-thirds will be forgiven when Cheyney demonstrates a balanced budget in each of the following two fiscal years. Cheyney has advised the Board that it has successfully met the first criteria of cutting $7.5 million from its fiscal year 2017/18 budget when the expenditure cuts are viewed on an annualized basis.

In August 2015, Cheyney University voluntarily self-reported to the U.S. Department of Education (ED) that $29.6 million of federal student financial aid was improperly administered and delivered in fiscal years 2011/12, 2012/13, and 2013/14, covering almost 4,400 student records. The State System has been engaged with the ED since reporting these findings. The ED is requiring the university to take specified corrective actions, including submitting file reviews, reconciliations, and updated policies and procedures, and further requiring that Cheyney engage an independent Certified Public Accountant to attest to the file reviews and reconciliations.

In September 2015, the ED placed the university on Heightened Cash Monitoring 2 (HCM2) status, meaning that the university does not receive federal student financial aid funds in advance, but must use its own cash to grant federal financial aid to its students and then request reimbursement from the ED. After demonstrating compliance with HCM2 requirements, the university has begun to slowly receive its funds, but only after providing extensive detailed documentation for every student's financial aid account. At June 30, 2018, Cheyney was awaiting receipt of $12.38 million in federal student financial aid funds from fiscal years 2015/16, 2016/17, and 2017/18. As of the date of this document, the university had not received any funds from the ED since April 2018. The delay in receipt of funds exacerbates the university's severe cash shortage. To enable Cheyney to meet its cash needs, the Office of the Chancellor has been issuing to Cheyney interest-free short-term appropriation anticipation loans, which are paid back as monthly appropriations are received, as well as an additional $8.2 million in loans that will be paid back when the funds are received from the ED, and a $.2 million loan in anticipation of insurance proceeds.

In January 2016, the U.S. Department of Justice (DOJ) notified the State System that it was investigating the application and use of federal student financial aid by Cheyney University and the oversight of the university by the State System. The DOJ requested that the university and State System preserve and produce certain documents. The State System has fully complied and continues to comply with the DOJ's requests. No determination has yet been conveyed by the DOJ, and the possible resulting outcomes from the investigation are uncertain.

The university continues to make cuts to administration and staff and reorganize business and campus operations, and has placed some academic programs into moratorium to additionally help balance the budget and better align academic programs with the future of the university.

Insurance

The State System is self-insured for workers' compensation up to stated limits (note 5). For all other risks of loss, the State System pays annual premiums to the Commonwealth to participate in its Risk Management Program. The State System does not participate in any public entity risk pools, and does not retain risk related to any aforementioned exposure, except for those amounts incurred relative to policy deductibles that are not significant. The State System has not significantly reduced any of its insurance coverage from the prior year. Settled claims have not significantly exceeded the State System's insurance coverage in any of the past three years. It is not expected that the resolution of any outstanding claims and litigation will have a material adverse effect on the accompanying financial statements.

Construction Commitments

Authorized expenditures for construction projects unexpended as of June 30, 2018 and 2017, were approximately $57,531,000 and $52,802,000, respectively.

(14) Subsequent Events

In September 2018, PHEFA issued Series AV-1 tax-exempt revenue bonds in the amount of $102,345,000 and Series AV-2 taxable revenue bonds in the amount of $134,600,000. The net proceeds from the Series AV-1 revenue bonds were used to finance a capital project at West Chester University and to current refund Series AG and a significant portion of Series AI revenue bonds. The refunding was performed to reduce debt service by approximately $2,700,000 and resulted in an economic gain (difference between the present values of the old and new debt service payments) of $2,400,000. The net proceeds from the Series AV-2 revenue bonds were used to acquire student housing facility at Shippensburg University. In connection with the bond issuance, the State System entered into a loan agreement with PHEFA under which the State System pledged its full faith and credit for repayment of bonds.

REQUIRED SUPPLEMENTARY INFORMATION

Years Ended June 30, 2018 and 2017
(Unaudited)

Schedule of Proportionate Share of SERS Net Pension Liability (NPL)

Determined as of SERS' December 31 measurement dates
(in thousands)

Fiscal Year	State System's Proportion	State System's Proportionate Share	State System's Covered-Employee Payroll	State System's Proportionate Share of NPL as a Percentage of Covered-Employee Payroll	SERS Fiduciary Net Position as a Percentage of Total Pension Liability
2014/15	4.901%	$728,094	$296,967	245%	64.8%
2015/16	4.721%	$858,417	$297,714	288%	58.9%
2016/17	4.837%	$931,620	$300,803	310%	57.8%
2017/18	4.906%	$848,315	$309,084	275%	63.0%

SERS Schedule of Contributions

Determined as of State System's June 30 fiscal year end dates
(in thousands)

Fiscal Year	Contractually Required Contributions	Contributions Recognized by SERS	Contribution Deficiency (Excess)	Covered-Employee Payroll	Contributions as a Percentage of Covered-Employee Payroll
2014/15	$57,234	$57,234	$0	$293,506	19.50%
2015/16	$69,021	$69,021	$0	$291,594	23.67%
2016/17	$83,754	$83,754	$0	$301,828	27.75%
2017/18	$94,727	$94,727	$0	$304,575	31.10%

Schedule of Proportionate Share of PSERS Net Pension Liability (NPL)

Determined as of PSERS' June 30 measurement dates
(in thousands)

	PSERS Net Pension Liability						
Fiscal Year	State System's Proportion	State System's Proportionate Share	Commonwealth's Proportionate Share	Total	State System's Covered-Employee Payroll	State System's Proportionate Share of NPL as a Percentage of Covered-Employee Payroll	PSERS Fiduciary Net Position as a Percentage of Total Pension Liability
2014/15	.1785%	$70,650	$70,650	$141,350	$45,552	155%	57.2%
2015/16	.1852%	$80,220	$80,220	$160,440	$47,670	168%	54.4%
2016/17	.1833%	$90,838	$90,838	$181,676	$47,485	200%	50.1%
2017/18	.1811%	$89,442	$89,442	$178,884	$48,236	200%	51.8%

PSERS Pension Schedule of Contributions

Determined as of State System's June 30 fiscal year end dates
(in thousands)

Fiscal Year	Contractually Required Contributions	Contributions Recognized by PSERS	Contribution Deficiency (Excess)	Covered-Employee Payroll	Contributions as a Percentage of Covered-Employee Payroll
2014/15	$5,236	$5,236	$0	$51,086	10.25%
2015/16	$6,012	$6,012	$0	$48,419	12.41%
2016/17	$7,107	$7,107	$0	$49,518	14.35%
2017/18	$7,880	$7,880	$0	$50,586	15.58%

State System Plan OPEB Liability

Determined as of the June 30 measurement dates
(in thousands)

	Fiscal Year June 30, 2018
Changes in the System Plan Total OPEB Liability	
Total OPEB Liability – Beginning Balance	$1,559,134
Service Cost	48,636
Interest	39,441
Changes of Assumptions	(143,201)
Benefit Payments	(43,968)
Net Changes	(99,092)
Total OPEB Liability—Ending Balance	$1,460,042
Covered Employee Payroll	$592,245
OPEB Liability as a Percent of Covered Payroll	246.53%

Note to Schedule: *The System Plan has no assets accumulated in a trust in which the employer contributions are irrevocable, are dedicated to providing OPEB to plan members, or are legally protected from creditors.*

Schedule of Proportionate Share of the REHP Net OPEB Liability

Determined as of REHP's June 30 measurement dates
(in thousands)

Fiscal Year	State System's Proportion	State System's Proportionate Share	State System's Covered-Employee Payroll	State System's Proportionate Share of Net OPEB Liability as a Percentage of Covered-Employee Payroll	REHP's Fiduciary Net Position as a Percentage of Total OPEB Liability
2017/18	4.374%	$860,881	$117,366	733.5%	1.4%

REHP Schedule of Contributions

Determined as of State System's June 30 fiscal year end dates
(in thousands)

Fiscal Year	Contractually Required Contributions	Contributions Recognized by SERS	Contribution Deficiency (Excess)	Covered-Employee Payroll	Contributions as a Percentage of Covered-Employee Payroll
2017/18	$21,441	$21,441	$0	$141,268	15.18%

Schedule of Proportionate Share of PSERS Net OPEB Liability

Determined as of PSERS' June 30 measurement dates
(in thousands)

	PSERS Net OPEB Liability						
Fiscal Year	State System's Proportion	State System's Proportionate Share	Commonwealth's Proportionate Share	Total	State System's Covered-Employee Payroll	State System's Proportionate Share of Net OPEB Liability as a Percentage of Covered-Employee Payroll	PSERS Fiduciary Net Position as a Percentage of Total OPEB Liability
2017/18	.1811%	$3,690	$3,690	$7,380	$48,236	7.65%	5.73%

PSERS OPEB Schedule of Contributions

Determined as of State System's June 30 fiscal year end dates
(in thousands)

Fiscal Year	Contractually Required Contributions	Contributions Recognized by PSERS	Contribution Deficiency (Excess)	Covered-Employee Payroll	Contributions as a Percentage of Covered-Employee Payroll
2017/18	$204	$204	$0	$50,586	0.40%

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Appendix III

Summary of Legal Documents

Appendix III

SUMMARY OF LEGAL DOCUMENTS

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DEFINITIONS OF CERTAIN TERMS

The following definitions apply to the summaries of the Indenture and the Loan Agreement and to terms not otherwise defined in the Official Statement.

