

**STATE OF TENNESSEE
GENERAL OBLIGATION BONDS
\$100,105,000 2019 SERIES A
\$28,000,000 2019 SERIES B (FEDERALLY TAXABLE)**

Dated: Date of Delivery

Due: As shown on the inside front cover

This Official Statement has been prepared by the State of Tennessee (the "State") to provide information relating to the State's General Obligation Bonds, 2019 Series A (the "Series A Bonds"), and 2019 Series B (Federally Taxable) (the "Series B Bonds", and collectively with the Series A Bonds, the "Bonds"). Selected information is presented on this cover page for the convenience of the user. To make an informed decision regarding the Bonds, a prospective investor should read the Official Statement in its entirety.

The Bonds	Interest on the Bonds is payable semi-annually March 1 and September 1, commencing March 1, 2020. Interest rates and reoffering yields as shown on inside front cover. Fully registered bonds issued in denominations of \$5,000 or any integral multiple thereof. See "THE BONDS" herein.
Redemption	See "THE BONDS – Redemption" herein
Security	Direct general obligations; pledge of full faith and credit. See "SECURITY FOR THE BONDS" herein.
Ratings	Fitch: AAA Moody's: Aaa S&P: AAA. See "RATINGS" herein.
Book-Entry Only System	The Depository Trust Company will act as securities depository for the Bonds. See "THE BONDS" and Appendix D – "BOOK-ENTRY ONLY SYSTEM" herein.
Tax Exemption	Interest on the Series A Bonds is excluded from gross income for federal income tax purposes to the extent and subject to the conditions, limitations and continuing compliance with tax covenants as described herein. Interest on the Series B Bonds is included in gross income for federal income tax purposes. The principal of and interest on the Bonds are exempt from Tennessee taxes, subject to certain exceptions. See "TAX MATTERS" herein.
Issuer's Bond Counsel	Hawkins Delafield & Wood LLP, New York, New York.

The Bonds are offered when, as and if issued and received by the Purchasers subject to certain conditions, including the approval of legality by Hawkins Delafield & Wood LLP, Bond Counsel to the State of Tennessee. Certain legal matters in connection with the Bonds are subject to the approval of the Attorney General and Reporter of the State of Tennessee, as counsel to the State Funding Board. The Bonds are expected to be available through the facilities of The Depository Trust Company on or about October 3, 2019.

September 17, 2019

**MATURITIES, AMOUNTS, INTEREST RATES, YIELDS
AND CUSIP NUMBERS**

STATE OF TENNESSEE

**GENERAL OBLIGATION BONDS
\$100,105,000 2019 SERIES A**

Due	Amount	Interest Rate	Yield	CUSIP** 880541	Due	Amount	Interest Rate	Yield	CUSIP** 880541
September 1, 2020	\$ 5,010,000	5.00%	1.29%	ZF7	September 1, 2030	\$ 5,005,000	5.00%	1.66%	* ZR1
September 1, 2021	5,005,000	5.00	1.29	ZG5	September 1, 2031	5,005,000	5.00	1.70	* ZS9
September 1, 2022	5,005,000	5.00	1.32	ZH3	September 1, 2032	5,005,000	5.00	1.74	* ZT7
September 1, 2023	5,005,000	5.00	1.35	ZJ9	September 1, 2033	5,005,000	5.00	1.78	* ZU4
September 1, 2024	5,005,000	5.00	1.36	ZK6	September 1, 2034	5,005,000	5.00	1.82	* ZV2
September 1, 2025	5,005,000	5.00	1.40	ZL4	September 1, 2035	5,005,000	5.00	1.86	* ZW0
September 1, 2026	5,005,000	5.00	1.44	ZM2	September 1, 2036	5,005,000	5.00	1.91	* ZX8
September 1, 2027	5,005,000	5.00	1.49	ZN0	September 1, 2037	5,005,000	5.00	1.95	* ZY6
September 1, 2028	5,005,000	5.00	1.55	* ZP5	September 1, 2038	5,005,000	5.00	1.99	* ZZ3
September 1, 2029	5,005,000	5.00	1.60	* ZQ3	September 1, 2039	5,005,000	5.00	2.03	* A23