"Act" shall mean 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" shall mean Bonds duly executed, authenticated and delivered pursuant to the provisions of the Indenture, but shall not refer to or apply to any bonds issued under any other indenture or resolution of the Authority.

"Administrative Expenses" shall mean 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 State System, under the Act or the Indenture or pursuant to the Loan Agreement or by the Authority in protecting its rights to indemnification pursuant to the Indenture and shall include the fees and expenses of the Trustee with respect to its duties under the Indenture.

"Annual Administrative Fee" shall mean the annual fee for the general administrative services of the Authority.

"Authority" shall mean the Pennsylvania Higher Educational Facilities Authority. "Authority Board" shall mean the governing body of the Authority.

"Authorized Officer" of the Authority or the State System shall mean a "Responsible Officer."

"Bond" or "Bonds" shall mean one of the notes or bonds or all of the notes or bonds, as the case may be, to be authenticated and delivered pursuant to the Indenture, including any Bond issued in lieu of or in exchange for such Bond.

"Bond Proceeds Fund" shall mean the special account so designated which is established and created pursuant to the Indenture.

"Bondowner", "owner" or "registered owner" or words of similar import, when used with reference to a Bond, shall mean any person who shall from time to time be the registered owner of any Outstanding Bond.

"Business Day" shall mean a date when the Trustee and the Authority are open for business.

"Certificate" shall mean (i) a signed document either attesting to or acknowledging the circumstances, representations or other matters therein stated or setting forth matters to be determined pursuant to the Indenture or (ii) the report of an accountant as to audit or other procedures called for by the Indenture.

"Certified Resolution" of the Authority or the State System shall mean a copy of one or more resolutions certified by the Secretary or Assistant Secretary of the Authority or the State System, as the case may be, under its seal to have been duly adopted by the Board of the Authority or the State System board, as the case may be, and to be in effect on the date of such certification.

"Code" shall mean the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

"Commonwealth" shall mean the Commonwealth of Pennsylvania.

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

amounts payable to contractors and costs incident to the award of contracts;

costs for labor, facilities and services furnished by or for the State System or an institution thereof or the Authority and their employees or others, materials and supplies purchased by the State System or an institution thereof or the Authority or others, and permits and licenses obtained by the State System, an institution thereof, the Authority or others;

engineering, legal, accounting and other professional and advisory fees;

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;

interest during construction;

the Authority's initial fee and the Annual Administrative Fee and Administrative Expenses during the period prior to completion of any Project;

Costs of issuance of the Bonds;

fees and expenses in connection with the acquisition of real and personal property or rights therein, including premiums for title insurance;

costs of equipment purchased by the State System or an institution thereof and necessary for the completion and proper operation of any Project or property in question;

amounts required to repay temporary loans or advances from other funds of the State System or an institution thereof made to finance the Costs of any Project;

Costs of acquisition of real estate, construction and prior construction and/or site costs and improvements performed by the State System or any institution thereof in anticipation of any Project; and

moneys necessary to fund the Funds created under the Indenture.

"Debt Service" shall mean, with respect to any particular calendar year or Fiscal Year, an amount equal to the sum of (i) all interest payable on the Outstanding Bonds during such calendar year or Fiscal Year, respectively, plus (ii) the principal due on such Bonds during such calendar year or Fiscal Year, respectively.

"Debt Service Payment" shall mean with respect to any Interest Payment Date, the amount of interest and principal due.

"Depositary" shall mean any bank, trust company, national banking association, savings bank or savings and loan association, the unsecured debt obligations of which are rated at least an "A+" rating with the Rating Agency, selected by the Authority or the Trustee as a depositary of moneys or securities held under the provisions of the Indenture and permitted by law to be a depositary of Authority funds, and may include the Trustee, provided that all amounts held by the Depositary shall be in the name of the Trustee.

"Educational Facility" shall have the same meaning as used in the Act.

"Event of Default" shall mean any of the events specified in the Indenture or the Loan Agreement.

"Fiscal Year" shall mean a twelve-month period commencing on the first day of July of any year or any other twelve-month period as the Authority may by resolution determine from time to time, and shall include such shorter or longer period as the Authority shall deem advisable for transitional purposes.

"Forty-Fifth Supplemental Indenture" shall mean the Forty-Fourth Supplemental Indenture of Trust dated as of September 1, 2019, between the Authority and the Trustee and under which the Series AW Bonds will be issued.

"Forty-Fifth Supplemental Loan Agreement" shall mean the Forty-Fourth Supplemental Loan and Security Agreement dated as of September 1, 2019, between the Authority and the State System.

"Fund" shall mean one of the special funds created pursuant to the Indenture.

"Generally Accepted Accounting Principles" shall mean those accounting principles, not contrary to those promulgated by a nationally recognized financial standards body, applicable to the preparation of financial statements of institutions of higher learning or public authorities, as appropriate.

"Indenture" shall mean the Indenture of Trust dated as of June 1, 1985 between the Authority and the Trustee, as previously amended and supplemented, and as further supplemented by the Forty-Fourth Supplemental Indenture.

"Interest Payment Date" shall mean any date upon which interest on Bonds is due and payable in accordance with their terms.

"Investment Securities" shall mean and include any of the following obligations, to the extent the same are at the time legal for investment of funds of the Authority under the Act, including amendments thereto hereafter made, or under other applicable law:

direct obligations of or obligations guaranteed by the United States of America;

any bond, debenture, note, participation certificate or other similar obligation issued by any of the following agencies: Government National Mortgage Association, Federal Land Bank, Federal Home Loan Banks, Federal Intermediate Credit Banks, Federal Farm Credit Banks Consolidated Statewide, Tennessee Valley Authority, United States Postal Service, Farmers Home Administration, Export-Import Bank and Federal National Mortgage Association;

any other obligation of the United States of America or any federal agency to the payment of the principal of and interest on which the full faith and credit of the United States of America is pledged which may then be purchased with Authority funds or which are legal investments for savings banks, savings associations, or savings and loan associations in the Commonwealth but only if such investments are rated "AA" or better by the Rating Agency, or, upon the discontinuance of such service, another nationally recognized rating service;

tax-exempt obligations of any state or any instrumentality, agency or political subdivision thereof which are fully secured as to principal and interest by direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America, and which are rated in the highest rating category by the Rating Agency and which are not by their terms subject to redemption prior to the date on which they are needed for the purposes for which they have been deposited;

direct and general obligations of any state of the United States, to the payment of which the full faith and credit of such state are pledged, but only if such obligations are rated "AA" or better by the Rating Agency, or, upon the discontinuance of such service, another nationally recognized rating service;

deposits in interest-bearing time or demand deposits, or certificates of deposit, with an institution the unsecured deposits of which are rated "AA" or better by the Rating Agency at the time of purchase, or, upon discontinuance of such service, another nationally recognized rating service;

repurchase agreements with an institution rated "A+" or better by the Rating Agency, or, upon discontinuance of such service, another nationally recognized rating service;

commercial paper (except that of the Authority or an affiliate) or finance company paper rated "A-1" by Standard & Poor's Corporation;

investment agreements with an entity whose unsecured debt obligations are rated not less than "AA" by the Rating Agency;

interest bearing time deposits or certificates of deposit (such deposits or certificates of deposit may be in or issued by the Trustee), or other similar banking arrangements with the Trustee or a member bank or banks of the Federal Reserve System or a bank, the deposits of which are insured by the Federal Deposit Insurance Corporation or its successor, or a savings and loan association, the deposits of which are insured by the Federal Savings and Loan Insurance Corporation or its successor. Each such interest bearing time deposit or certificate shall be fully insured by the United States of America or the federal corporations enumerated above;

certificates of participation, lease and sublease obligations or other similar instruments evidencing the leasing or subleasing of capital assets to any state of the United States whose general obligation bonds are rated "AA" or better by the Rating Agency at the time of purchase, or, upon discontinuance of such service, another nationally recognized rating service; or

shares or certificates in any short-term investment fund, which short-term investment fund invests not less than 98% of its assets in obligations described in subparagraphs (1) through (11) above, including, without limitation, any 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 or an affiliate of the Trustee receives fees from such funds for services rendered, (ii) 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 (iii) 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.