* Priced to call date of September 1, 2027

**GENERAL OBLIGATION BONDS
\$28,000,000 2019 SERIES B (FEDERALLY TAXABLE)**

Due	Amount	Interest Rate	Yield	CUSIP** 880541	Due	Amount	Interest Rate	Yield	CUSIP** 880541
September 1, 2020	\$ 1,400,000	1.85%	1.85%	A31	September 1, 2028	\$ 1,400,000	2.22%	2.22%	B30
September 1, 2021	1,400,000	1.79	1.79	A49	September 1, 2029	1,400,000	2.28	2.28	B48
September 1, 2022	1,400,000	1.80	1.80	A56	September 1, 2030	1,400,000	2.32	2.32	B55
September 1, 2023	1,400,000	1.83	1.83	A64	September 1, 2031	1,400,000	2.37	2.37	B63
September 1, 2024	1,400,000	1.87	1.87	A72	September 1, 2032	1,400,000	2.48	2.48	B71
September 1, 2025	1,400,000	1.98	1.98	A80	September 1, 2033	1,400,000	2.58	2.58	B89
September 1, 2026	1,400,000	2.06	2.06	A98	September 1, 2034	1,400,000	2.63	2.63	B97
September 1, 2027	1,400,000	2.15	2.15	B22					

\$ 7,000,000 2.87% Term Bonds due September 1, 2039, Yield 2.87%, CUSIP 880541C21**

**These CUSIP numbers have been assigned by an organization not affiliated with the State of Tennessee and are included solely for the convenience of the Bondholders. Neither the State of Tennessee nor any fiscal agent thereof is responsible for the selection or use of these CUSIP numbers, nor is any representation made as to their correctness on the Bonds or as indicated herein. The CUSIP number for a specific maturity is subject to being changed after the issuance of the Bonds as a result of various subsequent actions, including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the Bonds.

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FINANCIAL ADVISOR

PFM Financial Advisors LLC, Memphis, Tennessee

This Official Statement does not constitute a contract or agreement between the State or the Purchasers or holders of any of the Bonds, or an offering of any security other than the Bonds specifically offered hereby. No dealer, broker or other person has been authorized by the State to give any information or to make any representation other than as contained in this Official Statement, and if given or made, such other information or representation must not be relied upon as having been authorized by the State. This Official Statement does not constitute an offer to sell or a solicitation of an offer to buy, nor shall there be any sale of, the Bonds by any person in any jurisdiction in which it is unlawful to make such offer, solicitation or sale.

Certain information set forth herein has been provided by the State. Certain other information set forth herein has been obtained by the State from sources believed to be reliable, but it is not guaranteed as to accuracy or completeness. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the State since the date hereof. In making an investment decision, investors must rely on their own examination of the State and the terms of the offering, including the merits and risks involved.

The prices and other terms respecting the offering and sale of the Bonds may be changed from time to time by the respective Purchasers after the Bonds are released for sale, and the Bonds may be offered and sold at prices other than the initial offering prices, including sales to dealers who may sell the Bonds into investment accounts.

IN CONNECTION WITH THIS OFFERING, THE PURCHASERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICES OF THE RESPECTIVE 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 REGISTRATION STATEMENT RELATING TO THE BONDS HAS BEEN FILED WITH THE SECURITIES EXCHANGE COMMISSION (THE "SEC") OR ANY STATE SECURITIES AGENCY. THE BONDS HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SEC OR ANY STATE SECURITIES AGENCY, NOR HAS THE SEC OR ANY STATE SECURITIES AGENCY PASSED UPON THE ACCURACY OR ADEQUACY OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY MAY BE A CRIMINAL OFFENSE.

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STATE OF TENNESSEE
GENERAL OBLIGATION BONDS
\$100,105,000 2019 SERIES A
\$28,000,000 2019 SERIES B (FEDERALLY TAXABLE)

INTRODUCTION

This Official Statement, which includes the cover page and the inside front cover page hereof, and the Appendices hereto, including the financial information incorporated by reference in Appendix A and the statistical information incorporated by reference in Appendix B, is provided for the purpose of presenting information relating to the State of Tennessee (the “State”) in connection with the issuance of the State’s \$100,105,000 General Obligation Bonds, 2019 Series A (the “Series A Bonds”), and \$28,000,000 General Obligation Bonds, 2019 Series B (Federally Taxable) (the “Series B Bonds”, and collectively with the Series A Bonds, the “Bonds”).

The Bonds will be issued pursuant to the authority of and in full compliance with the provisions, restrictions and limitations of the Constitution and laws of the State, including Title 9, Chapter 9, Tennessee Code Annotated, and various bond authorizations enacted by the General Assembly of the State, and pursuant to a resolution (the “Bond Resolution”) adopted by the State Funding Board of the State on August 9, 2019. The Bonds are being issued to provide for the retirement at maturity of a portion of the State’s outstanding general obligation commercial paper (“CP”) issued to fund certain capital projects of the State, and fund certain costs of issuance of the Bonds. See “APPLICATION OF BOND PROCEEDS”.

The Bonds are direct general obligations of the State for which the State has pledged its full faith and credit for the payment of principal, premium, if any, and interest; and have a charge and lien upon all fees, taxes and other revenues and funds allocated to the State’s general fund, debt service fund, and highway fund and, if necessary, upon the first fees, taxes, revenues and funds thereafter received and allocated to such funds, unless such fees, taxes, revenues and funds are legally restricted for other purposes. See “SECURITY FOR THE BONDS”.

THE BONDS

Description

The Bonds will be dated the date of their delivery. The Bonds will mature as shown on the inside front cover page and will bear interest payable semi-annually on March 1 and September 1 of each year, commencing March 1, 2020, at the rates per annum as shown on the inside front cover page calculated on the basis of a 360-day year of twelve 30-day months. Interest will be payable to registered owners as of the close of business on the fifteenth day (whether or not a business day) of the calendar month next preceding the respective stated due date for such interest. The Bonds will be issuable as fully registered bonds in denominations of \$5,000 or integral multiples thereof.

Book-Entry Only System

Upon initial issuance, the Bonds will be available only in book-entry form. The Depository Trust Company (“DTC”), New York, New York, will act as securities depository for the Bonds. The ownership of one fully registered Bond for each maturity of the Bonds of each series bearing interest at each interest rate, each in the aggregate principal amount of such maturity and bearing interest at such rate, will be registered in the name of Cede & Co. (DTC’s partnership nominee) and deposited with DTC. Beneficial owners of Bonds will not receive physical delivery of bond certificates, except under limited circumstances.

For a description of DTC and its book-entry only system, see Appendix D – “BOOK-ENTRY ONLY SYSTEM”.

Redemption

Optional Redemption of Series A Bonds. At the option of the State, the Series A Bonds maturing on or after September 1, 2028 are subject to redemption prior to their respective stated maturities, from any monies that are available to the State for such purpose, at any time on and after September 1, 2027 as a whole, or in part from time to time in any order of maturity determined by the State, at a redemption price of par, together with accrued interest to the redemption date.

Optional Redemption of Series B Bonds. At the option of the State, the Series B Bonds maturing on or after September 1, 2030 are subject to redemption prior to their respective stated maturities, from any monies that are available to the State for such purpose, at any time on and after September 1, 2029 as a whole, or in part from time to time in any order of maturity determined by the State, at a redemption price of par, together with accrued interest to the redemption date.

Prior to September 1, 2029, the Series B Bonds are subject to redemption prior to their stated maturities at the option of the State, at any time as a whole, or in part from time to time in any order of maturity as determined by the State, at a redemption price equal to the Make-Whole Redemption Price (as defined below).

The "Make-Whole Redemption Price" of any Series B Bonds to be redeemed is an amount equal to the greater of (i) 100% of the principal amount of such Series B Bonds or (ii) the sum of the present value of the remaining scheduled payments of principal and interest to the maturity date of such Series B Bonds not including any portion of those payments of interest accrued and unpaid as of the date on which such Series B Bonds are to be redeemed, discounted on a semiannual basis to the date on which such Series B Bonds are to be redeemed, assuming a 360-day year consisting of twelve 30-day months, at the Treasury Rate (as defined below) plus 15 basis points; plus, in each case, accrued and unpaid interest on such Series B Bonds on such redemption date.

"Treasury Rate" means, with respect to any redemption date for any particular Series B Bond, the greater of:

(i) the yield to maturity as of such redemption date of the United States Treasury securities with a constant maturity (as compiled and published in the most recent Federal Reserve Statistical Release H.15 (519) that has become publicly available at least two business days prior to the redemption date (excluding inflation indexed securities) (or, if such Statistical Release is no longer published, any publicly available source of similar market data)) most nearly equal to the period from the redemption date to maturity; provided, however, that if the period from the redemption date to maturity is less than one year, the weekly average yield on actually traded United States Treasury securities adjusted to a constant maturity of one year will be used; all as will be determined by an independent accounting firm, investment banking firm or financial advisor retained by the State at the State's expense and such determination shall be conclusive and binding on the owners of the Series B Bonds, or

(ii) the rate per annum, expressed as a percentage of the principal amount, equal to the semiannual equivalent yield to maturity or interpolated maturity of the Comparable Treasury Issue (defined below), assuming that the Comparable Treasury Issue is purchased on the redemption date for a price equal to the Comparable Treasury Price (defined below), as calculated by the Designated Investment Banker (defined below).