"Loan Agreement" shall mean the Loan and Security Agreement dated as of June 1, 1985, between the Authority, as lender, and the State System, as borrower, as previously amended and supplemented and as further supplemented by the Forty-Fifth Supplemental Loan Agreement.

"Outstanding" when used with reference to Bonds, shall mean, as of any date, all Bonds theretofore or thereupon being authenticated and delivered under the Indenture except:

any Bond canceled by the Trustee or the Authority at or prior to such date;

any Bond (or portion of a Bond) for the payment or redemption of which there shall be held in trust and set aside either:

(a) moneys in an amount sufficient to effect payment when due of the principal or the applicable Redemption Price thereof, together with all accrued interest, or

(b) Investment Securities as described in clauses (1), (2) and (4) of the definition of Investment Securities above in such principal amounts, of such maturities, bearing such interest, and otherwise having such terms and qualifications, as shall be necessary to provide moneys (whether as principal or interest) in an amount sufficient to effect payment when due of the principal or applicable Redemption Price thereof, together with all accrued interest, or

(c) any combination of (a) and (b) above,

and, if such Bond or portion of a Bond is to be redeemed, for which notice of redemption shall have been given or provision satisfactory to the Trustee shall have been made for the giving of such notice;

any Bond in lieu of or in substitution for which other Bonds shall have been authenticated and delivered pursuant to the Indenture; and

any Bond deemed to have been paid as provided in the Indenture.

"Pledged Revenues" shall mean all amounts payable by the State System to the Authority under the Loan Agreement (except those representing the Annual Administrative Fee and Administrative Expenses of the Authority).

"Project" shall mean each individual Educational Facility financed under the Indenture and shall include acquiring, holding, constructing, improvement, maintaining and operating by the State System or an institution thereof, of grounds, premises, buildings, and other property constituting "educational facilities" as defined in the Act and used or useful in providing construction, housing, recreation, or other services related to higher education and related activities, including the financing of the Costs thereof by the Authority and the refinancing by the Authority of the Cost of Educational Facilities previously financed. Project shall also include refunding or redeeming any Outstanding Bonds.

"Rating Agency" shall mean Standard & Poor's Corporation or Moody's Investors Service, Inc. or Fitch Ratings or any successor thereto.

"Record Date" shall mean, with respect to fixed rate issues, the close of business on the fifteenth day of the calendar month preceding an Interest Payment Date if the Interest Payment Date is on the first day of the month and the first day of the month when an Interest Payment Date is on the fifteenth day of a month, and shall mean with respect to variable rate issues, the close of business on the last Business Day preceding an Interest Payment Date, unless a Special Record Date is otherwise defined and provided for in any Supplemental Indenture.

"Redemption Date" shall mean the date upon which any Bond is to be called for redemption pursuant to the Indenture.

"Redemption Fund" shall mean the special fund so designated which is established and created pursuant to the Indenture.

"Redemption Price" shall mean, with respect to any Bond or portion thereof, the amount payable upon redemption thereof, not including interest, if any, accrued to the Redemption Date.

"Resolution" shall mean the resolution or resolutions of the Authority authorizing the issuance of Bonds and the execution and delivery of the Indenture.

"Responsible Officer" shall mean (i) when used with respect to the Authority, the President, any Vice President, the Secretary, any Assistant Secretary, the Treasurer, any Assistant Treasurer, the Controller, the Assistant Controller, the Executive Director or any Assistant Executive Director, (ii) when used with respect to the State System, the Chancellor, Vice Chancellor, President, Chairperson, Vice Chairperson or any person designated as an Administrative Officer by Certificate of the State System, and (iii) when used with respect to either the State System or the Authority, as the case may be, any other person designated by certified resolution of the Board of the Authority or the State System 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.

"Revenues" shall mean all unrestricted receipts, revenues, income, gains and all other moneys received by the State System from any source, including without limitation, tuition and fee revenues, Commonwealth appropriations and other operating and non-operating revenues required to be recorded as revenue under Generally Accepted Accounting Principles, exclusive of net assets released from restriction, gifts, grants, bequests and donations which are designated by the donor at the time of making as being for specific purposes.

"Revenue Fund" shall mean the special fund so designated which is established and created pursuant to the Indenture.

"Series AG Bonds" shall mean the Authority's Refunding Revenue Bonds, State System of Higher Education, Series AG, issued under the Indenture.

"Series AH Bonds" shall mean the Authority's outstanding Revenue Bonds, State System of Higher Education, Series AH, issued under the Indenture.

"Series AI Bonds" shall mean the Authority's Refunding Revenue Bonds, State System of Higher Education, Series AI, issued under the Indenture.

"Series AJ Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AJ, issued under the Indenture.

"Series AK Bonds" shall mean the Authority's Refunding Revenue Bonds, State System of Higher Education, Series AK, issued under the Indenture.

"Series AL Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AL, issued under the Indenture.

"Series AM Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AM, issued under the Indenture.

"Series AN Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AN, issued under the Indenture.

"Series AO Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AO, issued under the Indenture.

"Series AP Bonds" shall mean the Authority's Refunding Revenue Bonds, State System of Higher Education, Series AP, issued under the Indenture.

"Series AQ Bonds" shall mean the Authority's Refunding Revenue Bonds, State System of Higher Education, Series AQ, issued under the Indenture.

"Series AR Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AR, issued under the Indenture.

"Series AS Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AS, issued under the Indenture.

"Series AT Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AT, issued under the Indenture.

"Series AT Insurer" shall mean Assured Guaranty Municipal Corp.

"Series AU Bonds" shall mean the Authority's Revenue Bonds, State System of Higher Education, Series AU, issued under the Indenture.

"Series AV Bonds" shall mean the Authority's Revenue and Refunding Revenue Bonds, State System of Higher Education, Series AV, issued under the Indenture.

"Series AV Bond Insurer" shall mean Build America Mutual.

"Series AW Bonds" shall mean the Authority's Revenue and Refunding Revenue Bonds, State System of Higher Education, Series AW, issued under the Indenture.

"Series AW Project" shall mean the issuance of the Authority's Series AW Bonds and the application of the proceeds to the costs included in the "Series AW Project" as defined in and for purposes of the forepart of this Official Statement.

"Sinking Fund Payment" shall mean, as of any particular date of calculation, the amount required to be paid in all events on a single future date for the retirement of Outstanding Bonds which mature after said future date, but does not include any amount payable by reason of the maturity of a Bond.

"State System of Higher Education" or "State System" or "System" shall mean the State System of Higher Education, a body corporate and politic constituting a public corporation and governmental instrumentality consisting of institutions of higher education recognized by the Board of Education of the Commonwealth.

"Supplemental Indenture" shall mean any indenture supplemental to or amendatory of the Indenture, executed and delivered by the Authority and effective in accordance with the Indenture.

"Trustee" shall mean The Bank of New York Mellon Trust Company, N.A., or its successor or successors, as successor trustee under the Indenture.

"Trust Estate" shall mean the security for the Bonds granted to the Trustee by the Authority in the granting clauses under the Indenture.

SUMMARY OF LEGAL DOCUMENTS

The following are summaries of certain provisions of the Loan Agreement and the Indenture. The summaries should not be regarded as full statements of the documents themselves or of the portions summarized. For complete statements of the provisions thereof, reference is made to the documents in their entireties, copies of which will be available for inspection at the principal corporate trust office of the Trustee.

THE LOAN AGREEMENT

The Loan Agreement, as previously supplemented and as further supplemented by the Forty-Fifth Supplemental Loan Agreement, was entered into between the Authority, as lender, and the State System, as borrower.

(i) The Projects

The State System shall use the proceeds of the Bonds in accordance with the Loan Agreement to undertake the Projects, including the Series AW Project, from time to time authorized thereunder and under the Indenture.

(ii) Agreement to Lend; Use of Bond Proceeds

Under the Loan Agreement, the Authority agrees to make, solely from the proceeds of Bonds, and the State System agrees to accept, the loans of Bond proceeds to finance the Costs of Projects. The State System agrees to accept disbursement of the proceeds of such loans to be used in the manner provided in the Indenture, including the construction and/or renovation, improvement and installation of the Projects and the making of all payments required by the Loan Agreement as and when the same shall become due.