"Comparable Treasury Issue" means, with respect to any redemption date for a particular Series B Bond, the United States Treasury security or securities selected by the Designated Investment Banker that has an actual or interpolated maturity comparable to the remaining average life of the Series B Bond to be redeemed.

"Comparable Treasury Price" means, with respect to any redemption date for a particular Series B Bond, (i) if the Designated Investment Banker receives at least four Reference Treasury Dealer Quotations (defined below), the average of such quotations for such redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations, or (ii) if the Designated Investment Banker obtains fewer than four Reference Treasury Dealer Quotations, the average of all such quotations.

"Designated Investment Banker" means one of the Reference Treasury Dealers (as defined below) appointed by the State.

"Reference Treasury Dealer" means each of four firms specified by the State from time to time, which firms shall be primary United States government securities dealers in the City of New York (each a "Primary Treasury Dealer"); provided, however, that if any of them ceases to be a Primary Treasury Dealer, the State will substitute another Primary Treasury Dealer.

"Reference Treasury Dealer Quotations" means, with respect to each Reference Treasury Dealer and any redemption date for a particular Series B Bond, the average, as determined by the Designated Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Designated Investment Banker by such Reference Treasury Dealer at 3:30 P.M., New York City time, on the third business day preceding such redemption date.

The redemption price of such Series B Bonds to be redeemed will be determined by an independent accounting firm, investment banking firm or financial advisor retained by the State to calculate such redemption price. The State may conclusively rely on the determination of such redemption price by such independent accounting firm, investment banking firm or financial advisor and will not be liable for such reliance.

Mandatory Sinking Fund Redemption. The Series B Bonds maturing September 1, 2039 are term bonds subject to redemption in part on September 1 in each of the years and in the respective principal amounts set forth below at a redemption price of par together with accrued interest to the redemption date.

September 1, 2039 Maturity	
Year	Amount
2035	\$ 1,400,000
2036	1,400,000
2037	1,400,000
2038	1,400,000
2039	1,400,000

Selection of Series A Bonds to be Redeemed. If less than all of the Series A Bonds of a maturity are to be redeemed, the particular Series A Bonds or portions thereof of such maturity to be redeemed shall be selected by the State by lot. For so long as a book-entry only system is in effect with respect to such Bonds and DTC or a successor securities repository is the sole registered owner of such Series A Bonds, in the event of a redemption of less than all of the Series A Bonds of a maturity, the particular ownership interests of the Series A Bonds of such maturity to be redeemed shall be selected by DTC and Direct DTC Participants and Indirect DTC Participants (all as defined in Appendix D hereto), or by any such successor securities depository or any other intermediary, in accordance with their respective operating rules and procedures. In the event of a partial redemption, DTC's rules and procedures currently provide for the redemption to be processed by random lottery. Any failure of DTC or its successor, or of a Direct DTC Participant or Indirect DTC Participant, or any other intermediary, to make such selection, or to make or fail to make any such selection in any particular manner, will not affect the sufficiency or the validity of the redemption of the Series A Bonds. See "Book-Entry Only System" above and Appendix D - "BOOK-ENTRY ONLY SYSTEM".

Selection of Series B Bonds to be Redeemed. If less than all of the Series B Bonds of a maturity are to be redeemed, the Series B Bonds of such maturity shall be redeemed pro rata as nearly as practicable in the proportion that the principal amount of the outstanding Series B Bonds of such maturity owned by each registered owner bears to the aggregate principal amount of the outstanding Series B Bonds of such maturity. For so long as a book-entry only system is in effect and DTC or a successor securities repository is the sole registered owner of the Series B Bonds, in the event of a redemption of less than all of the Series B Bonds of a maturity, the particular ownership interests of the Series B Bonds of such maturity to be redeemed shall be selected by DTC and Direct DTC Participants and Indirect DTC Participants, or by any such successor repository or any other intermediary, in accordance with their respective operating rules and procedures. The Series B Bonds will be made eligible for partial redemption to be treated by DTC in accordance with its rules and procedures as a "pro rata pass through distribution of principal." To the extent practicable, the State will request that DTC select the amount of such interests of Series B Bonds to be redeemed on a pro rata pass-through distribution of principal basis in integral multiples of \$5,000 in accordance with DTC procedures then in effect. The State can provide no assurance that DTC or its successor, Direct DTC Participants and Indirect DTC Participants, or any successor repository or any other intermediary will allocate the redemption of Series B Bonds on such basis. If, at the time of redemption of the Series B Bonds, either (i) the operational arrangements of DTC do not allow for the redemption of the Series B Bonds on a pro rata pass through distribution of principal basis, or (ii) the State has failed to notify DTC that the Series B Bonds to be redeemed are to be redeemed pursuant to DTC's pro rata pass-through distribution of principal procedures, or has failed to furnish to DTC the factor to be applied by it in determining the pro rata allocation of the principal to be redeemed, then in each such case the Series B Bonds of such maturity to be redeemed may be selected in accordance with DTC operating