(iii) Loan Repayments and Additional Sums

The Loan Agreement is a general obligation of the State System and the full faith and credit of the State System is pledged to the payment of all sums due thereunder. The State System shall pay to the Trustee, as assignee of the Authority, for deposit in the Revenue Fund created under the Indenture, the following amounts in immediately available funds: (a) with respect to fixed rate issues, fifteen days prior to an Interest Payment Date, and with respect to variable rate issues, no later than one day prior to an Interest Payment Date, an amount which is sufficient to pay interest on the Bonds to be paid on the next Interest Payment Date (taking into account as a credit against such installments, any amounts representing accrued and capitalized interest on deposit in any account of the Bond Proceeds Fund and moneys on deposit in the Revenue Fund for such purpose) and (b) principal of the Bonds due (at stated maturity or through sinking fund redemption) and (c) in each year, the State System shall pay directly to the Authority its Annual Administrative Fees and, when due, the Authority's Administrative Expenses incurred from time to time in connection with the Projects, as provided in the Indenture.

In lieu of the portion of the loan repayments payable with respect to principal of the Bonds becoming due (at stated maturity or through sinking fund redemption) on the next following principal or sinking fund payment date, the State System, or at its direction, the Authority, may purchase on the open market Bonds of the maturity becoming due and present such Bonds to the Trustee for cancellation. The Bonds so presented to the Trustee shall be credited to the principal amount of the next payment due thereunder at 100% of the principal amount of such Bonds.

The State System may make advance payments as required or permitted by the Loan Agreement. So long as any of the Bonds remain Outstanding, the obligation of the State System to pay sums due under the Loan Agreement shall be absolute and unconditional and shall not be suspended, abated, reduced, abrogated, waived, diminished or otherwise modified in any manner or to any extent whatsoever, regardless of any rights of setoff, recoupment or counterclaim that the State System might otherwise have against the Authority or the Trustee or any other party or parties and regardless of any contingency, act of God, event or cause whatsoever and notwithstanding any circumstances or occurrence that may arise or take place after the date of the Loan Agreement.

(iv) Concerning the Projects

The State System will undertake and proceed to complete any Projects financed by the Authority under the Loan Agreement with all reasonable dispatch and will use its best efforts to complete or cause the completion of such component parts to take place on or before the dates specified in the Indenture or as soon thereafter as may be practicable, except for delays incident to strikes, riots, acts of God or the public enemy or any delay beyond the reasonable control of the State System; but if for any reason the State System's undertakings with respect to any Project shall not be completed by such dates there shall be no resulting diminution in or postponement of the loan repayments required to be made by the State System under the Loan Agreement.

The State System shall enforce any construction contracts and purchase orders relating to a Project and will cause the State System's undertakings with respect to such Project to be completed substantially in accordance with any plans and specifications which may have been prepared therefor.

The State System agrees to obtain, or cause to be obtained, in connection with the construction of any Project, a surety bond or bonds covering performance of contracts and payment for labor and materials. Such bonds shall be executed by responsible surety companies and shall be in amounts aggregating not less than 100% of the contract price. The State System shall have the exclusive right to receive the proceeds of such bonds.

The State System will not do or refrain from doing any act whereby any surety on any bond may be released in whole or in part from any obligations assumed by it or from any agreement to be performed by it under any surety bond and the State System will comply with all present and future laws, acts, rules, regulations, orders, and requirements lawfully made relating to any acquisition or construction undertaken in accordance with the Loan Agreement.

The State System may amend the plans and specifications, if any, at any time prior to the completion date thereof, including amendments which change the proposed allocation of moneys in the account established for the State System in the Bond Proceeds Fund among components of such Project or which delete components of its undertakings under the Loan Agreement with respect to the Project. No such changes shall be made, and no amendment shall be made to the plans and specifications, if any, which shall so modify the State System's undertakings with respect to a Project that they fail to qualify as Educational Facilities eligible for assistance by the Authority under the Act.

The State System is also required to maintain builder's risk insurance (or equivalent coverage) upon work done or materials furnished (except excavations, foundations and other structures not customarily covered), worker's compensation insurance, employer's liability insurance and public liability, comprehensive automobile liability insurance and property insurance with respect to construction of new facilities.

(v) Costs of Projects

The State System shall direct to the Trustee requisitions for payment of proper Costs with respect to the Projects in accordance with the procedures established in the Indenture; provided, however, that the State System shall not submit any requisition which, if paid, would result in the proceeds of the Bonds being used other than to pay the Costs of the State System's undertakings with respect to a Project.

(vi) Completion of Projects

Under the Loan Agreement, the State System is obligated to complete its undertakings with respect to Projects at its own expense regardless of the adequacy of the moneys allocated to the State System in any particular account established in the Bond Proceeds Fund under the Indenture or the adequacy of other moneys made available to the State System by the Authority. The Authority makes no warranty, either express or implied, that the amounts to be deposited pursuant to the Indenture in any account established for the State System in the Bond Proceeds Fund will be sufficient to complete payment of the Costs of any Projects. The State System agrees that if, after exhaustion of the moneys allocated to the State System in the account established for the State System in the Bond Proceeds Fund and any other moneys made available by the Authority, the State System should pay any portion of the Costs of a Project, it shall not be entitled to any reimbursement therefor from the Authority, the Trustee or the owners of any of the Bonds, nor shall it be entitled to any diminution in or postponement of the amounts payable under the Loan Agreement.

(vii) Additional Projects

In the event that the State System should wish to undertake an additional Project with unused balances in the account established for the State System in the Bond Proceeds Fund (whether because of the deletion of a component of the State System's undertakings with respect to the Project or otherwise), the State System may provide for the payment of the Costs of such additional Project from the unused balances in such account in the Bond Proceeds Fund, provided that it shall comply with the foregoing requirements with respect to changes in a Project, and provided further that both an Officer's Certificate of the Authority to the effect that the additional Project is duly authorized under the Act and applicable Authority resolutions shall have been delivered.

(viii) Assignment to Trustee

The Authority shall assign the Loan Agreement and all sums payable under the Loan Agreement (other than amounts representing payments of the Authority's Annual Administrative Fees and Administrative Expenses and amounts representing the Authority's rights to indemnification pursuant to the Loan Agreement), to the Trustee, in trust, to be held and applied pursuant to the provisions of the Indenture. The State System (1) consents to the assignment to the Trustee and accepts notice thereof; (2) agrees to pay directly to the Trustee all such sums without any defense, set-off or counterclaim arising out of any default on the part of the Authority under the Loan Agreement or any transaction between the State System and the Authority; and (3) agrees that the Trustee may exercise all rights granted the Authority thereunder.

(ix) Additional Authority Financing

If the State System shall deem it necessary or advisable that additional Projects be undertaken, or if it is deemed necessary by the State System to refund Outstanding Bonds or obtain additional financing for the completion of a Project, the State System may request the Authority to provide a loan for all or part of Costs thereof. Upon receipt of a request of the State System, the Authority shall use its best efforts to provide such money from available sources under the Indenture or through the issuance of Additional Bonds or other evidences of indebtedness of the Authority.

(x) Certain Additional Covenants of the State System

The State System represents and covenants in the Loan Agreement that it is (i) a body corporate and politic constituting a public corporation and governmental instrumentality; (ii) organized and operated exclusively for educational purposes; and (iii) not for pecuniary profit. The State System agrees that it shall not perform any act nor enter into any agreement which shall change such status.

The State System covenants that it will preserve and maintain its existence as a public corporation under the laws of the Commonwealth, and to the extent permitted by law at any given time, remain free from Federal, state and local income, property, franchise and other taxes, and preserve and maintain its authority to operate the Projects.

The State System covenants that it will maintain the necessary accreditation to enable it to maintain its authority to operate its constituent educational institutions as institutions of higher education in the Commonwealth within the meaning of the Act.

The State System covenants that throughout the term of the Loan Agreement:

(A) it will take whatever actions are necessary to continue to be organized and operated in a manner which will preserve and maintain the exemption from federal income taxation of the State System; and

(B) it will not perform any acts nor enter into any agreements which shall cause any revocation or adverse modification of such federal income tax status of the State System; and

(C) it will not carry on or permit to be carried on in any Project (or with Bond proceeds or the proceeds of any loan refinanced with Bond proceeds) any trade or business the conduct of which would cause the interest paid by the Authority on the Bonds to be subject to Federal income tax in the hands of the owners thereof; and

(D) 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 by the Authority on the Bonds to be subject to Federal income tax in the hands of the owners thereof; and

(E) neither it nor any person related to it within the meaning of the Code, pursuant to an arrangement, formal or informal, will purchase the Bonds in an amount related to the total amount payable under and secured by the Loan Agreement.

The State System covenants that it shall not pledge more than twenty percent (20%) of its Revenues to secure any indebtedness it may incur or guaranties it may undertake without simultaneously granting such a lien for the benefit of the Bonds.

The State System further covenants that:

(1) during the term of the Loan Agreement it will not initiate any proceedings or take any action whatsoever to dissolve or liquidate or to terminate its existence as a public corporation or otherwise dispose of all or substantially all of its assets, or the Projects, either in a single transaction or in a series of related transactions, except as provided in the Loan Agreement.

(2) it shall pay or cause to be paid to the public officers charged with the collection thereof, promptly as the same become due, all taxes (or contributions or payments in lieu thereof).

(3) it will, at its own expense, keep and maintain or cause to be kept and maintained the Projects in good order, repair and operating condition.

(4) all actions taken by the State System to acquire and carry out the Projects, including the making of contracts or the entering into of purchase orders, have been and will be in full compliance with all pertinent laws, ordinances, rules, regulations and orders applicable to the State System.

(5) it will keep accurate records and books of account with respect to the revenues and expenses of the State System in accordance with generally accepted accounting principles and, within 150 days after the end of each Fiscal Year during the term of the Loan Agreement, provide a statement of revenue and expenses to the Authority and the Trustee.

(6) the Authority, by its duly authorized representatives, at reasonable times, and for purposes of determining compliance with the Loan Agreement and confirming the progress and completion of a Project, may inspect any part of a Project.

(xi) Events of Default and Remedies

"Events of Default" as defined in the Loan Agreement include the State System's failure:

(1) to make payments required under Section 4.01 thereof relating to payment of the principal of and interest on Bonds when the same shall become due and payable;

(2) to make any other payment required thereunder and such failure continues for 10 days after the Authority or the Trustee gives notice that such other payment is due and unpaid; or

(3) to perform any of its other covenants or to perform any of its obligations under the Loan Agreement and such failure continues for 60 days after the Authority gives the State System notice thereof; provided, however, that if such performance requires work to be done, actions to be taken, or conditions 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 State System shall commence such performance within such 60-day period and shall diligently and continuously prosecute the same to completion.

An "Event of Default" also occurs if the State System shall become insolvent or unable to pay its debts as they mature, or shall file a voluntary petition seeking reorganization or to effect a plan or other arrangement with creditors, or shall file an answer admitting the jurisdiction of the court and the material allegations of an involuntary petition, pursuant to any act relating to bankruptcy or to any act purporting to be amendatory thereof, or shall be adjudicated bankrupt or insolvent, or shall make an assignment for the benefit of creditors or to an agent authorized to liquidate any substantial amount of its assets, or shall apply for or consent to or suffer the appointment of any receiver or trustee for it or a substantial part of its property or assets; or a proceeding shall be instituted, without the application, approval or consent of the State System pursuant to any act relating to bankruptcy or to any act purporting to be amendatory thereof, seeking (i) adjudication of the State System as bankrupt or insolvent, (ii) reorganization of, or an order appointing any receiver or trustee for a substantial part of the property or assets of the State System, or (iii) issuance of a writ of attachment or any similar process against a substantial part of the property or assets of the State System and any such proceeding shall result in the entry of an order for relief or any such adjudication or appointment shall continue undismissed, or pending and unstayed, for any period of 30 consecutive days.

If any of the foregoing Events of Default shall happen, then and at any time thereafter while such Event of Default is continuing, the Authority may, in addition to its other remedies at law or equity or provided for in the Loan Agreement, if the Trustee shall have declared the principal of any Bonds then Outstanding to be immediately due and payable pursuant to the Indenture, with the prior written consent of the Trustee, declare amounts payable under the Loan Agreement to be immediately due and payable; then there shall become due and payable under the Loan Agreement as then current damages an amount equal to the principal of all Bonds so declared to be immediately due and payable plus accrued interest to the date of payment of such Bonds and all other amounts then due and payable under the Loan Agreement to the Authority. Until said amounts are paid by the State System, the Authority shall continue to have all of the rights, powers and remedies herein set forth, and the State System's obligations thereunder shall continue in full force and effect.

(xii) Amendment of Loan Agreement

The Authority and the State System may execute an appropriate supplement or amendment to the Loan Agreement in connection with the issuance of Additional Bonds as contemplated by the Indenture. In addition, the Authority and the State System may enter into any written amendments to the Loan Agreement as shall not adversely affect the rights of or the security of the owners of the Bonds, only for the following purposes:

(1) to cure any ambiguity, defect, or inconsistency or omission in the Loan Agreement or any amendment thereto;

(2) to grant to or confer upon the Authority any additional rights, remedies, powers, authority or security that lawfully may be granted to or conferred upon it;

(3) to reflect a change in applicable law; or

(4) to provide terms not inconsistent with the Indenture or the Loan Agreement; provided, however, that the Loan Agreement as so amended or supplemented shall provide at least the same security for owners of Bonds issued under the Indenture as the Loan Agreement prior to such amendment.

All other amendments to the Loan Agreement must be approved by the Trustee and, if the Indenture must be amended with the Bondowners' consent, by the Bondowners also, in the same manner and to the same extent as is set forth in the Indenture.

THE INDENTURE

The Series AW Bonds are being issued under and subject to the provisions of the Indenture to which reference must be made for complete details of the terms of the Series AW Bonds as well as the Series AG Bonds, the Series AH Bonds, the Series AI Bonds, the Series AJ Bonds, the Series AK Bonds, the Series AL Bonds, the Series AM Bonds, the Series AN Bonds, the Series AO Bonds, the Series AP Bonds, the Series AQ Bonds, the Series AR Bonds, the Series AS Bonds, the Series AT Bonds, the Series AU Bonds, the Series AV Bonds and any other Additional Bonds which may be issued under the Indenture.

(i) Pledge and Assignment

The Bonds are limited obligations of the Authority payable under the Indenture solely from the Trust Estate. Under the Indenture, the Pledged Revenues payable to the Authority from the State System under the Loan Agreement and all income and receipts earned on funds held by the Trustee under the Indenture have been pledged to the Trustee for the equal and ratable benefit (except as set forth in the Indenture) of the registered owners of all Bonds Outstanding under the Indenture. The rights of the Authority under the Loan Agreement (other than the rights to receive payment of its Annual Administrative Fees and Administrative Expenses and the Authority's right to receive indemnification pursuant to the Loan Agreement) have been assigned to the Trustee to secure the payment of the Bonds and the performance and observance of the covenants in the Indenture.

(ii) Disposition of the Proceeds of the Sale of the Series AW Bonds

Upon the issuance and delivery of the Series AW Bonds, the Authority shall forthwith transfer the proceeds to the Trustee and the Trustee shall deposit the same in the Settlement Account of the Bond Proceeds Fund established under the Indenture and the Forty-Fifth Supplemental Indenture to be transferred and applied upon the order of the Authority and approved by the State System. From the proceeds of the Series AW Bonds, the Trustee shall make the following transfers or expenditures from the Settlement Account: (1) amounts representing accrued interest on the Series AW Bonds shall be transferred to an account established in the Revenue Fund and applied to the payment of interest on the Series AW Bonds on the first Interest Payment Date following issuance thereof, (2) payment of the costs of issuance of the Series AW Bonds shall be paid, and (3) the balance remaining shall be transferred to the Series AW Account of the Revenue Fund for application to the payment of the Series AW Project in accordance with the procedures established in the Indenture.

(iii) Additional Bonds

Under the Indenture, the Authority is authorized to issue, at the request of the State System under the Loan Agreement, Additional Bonds for the purpose of undertaking any additional Projects on behalf of the State System or to refund any prior series of Bonds outstanding under the Indenture. Such Additional Bonds, if issued, will be equally and ratably secured under the Indenture with the Series AG Bonds, the Series AH Bonds, the Series AI Bonds, the Series AJ Bonds, the Series AK Bonds, the Series AL Bonds, the Series AM Bonds, the Series AN Bonds, the Series AO Bonds, the Series AP Bonds, the Series AQ Bonds, the Series AR Bonds, the Series AS Bonds, the Series AT Bonds, the Series AU Bonds and the Series AV Bonds except to the extent expressly limited under the Indenture.

(iv) Establishment of Funds

The "Bond Proceeds Fund" established under the Indenture shall contain funds deposited therein pursuant to the Indenture and shall be expended only (i) to pay the cost of financing a Project, (ii) to pay Costs of issuance, and (iii) to pay accrued and capitalized interest on Bonds. Under the Indenture, the Trustee is directed to establish separate accounts in which to deposit proceeds of the various series of Bonds. Amounts in the Bond Proceeds Fund or any account established therein shall be held for the benefit of all Bonds Outstanding under the Indenture (other than with respect to any capitalized interest account created for a specific series of Bonds which shall be held and applied solely for the particular specified Bonds).