rules and procedures, which currently provide for the redemption to be processed by random lottery. Any failure of DTC or its successor, or of a Direct DTC Participant or Indirect DTC Participant, or of any other intermediary, to make such selection or proportional allocation, for whatever reason, will not affect the sufficiency or the validity of the redemption of Series B Bonds. See Appendix D - "BOOK-ENTRY ONLY SYSTEM."

Notice of Redemption; Conditional Notice. Written notice shall be mailed to registered owners of the Bonds to be redeemed, at least thirty (30) days prior to the redemption date, at the address that appears on the registration books, but failure to receive any such notice shall not affect the validity of the redemption proceedings. Any notice of redemption may provide that such redemption is conditional on the availability of sufficient moneys to pay the redemption price, plus interest accrued and unpaid to the redemption date. While DTC or its nominee is the registered owner of the Bonds, the State will give notice of redemption of the Bonds to DTC or its nominee or its successor and shall not be responsible for mailing notices of redemption to Direct DTC Participants, to Indirect DTC Participants or to the beneficial owners of the Bonds. Any failure of DTC or its nominee or its successor, or of a Direct DTC Participant or Indirect DTC Participant, to notify a beneficial owner of a bond of any redemption will not affect the sufficiency or the validity of the redemption of such bond. See Appendix D – "Book-Entry Only System". The State can give no assurance that DTC or its successor, the Direct DTC Participants or the Indirect DTC Participants will distribute such redemption notices to the beneficial owners of the Bonds, or that they will do so on a timely basis.

APPLICATION OF BOND PROCEEDS

The Bonds are being issued to provide for the retirement at maturity of a portion of the State’s outstanding CP issued to fund certain capital projects of the State and fund certain costs of issuance of the Bonds. CP will be retired on various dates within 90 days after the date of delivery of the Bonds.

SOURCES AND USES OF FUNDS

The proceeds of the Bonds are expected to be applied on the date of issue of the Bonds in the amounts as follows:

Sources of Funds:	<u>Series A Bonds</u>	<u>Series B Bonds</u>	<u>Total</u>
Par Amount	\$ 100,105,000.00	\$ 28,000,000.00	\$ 128,105,000.00
Original Issue Premium	20,210,207.25	-	20,210,207.25
Debt Service Fund Contribution	-	67,133.38	67,133.38
Total	<u>\$ 120,315,207.25</u>	<u>\$ 28,067,133.38</u>	<u>\$ 148,382,340.63</u>
Uses of Funds:			
Retirement of CP (approx.)	\$ 120,000,000.00	\$ 28,000,000.00	\$ 148,000,000.00
Underwriters' Discount	118,123.90	12,600.00	130,723.90
Costs of Issuance	197,083.35	54,533.38	251,616.73
Total	<u>\$ 120,315,207.25</u>	<u>\$ 28,067,133.38</u>	<u>\$ 148,382,340.63</u>

SECURITY FOR THE BONDS

Sources of Payment and Security

The Bonds (as with all other State general obligation bonds and notes) constitute (a) direct general obligations of the State for the payment of the principal of and premium, if any, and interest on which there is also pledged the full faith and credit of the State; and (b) a charge and lien upon all fees, taxes and other revenues and funds allocated to the State’s general fund, debt service fund, and highway fund and, if necessary, upon the first fees, taxes, revenues and funds thereafter received and allocated to such funds, unless such fees, taxes, revenues and funds are legally restricted for other purposes.

The charge and lien on fees, taxes and other revenues in favor of the Bonds is subject to the specific pledge of “Special Taxes” in favor of State general obligation bonds issued prior to July 1, 2013. “Special Taxes” consist of: (i) the annual proceeds of a tax of five cents (5¢) per gallon upon gasoline; (ii) the annual proceeds of a special tax of one cent (1¢) per gallon upon petroleum products; (iii) one-half of the annual proceeds of motor vehicle registration fees now or hereafter required to be paid to the State; and (iv) the annual proceeds of the franchise taxes imposed by the franchise tax law of the State. The Total Special Taxes collected, as reported for each year in the June monthly Statement of Revenue Collections (prepared on a cash basis) were as follows:

	Fiscal Year Ended			
	<u>June 30, 2019 *</u>	<u>June 30, 2018</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Special Taxes	\$ 1,332,852,000	\$ 1,272,387,000	\$ 1,144,503,000	\$ 1,113,976,000

* Unaudited

Source: TN Department of Revenue

The final maturity of general obligation bonds issued prior to July 1, 2013 is October 1, 2032. Thereafter (or upon the earlier retirement of all general obligation bonds issued prior to July 1, 2013) this pledge of Special Taxes will expire. The Bonds (as with all other State general obligation bonds issued after July 1, 2013, and notes) will not benefit from this specific pledge of Special Taxes.

The State covenants with the holders of the Bonds (and all persons who hold State general obligation bonds or notes) that it will raise fees, taxes and other revenues sufficient, together with funds on hand derived from all sources, to pay the principal of and premium, if any, and interest on the Bonds and all other general obligation bonds and notes of the State as and when due and payable. The State has also covenanted with the holders of State general obligation bonds outstanding as of July 1, 2013, not to decrease by legislative action the Special Taxes unless the State Funding Board certifies that the State is not in default in the payment of any outstanding debt and that Special Taxes at the decreased rates specified by the State Funding Board in such year or years (not to exceed two (2) years) will be sufficient to make all payments required to be made therefrom by the State on all of its obligations during the period that such decrease will be in effect.

The State is permitted by the State Constitution to levy ad valorem taxes on all of the taxable property within the State for the payment of the principal of and interest on the State’s general obligation indebtedness; however, the State does not currently levy such a tax and has no current intent to do so.

All general obligation indebtedness of the State is secured on parity with all other general obligation indebtedness of the State, except that the Special Taxes secure only general obligation bonds outstanding on July 1, 2013. The State may issue, and currently is issuing as CP, general obligation bond anticipation notes, for the payment of which the full faith and credit of the State, but not Special Taxes, is pledged. See “STATE INDEBTEDNESS – Commercial Paper Program”. In addition, the State is authorized to issue general obligation tax revenue anticipation notes, for the payment of which the full faith and credit of the State, but not Special Taxes, is pledged; however, the State has not heretofore issued any such notes and has no current intent to do so. See “STATE INDEBTEDNESS – Tax Revenue Anticipation Notes”.

See “STATE INDEBTEDNESS” for the amounts of outstanding debt. For a table of annual debt service requirements for all general obligation bonds, see “STATE INDEBTEDNESS – Outstanding General Obligation Bonded Indebtedness”.

Appropriations for Payment of General Obligation Debt Service

Pursuant to Section 9-9-103, Tennessee Code Annotated, there is a continuing appropriation of a sum sufficient for payment of debt service (principal, interest and premium, if any) on general obligation bonds and notes from any funds in the State treasury not otherwise legally restricted, independent of an appropriation bill otherwise required by State law.

Section 67-6-103(a)(5), Tennessee Code Annotated, currently provides that 0.9185% of the sales and use tax collections is appropriated to the State Funding Board for the payment of principal and interest on the State’s

general obligation bonds. This statutory provision subsequently may be changed or eliminated. The total sales and use tax collections and the amounts allocated to debt service for the last five fiscal years as reported in the State’s Annual Financial Reports were as follows (amounts have been rounded):

	Total Sales and Use Tax Collections (Accrual Basis)	Allocation to Debt Service (Modified Accrual Basis)
June 30, 2018	\$ 8,831,333,000	\$ 62,471,000
June 30, 2017	8,547,149,000	60,699,000
June 30, 2016	8,258,134,000	58,746,000
June 30, 2015	7,713,695,000	54,662,000
June 30, 2014	7,276,443,000	51,634,000

In accordance with the Governmental Accounting Standards Board’s Statement 44 “Economic Condition Reporting: The Statistical Section,” the total sales and use tax collections are reported on an accrual basis instead of on a modified accrual basis. However, the calculation of 0.9185% of the sales and use tax collections for allocation to debt service continues to be reported on a modified accrual basis. For a history of total sales and use tax collections and rates since Fiscal Year 2009, see the statistical data incorporated by reference in Appendix B.