Payments shall be made from any account of the Bond Proceeds Fund to pay Costs of each Project, but only upon receipt by the Trustee of the requisitions and certifications required by the Indenture. Upon the completion of each Project, evidenced in the manner provided in the Indenture, amounts in the applicable account of the Bond Proceeds Fund may, at the option of the Authority upon the direction of the State System, be transferred to the Revenue Fund to be applied to the payment of Debt Service on the applicable series of Bonds or to the redemption of Bonds or to any other account of the Bond Proceeds Fund to be used to pay costs of additional Projects.

The "Revenue Fund" established under the Indenture shall contain Pledged Revenues of the Authority received by the Trustee under the Loan Agreement. Under the Indenture, the Trustee is directed to establish separate accounts within the Revenue Fund in connection with each series of Bonds. Moneys in the Revenue Fund are pledged for the equal and ratable benefit of all Bonds Outstanding under the Indenture, except as expressly limited by the Indenture.

The Trustee shall pay out of the Revenue Fund the following amounts in the following order, on the dates specified, for the following purposes (i) on each Interest Payment Date, the amounts required, taking into consideration the amounts otherwise available, for the payment of principal, Sinking Fund Payments, Redemption Price, if any, and interest due on the Outstanding Bonds on such date; (ii) on the Redemption Date or date of purchase of Bonds the amounts required for the payment of accrued interest on Bonds redeemed or purchased for retirement, unless the payment of such accrued interest shall be otherwise provided for; (iii) upon the written direction of the Authority on each Interest Payment Date to the payment of certain fees and expenses of the Trustee, including costs of redemption of Bonds; and (iv) all remaining amounts shall be transferred to the Redemption Fund upon the written direction of the Authority at the request of the State System.

The "Redemption Fund" shall contain amounts which are required to be deposited therein pursuant to the Indenture and any other amounts available therefor and determined by the State System pursuant to the Loan Agreement to be deposited therein subject to the provisions of the Indenture, and the Trustee shall apply all amounts so deposited to the redemption of Bonds. At any time prior to the date upon which notice is given that Bonds are to be redeemed from such amounts, the Trustee shall apply any amounts in the Redemption Fund to the purchase of any of the Bonds which may be redeemed by application of such amounts upon the direction of the Authority at the written direction of the State System. The Trustee shall purchase Bonds at such times, for such prices, in such amounts and in such manner as the Authority upon written direction of the State System shall from time to time direct.

(v) Deposits

In order to permit any amount to be available for use at the time when needed, amounts held under the Indenture by the Trustee or any Depositary, as such, may if and as directed by the State System, be deposited in the commercial banking department of the Trustee or Depositary which may honor checks and drafts on such deposit with the same force and effect as if it were not such Trustee or Depositary. The Trustee or Depositary shall allow and credit on such amounts at least such interest, if any, as it customarily allows upon similar funds of similar size and under similar conditions or as required by law.

All amounts deposited by the Trustee or Depositary shall be continuously and fully secured (a) by lodging with the Trustee, as custodian, as collateral security, Investment Securities having a market value (exclusive of accrued interest) not less than the amount of such deposit, and (b) in such manner as may then be required by applicable federal or state laws and regulations regarding security for the deposit of public funds provided that in no event shall such security be in an amount less than such deposit. It shall not be necessary, unless required by applicable law, for the Trustee to give security for the deposit of any amounts to the extent that such deposit is insured by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation, or their respective successors, or which are held in trust and set aside by them for the payment of the principal or Redemption Price of or interest on any Bonds, or for the Trustee or any Depositary to give security for any moneys which shall be represented by obligations or certificates of deposit purchased as an investment of such moneys.

All amounts so deposited by the Trustee or Depositary shall be credited to the particular Fund from which such amounts were derived.

(vi) Investment of Funds

Moneys in any Fund shall be continuously invested and reinvested and/or deposited and redeposited by the Trustee, as permitted in the Indenture, as the State System shall direct the Trustee in writing. The State System shall consult with the Trustee from time to time as to the investment of amounts in the Funds and Accounts established or confirmed by the Indenture. Except as otherwise provided herein, the State System shall give written directions to the Trustee to invest and reinvest the moneys in said Funds and Accounts in Investment Securities so that the maturity date or date of redemption at the option of the holder thereof shall coincide as nearly as practicable with the times at which moneys are needed by the Authority to be so expended. The Investment Securities purchased shall be held by the Trustee and shall be deemed at all times to be part of such Fund or Account, and the Trustee shall keep the Authority and the State System advised as to the details of all such investments.

Except as otherwise provided therein, Investment Securities purchased as an investment of moneys in any Fund held by the Trustee under the provisions of the Indenture shall be deemed at all times to be a part of such Fund, but the income or interest earned and gains realized in excess of losses suffered by a Fund due to the investment thereof may be deposited in the Bond Proceeds Fund during the construction period of any Project and thereafter shall be deposited in the Revenue Fund as Pledged Revenues or shall be credited to the Revenue Fund from time to time as Pledged Revenues and reinvested.

Except as otherwise provided herein, the Trustee shall sell at the best price obtainable with reasonable diligence, or present for redemption or exchange, any

Investment Security purchased by it pursuant to the Indenture whenever it shall be necessary in order to provide moneys to meet any payment or transfer from the fund for which such investment was made. The Trustee shall advise the Authority and the State System in writing, on or before the twentieth day of each calendar month, or as soon as practicable thereafter of all investments held for the credit of each Fund in its custody under the provisions of the Indenture as of the last business day of the preceding month.

(vii) Valuation of Funds

In computing the amount in any Fund, obligations purchased as an investment of moneys therein shall be valued at the lower of cost or fair market value.

(viii) Covenants of the Authority

The Authority shall, among other things, promptly pay solely from the Trust Estate the principal or Redemption Price, if any, of every Bond and all interest thereon. The Authority shall preserve and protect the pledge of the Trust Estate, Pledged Revenues and other assets and revenues.

The Authority shall at all times do and perform all acts and things necessary in order to assure that interest paid on the Bonds shall, for the purposes of federal income taxation, be and remain excludable from the gross income of the recipients thereof and be and remain exempt from such taxation.

The Authority shall not permit at any time or times any of the proceeds of the Bonds or any other funds of the Authority to be used directly or indirectly to acquire any securities or obligations the acquisition of which would cause any Bond to be an "arbitrage bond" as defined in the Code. The Authority shall not permit at any time or times any proceeds of any Bonds or any other funds of the Authority to be used, directly or indirectly, in a manner which would result in the exclusion of any Bond from the treatment afforded by subsection (a) of Section 103 of the Code; and has covenanted with respect to the Series AW Bonds, to comply with all applicable provisions of the Code as from time to time in effect so as to maintain the federal tax exempt status of the interest payable on the Series AW Bonds, including, without limiting the generality of the foregoing, the arbitrage rebate provisions of Section 148(f) of the Code to the extent applicable.

Notwithstanding any terms, provisions or covenants to the contrary contained in the Indenture, the Authority shall not be prohibited from issuing obligations not exempt from federal income taxation so long as the tax exempt status of any Bonds Outstanding immediately prior to the issuance of such taxable obligations shall not be adversely affected thereby.

(ix) Additional Obligations

The Authority shall not create or permit the creation of or issue any obligations or create any additional indebtedness which will be secured by a superior or equal charge and lien on the revenues and assets pledged under the Indenture, except that Additional Bonds may be issued from time to time pursuant to a Supplemental Indenture of the Authority subsequent to the issuance of the initial issue of Bonds under the Indenture on a parity with the Bonds of such initial issue of Bonds and secured by an equal charge and lien on the revenues and assets pledged under the Indenture and payable equally therefrom (except for certain funds held under the Indenture).