Remedies and Rights of Bondholders

Each Bond when duly issued will constitute a contract between the State and the registered owner of the Bond. The State Funding Board shall certify to the Commissioner of Finance and Administration from time to time, but not less than annually, the amount necessary, together with funds on hand derived from all sources, to enable the State Funding Board to provide for the payment of the principal of and premium, if any, and interest on all general obligation indebtedness as and when the same shall become due and payable. Under Section 9-9-105(a), Tennessee Code Annotated, such indebtedness shall constitute a charge and lien upon the entire fees, taxes and other revenues and funds allocated to the general fund, the debt service fund and highway fund, and, if necessary, the first monies thereafter received and allocated to the general fund, the debt service fund and the highway fund, except only such fees, taxes, revenues and funds as may be otherwise legally restricted, subject to the pledge of Special Taxes to general obligation bonds outstanding on July 1, 2013. Under Section 9-9-111, Tennessee Code Annotated, a holder of any general obligation bonds, including the Bonds, and notes has a vested right in the performance of the covenants and pledges contained in Title 9, Chapter 9, Tennessee Code Annotated, and the performance of the duties imposed on any officer or agency of the State by the provisions of Chapter 9 may be enforced by the holder of any general obligation bond or note by appropriate proceedings, provided that no holder of obligations issued after July 1, 2013, shall have any such rights with respect to the pledge of Special Taxes described above.

Under the State Constitution, public money may be expended only pursuant to appropriations made by law. See “STATE FINANCES.” Such expenditures include, but are not limited to, the payment of debt service. Continuing appropriations exist under current law for the payment of debt service on the State’s general obligation bonds, including the Bonds, from a specified percentage of sales and use taxes as discussed above. Furthermore, Section 9-9-103, Tennessee Code Annotated, appropriates to the State Funding Board on a direct and continuing basis a sum sufficient for payment of debt service (principal, interest and premium, if any) on outstanding general obligation bonds and other debt obligations (including notes) from any funds (including, with respect to bonds outstanding on July 1, 2013, Special Taxes) held in the State treasury not otherwise legally restricted, independent of an appropriation bill otherwise required by State law.

The State has not generally waived immunity from suit or extended its consent to be sued, although specific actions may be authorized, such as is described in the second preceding paragraph. Current state law provides that monetary claims against the State for breach of its contractual obligations and certain other causes may be heard and determined exclusively in the forum of the Tennessee Claims Commission, an administrative tribunal, where the State may be liable only for actual damages and certain costs. Whether a continuing appropriation exists for the payment of a claim in the Tennessee Claims Commission for unpaid debt service, if necessary, in addition to other available remedies, is not clear. In any event, sovereign immunity and other legal principles may bar actions to compel the General Assembly to appropriate monies for such payments.

Additional Bonds Test

The State, by Section 9-9-105(c), Tennessee Code Annotated, covenants with the persons who now or may hereafter hold any State general obligation bonds that no general obligation bonds shall be issued after July 1, 2013, unless the following debt service coverage test is satisfied: the amount necessary to pay the maximum annual debt service payable in the then current or any future fiscal year is not greater than ten percent (10%) of the amount of total state tax revenue allocated to the general fund, to the debt service fund, and to the highway fund for the immediately preceding fiscal year. For purposes of satisfying this test, "state tax revenues" are defined as those taxes, licenses, fees, fines, and permits collected by the department of revenue and allocated to the general fund, the debt service fund, and the highway fund excluding the portion of those taxes shared with local governments. "Debt service", for this purpose, means and includes the aggregate of the principal of and interest on all outstanding general obligation bonds and the general obligation bonds then proposed to be issued; provided, any outstanding bonds the payment of which has been fully provided for by funds or securities (including expected income therefrom), or both, set aside for that purpose are excluded in determining the outstanding bonds.

The State will comply with that additional bonds test as a condition of issuing the Bonds, as demonstrated by the following table:

(a) Maximum annual debt service	\$ 232,302,646	(1) (2)
(b) State tax revenue allocated for FYE June 30, 2019 to:		
General Fund	\$ 12,666,950,000	(1) (3)
Debt Service Fund	353,796,000	(1) (3)
Highway Fund	<u>893,774,000</u>	(1) (3)
(c) Total of State tax revenue allocated for FYE June 30, 2019	\$ 13,914,520,000	
(d) (a) divided by (c) expressed as a percentage (must be no greater than 10%)		1.67%

Source: Tennessee Department of Revenue and Tennessee Department of Finance and Administration

- (1) Unaudited.
- (2) Includes actual debt service on the Bonds.
- (3) Includes actual tax revenues collected on a cash basis for Fiscal Year 2019 (July 2018 - June 2019), net of amounts apportioned to cities and counties as State shared taxes.