(x) Supplements and Amendments

For any one or more of the following purposes and at any time or from time to time, a Supplemental Indenture of the Authority may be executed and delivered which, upon the filing with the Trustee of a copy thereof certified by an Authorized Officer of the Authority, shall be fully effective in accordance with its terms:

to close the Indenture against, or to provide limitations and restrictions in addition to the limitations and restrictions contained in the Indenture on, the authentication and delivery of Bonds; or

to add to the covenants and agreements of the Authority in the Indenture other covenants and agreements to be observed by the Authority which are not contrary to or inconsistent with the Indenture as theretofore in effect; or

to add to the limitations and restrictions in the Indenture other limitations and restrictions to be observed by the Authority which are not contrary to or inconsistent with the Indenture as theretofore in effect; or

to surrender any right, power or privilege reserved to or conferred upon the Authority by the terms of the Indenture, but only if the surrender of such right, power or privilege is not contrary to or inconsistent with the covenants and agreements of the Authority contained in the Indenture; or

to confirm, as further assurance, any pledge under, and the subjection to any lien or pledge created or to be created by, the Indenture, of the Pledged Revenues or of any other revenues or assets; or

to modify any of the provisions of the Indenture in accordance therewith; or

to provide for the issuance of Additional Bonds pursuant to the Indenture.

For any one or more of the following purposes and at any time or from time to time, a Supplemental Indenture may be entered into, which, upon (i) the filing with the Trustee of a copy thereof certified by an Authorized Officer, and (ii) the filing with the Trustee and the Authority of an instrument in writing made by the Trustee consenting thereto, shall be fully effective in accordance with its terms:

to cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the Indenture; or to insert such provisions clarifying matters or questions arising under the Indenture as are necessary or desirable and are not contrary to or inconsistent with the Indenture as theretofore in effect; or

to provide for additional duties of the Trustee.

Any other modification of or amendment to the Indenture and of the rights and obligations of the Authority and of the owners of the Bonds may be made by a Supplemental Indenture, but only with the written consent of the owners of at least two-thirds in principal amount of the Bonds Outstanding at the time such consent is given. In case the modification or amendment changes the terms of any Sinking Fund Payment, the written consent of owners of at least two-thirds in principal amount of each of the Bonds entitled to such Sinking Fund Payment is required. No such modification or amendment shall permit a change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon without the consent of the holder of such Bond, or shall reduce the percentages or otherwise affect the classes of Bonds the consent of the owners of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any fiduciary without its written assent thereto.

Upon the written consent of the owners of all the Bonds then Outstanding, the terms and provisions of the Indenture and the rights and obligations of the Authority and the owners of the Bonds may be modified or amended in any respect. However, any provision of the Indenture expressly recognizing or granting rights in or to a bond insurer may not be amended in any manner which affects its rights under the Indenture without the insurer's prior written consent.

(xi) Defaults and Remedies

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

the Authority shall default in the payment of the principal of or Redemption Price, if any, on any Bond when and as the same shall become due, whether at maturity or upon call for redemption or otherwise; or

payment of any installment of interest on any of the Bonds shall not be made as the same shall become due; or

the Authority shall file a petition in bankruptcy or seek a composition of its indebtedness; or

an Event of Default (as defined in the Loan Agreement) under the Loan Agreement; or

the Authority shall fail or refuse to comply with the other provisions of the Indenture, or shall default in the performance or observance of any of the other covenants, agreements, or conditions on its part contained in the Indenture or the

Bonds, and such failure, refusal or default shall continue for a period of forty-five days after written notice thereof by the Trustee or the owners of not less than twenty-five percent (25%) in principal amount of the Outstanding Bonds.

Upon the happening and continuance of any Event of Default specified in paragraphs (1) through (3) above, the Trustee shall proceed, or upon the happening and continuance of any Event of Default specified in paragraphs (4) and (5) above, the Trustee may proceed and, upon the written request of the owners of not less than twenty-five percent (25%) in principal amount of the Outstanding Bonds, shall proceed, in its own name to protect and enforce the rights of the Bond owners by such of the following remedies, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights:

by mandamus or other suit, action or proceeding at law or in equity, to enforce all rights of the Bond owners, including the right to require the Authority to receive and collect revenues, including Pledged Revenues, adequate to carry out the covenants and agreements as to, and to require the Authority to carry out any other covenants or agreements with Bond owners and to perform its duties under the Act;

by bringing suit upon the Bonds;

by action or suit in equity, to require the Authority to account as if it were the trustee of an express trust for the owners of the Bonds;

by action or suit in equity, to enjoin any acts or things which may be unlawful or in violation of the rights of the owners of the Bonds; or

by declaring all Bonds due and payable and, if all defaults shall be cured, then with the written consent of the owners of not less than sixty-six and two-thirds percent (66-2/3%) in principal amount of the Outstanding Bonds, by annulling such declaration and its consequences.

Anything in the Indenture to the contrary notwithstanding, upon the happening and continuance of an Event of Default with respect to a particular series of Bonds, if such Bonds are insured by a municipal bond insurance policy, the insurer thereunder shall be entitled to control and direct the enforcement of all rights and remedies granted to the holders of the such series of Bonds or the Trustee for the benefit of the holders of such series of Bonds under the Indenture.

In the enforcement of any rights and remedies under the Indenture, the Trustee shall be entitled to sue for, enforce payment of and receive any and all amounts then or during any default becoming, and at any time remaining, due and unpaid from the Authority for principal, Redemption Price, interest or otherwise, under any provisions of the Indenture or a Supplemental Indenture or of the Bonds, with interest on overdue payments at the rate of interest specified in such Bonds, together with any and all costs and expenses of collection and of all proceedings thereunder and under such Bonds, without prejudice to any other right or remedy of the Trustee or of the Bond owners, and to recover and enforce a judgment or decree against the Authority for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect from any moneys available for such purpose, in any manner provided by law, the moneys adjudged or decreed to be payable.

Upon the occurrence of any Event of Default and upon the filing of a suit or commencement of other judicial proceedings to enforce the rights of the Bond owners under the Indenture, the Trustee shall be entitled, as a matter of right, to the appointment of a receiver or receivers for the Authority, but only with respect to the Trust Estate, pending such proceedings, with such powers as the court making such appointment shall confer.

(xii) Limitation on Actions by Bond Owners

Bond owners shall have no right to pursue any remedy under the Indenture unless (a) the Trustee shall have given written notice of an Event of Default, (b) the 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, and (c) the Trustee shall have been offered indemnity satisfactory to it against costs, expenses and liabilities.

(xiii) Removal of Trustee

The Trustee shall be removed by the Authority if at any time so requested by an instrument or concurrent instruments in writing, filed with the Trustee and the Authority and signed by the owners of a majority in principal amount of the Bonds then Outstanding or their attorney-in-fact duly authorized. The Authority may remove the Trustee at any time, except during the existence of an Event of Default under the Indenture, for such cause as shall be determined in the sole discretion of the Authority.

(xiv) Defeasance

If the Authority shall pay or cause to be paid to the owners of the Bonds, the principal or Redemption Price and interest to become due thereon and make all other payments under the Indenture then the pledge of any revenues and assets hereby pledged and all other rights granted thereby shall be discharged and satisfied. In such event, the Trustee shall, upon the request of the Authority, execute and deliver to the Authority all such instruments as may be desirable to evidence such discharge and satisfaction and the Trustee shall pay over and deliver to the Authority all moneys or securities held by it pursuant to the Indenture which are not required for the payment or redemption of Bonds not theretofore surrendered for such payment or redemption.

All Outstanding Bonds and all interest installments appertaining to such Bonds shall, prior to the maturity or Redemption Date thereof, be deemed to have been paid if (i) in case any of said Bonds are to be redeemed on any date prior to their maturity, the Authority shall have given to the Trustee in form satisfactory to it irrevocable instructions to publish notice or redemption on said date of such Bonds; (ii) there shall have been deposited with the Trustee either moneys in an amount which shall be sufficient, or Investment Securities the principal of and the interest on which when due will provide moneys which, together with the moneys, if any, deposited with the Trustee at the same time, shall be sufficient, to pay when due the principal or Redemption Price, if any, and interest due and to become due on said Bonds on and prior to the redemption Date or maturity date thereof, as the case may be, and (iii) in the event said Bonds are not by their terms subject to redemption within the next succeeding sixty days, the Authority shall have given the Trustee irrevocable instructions to mail notice to the owners of such Bonds that the deposit required by (ii) above has been made with the Trustee and that said Bonds are deemed to have been paid and stating such maturity or Redemption Date upon which moneys are to be available for the payment of the principal or Redemption Price, if any, on said Bonds. For purposes of defeasance, Investment Securities shall mean and only such obligations as are described in clauses (1), (2) and (4) of the definition of Investment Securities (to the extent such securities are guaranteed or otherwise secured by the United States of America), or deposits in interest-bearing time or demand deposits or certificates of deposit secured by obligations of the types described in paragraphs (1) and (2) of the definition of Investment Securities.

Notwithstanding anything to the contrary, in the event that the principal and/or interest due on an outstanding series of Bonds shall be paid pursuant to a municipal bond insurance policy, such series of Bonds shall remain Outstanding for all purposes, not be defeased or otherwise satisfied and not be considered paid by the Authority, and the assignment and pledge of the Trust Estate and all covenants, agreements and other obligations of the Authority to the registered owners shall continue to exist and shall run to the benefit of the insurer under such municipal bond insurance policy who shall also be subrogated to the rights of such registered owners.

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Appendix IV

Form of Opinion of Co-Bond Counsel

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APPENDIX IV

Form of Co-Bond Counsel Opinion

RE: $_________ Pennsylvania Higher Educational Facilities Authority
State System of Higher Education,
Revenue and Refunding Revenue Bonds, Series AW

To the Purchasers of the Within-Described Bonds:

We have served as co-bond counsel in connection with the issuance by the Pennsylvania Higher Educational Facilities Authority ("Authority") of its $_________ State System of Higher Education, Revenue and Refunding Revenue Bonds, Series AW (the "Bonds"). The Bonds are issued by the Authority pursuant to the Pennsylvania Higher Education Facilities Act of 1967, as amended (Act No. 318, approved December 6, 1967, P.L. 678, as amended, hereinafter, "Act"), action of the Authority including a resolution adopted July, 2018 ("Resolution"), and an Indenture of Trust, dated as of June 1, 1985, as supplemented from time to time including, in particular, by a Forty-Fifth Supplemental Indenture of Trust, dated as of September 1, 2019 ("Forty-Fifth Supplemental Indenture"; collectively, "Indenture"), between the Authority and The Bank of New York Mellon Trust Company, N.A., as trustee ("Trustee").

The proceeds from the sale of the Bonds will be applied for the benefit of the State System of Higher Education ("System") to finance: (i) the replacement of HVAC equipment in the Kehr Union Building at Bloomsburg University of Pennsylvania; (ii) the reimbursement of the costs of acquisition at West Chester University of Pennsylvania of three parking garages from the Borough of West Chester; (iii) the refunding of a portion of the Authority's State System of Higher Education Revenue Bonds, Series AJ of 2009; (iv) the refunding of a portion of the Authority's State System of Higher Education Revenue Bonds, Series AK of 2009; and (v) the financing of contingencies and payment of costs and expenses incident to the issuance of the Bonds.

Pursuant to a Loan and Security Agreement dated as of June 1, 1985, as supplemented from time to time including, in particular, by a Forty-Fifth Supplemental Loan and Security Agreement, dated as of September 1, 2019 ("Forty-Fifth Supplemental Loan Agreement"; collectively, "Loan Agreement"), between the Authority and the System, the Authority has loaned the proceeds of the Bonds to the System and the System has agreed to make loan repayments at such times and in such amounts as calculated to enable full and timely payment of the principal and redemption price of and interest on the Bonds. Pursuant to an assignment dated as of September 1, 2019 ("Assignment"), the Authority has assigned its rights under the Loan Agreement (except for its rights to indemnification and to receive certain notices and give certain approvals) to the Trustee.

In our capacity as co-bond counsel we have examined the Act, such matters of law and records of the Authority and the System and such other documents, certifications and instruments as we considered necessary to enable us to express the opinions set forth below including, in particular, but not by way of limitation: original counterparts or certified copies of the Resolution, Indenture, Loan Agreement, Assignment and the other documents, certifications and instruments, listed in the Closing Agenda in respect of the Bonds filed with the Trustee, including the Joint Tax Certificate, executed and delivered by the Authority and the System pursuant to the applicable provisions of Sections 103 and 141-150 of the Internal Revenue Code of 1986, as amended, and the regulations applicable thereunder ("Tax Certificate"), the legal opinions of Chief Counsel to the System ("System Counsel Opinion") and of Barley Snyder, LLP, counsel to the Authority ("Authority Counsel Opinion"). We have also examined the fully executed and authenticated Bonds or true copies thereof.

In rendering the opinions set forth below we have relied on the authenticity, truthfulness and completeness of all documents, certifications and instruments examined including, without limiting the generality of the foregoing, the Tax Certificate, upon the Authority Counsel Opinion and the System Counsel Opinion as to matters set forth therein, principally related to the due authorization, execution and delivery by the Authority of the Bonds, and such other documentation as the Authority and the System were required to execute and deliver in connection with the issuance thereof. Except as set forth below in numbered paragraph 6, the following opinions are given only with respect to the laws of the Commonwealth of Pennsylvania as enacted and construed on the date hereof.

Based upon and subject to the foregoing, we are of the opinion that:

1. The Authority is a body corporate and politic constituting a public corporation and a government instrumentality organized and existing under the Act, of the Commonwealth of Pennsylvania and has the power to enter into the transactions contemplated by the Indenture and the Loan Agreement and to carry out its obligations thereunder.

2. The Forty-Fifth Supplemental Indenture, the Forty-Fifth Supplemental Loan Agreement and the Assignment have been duly authorized, executed and delivered by the Authority and, assuming, where appropriate, the due authorization, execution and delivery by the other parties thereto, constitute the valid and binding obligations of the Authority enforceable against it in accordance with their respective terms except as may be affected by bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or other similar laws or legal or equitable principles affecting the enforcement or creditors' rights ("Creditors' Rights Limitations").

3. The Loan Agreement has been duly authorized, executed and delivered by the System and the obligations to make payments thereunder constitute valid and binding obligations of the System enforceable against it in accordance with its terms, except as may be affected by Creditors' Rights Limitations; all right, title and interest of the Authority in and to the loan payments due under the Loan Agreement have been duly assigned to the Trustee (except for the fees and expenses payable to the Authority and the Authority's right to indemnification).

4. The Bonds have been duly and validly authorized, executed, issued and delivered by the Authority and constitute the valid and binding limited obligations of the Authority enforceable against it in accordance with their terms and are entitled to the benefit and security of the Indenture, except as may be affected by Creditors' Rights Limitations.

5. Under the laws of the Commonwealth of Pennsylvania as enacted and construed on the date hereof, interest on the Bonds is exempt from Pennsylvania personal income tax and

corporate net income tax and the Bonds are exempt from personal property taxes in the Commonwealth of Pennsylvania.

6. Under existing statutes, regulations, rulings and court decisions, interest on the Bonds, including in the form of properly accrued original issue discount, is neither includable in gross income for federal income tax purposes nor a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations; however, such interest is taken into account in determining adjusted current earnings for the purposes of computing the alternative minimum tax imposed on certain corporations.

The opinion set forth above in numbered paragraph 6 regarding the exclusion of interest on the Bonds from gross income of the recipient is subject to continuing compliance by the Authority and the System with their respective covenants relating to the requirements of the Internal Revenue Code of 1986, as amended, including those set forth in the Tax Certificate. Failure to comply with such covenants could cause the interest on the Bonds to be included in gross income retroactive to the date of issue thereof. Although we are of the opinion that interest on the on the Bonds is excluded from gross income for federal tax purposes, the accrual or receipt of interest on the Bonds may otherwise affect the federal income tax liability of the recipient. The extent of these other tax consequences will depend upon the recipient's particular tax status or other items of income or deduction. We express no opinion regarding any such consequences as to all of which recipients should consult their own tax advisors.

This opinion is rendered on the basis of federal law and the laws of the Commonwealth of Pennsylvania as enacted and construed on the date hereof. We undertake no obligation to update or supplement this opinion under any circumstance including if, after the date hereof, facts or events come to our attention or changes in law occur which could affect the matters addressed herein. We express no opinion herein as to any matter not set forth in the numbered sections above, including, without limitation, with respect to, and assume no responsibility for, the accuracy, adequacy or completeness of the preliminary or definitive official statements prepared in respect of the Bonds, including the appendices thereto, and make no representation that we have independently verified the contents thereof.

Attention is called to the facts that the Bonds are limited obligations of the Authority payable from only the revenues pledged and other moneys available under the Indenture and do not pledge the credit or taxing power of the Commonwealth of Pennsylvania or any political subdivision thereof, and that the Authority has no taxing power.

Very truly yours,

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State System of Higher Education
Commonwealth of Pennsylvania
Established July 1, 1983

Bloomsburg
UNIVERSITY

KUTZTOWN
UNIVERSITY

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HAVEN
UNIVERSITY
OF PENNSYLVANIA

CHEYNEY UNIVERSITY

MANSFIELD
UNIVERSITY

CLARION
UNIVERSITY

Millersville
University

PREPARE TO SERVE
ESU
EAST STROUDSBURG
UNIVERSITY
FOUNDED 1893

SHIPPENSBURG
UNIVERSITY

EU
1857
EDINBORO
UNIVERSITY

SlipperyRock
University

IUP

WCU
WEST CHESTER
UNIVERSITY