STATE INDEBTEDNESS

General

The State Constitution forbids the expenditure of the proceeds of any debt obligation for a purpose other than the purpose for which it was authorized. Under State law, the term of bonds authorized and issued cannot exceed the expected life of the projects being financed. Furthermore, the amount of bonds issued cannot exceed the amount authorized by the General Assembly.

The procedure for funding State debt is provided by Chapter 9 of Title 9, Tennessee Code Annotated. The State Funding Board of the State of Tennessee is the entity authorized to issue general obligation indebtedness of the State. The State Funding Board is composed of the Governor, the State Comptroller of the Treasury, the Secretary of State, the State Treasurer, and the Commissioner of Finance and Administration. The State Funding Board issues all general obligation indebtedness in the name of the State pursuant to authorization by the General Assembly without concurrence or approval by any other governmental agency or by the electorate. Although the State Funding Board determines the terms of general obligation indebtedness, the interest rate on the general obligation

indebtedness cannot exceed the Formula Rate which is defined in Section 47-14-102(6), Tennessee Code Annotated, as generally the lesser of (i) the average prime loan rate published by the Federal Reserve System plus 4% or (ii) 24%.

Termination of Existence

The Governmental Entity Review Law provides for the termination of various governmental entities on specified dates. That date for the State Funding Board is June 30, 2024. The law also provides that if the General Assembly does not extend the termination date of an entity, the existence of the entity will continue for an additional year without any diminution, reduction or limitation of its powers. However, the State is required to preserve the rights of the holders of any outstanding indebtedness of the entity at the time of termination and the obligations and rights of such entity shall accrue to the State.

Bonds

State law provides that the State may issue general obligation bonds for one or more purposes authorized by the General Assembly of the State. As of August 31, 2019 the State had \$1,634,065,000 (unaudited) of outstanding general obligation bonds, excluding the Bonds.

Commercial Paper Program

Bond anticipation notes may be issued for purposes for which bonds have been authorized, if the notes are also authorized by legislative act. Notes have been authorized to be issued for the purposes of all existing bond authorizations.

In March 2000, the State instituted a commercial paper program for authorized capital projects. CP has been and will be issued under the Commercial Paper Resolution, adopted by the members of the State Funding Board of the State on March 6, 2000, as amended, in a principal amount outstanding at any one time not to exceed \$350,000,000. CP constitutes bond anticipation notes and is a direct general obligation of the State for the payment of which, as to both principal and interest, the full faith and credit of the State, but not Special Taxes, are pledged.

The State has entered into a Standby Commercial Paper Purchase Agreement (the "Standby Agreement") with the Tennessee Consolidated Retirement System ("TCRS") under which TCRS is obligated to purchase newly issued CP, issued to pay the principal of other CP, subject to suspension or termination upon the occurrence of certain events. The Standby Agreement requires that the principal amount of CP maturing on any day shall not exceed \$100,000,000 or such greater principal amount as agreed upon by the State and TCRS.

CP may have varying maturities of not more than 270 days from their respective dates of issuance; provided, however, that no CP shall mature on a business day that will permit rollover purchased CP to be issued and mature on a business day that is not later than one business day prior to the stated expiration date of the Standby Agreement without regard to any early termination of the Standby Agreement. Currently, this date is July 1, 2021. CP is not subject to redemption prior to maturity.

As of August 31, 2019, \$230,396,000 (unaudited) principal amount of CP was outstanding under this program. The Bonds are expected to retire approximately \$148,000,000 of CP.

Tax Revenue Anticipation Notes

The State is authorized to issue general obligation tax revenue anticipation notes ("TRANS") in anticipation of the receipt of tax revenues in the then current fiscal year of the State. The State Constitution prohibits the issuance of debt for operating purposes maturing beyond the end of a fiscal year. Accordingly, any TRANS issued in a fiscal year must be repaid by the end of the same fiscal year. TRANS, if issued, will constitute direct obligations of the State for the payment of which, as to principal and interest, the full faith and credit of the State, but not Special Taxes, are pledged. See "SECURITY FOR THE BONDS". The State has not heretofore issued TRANS and has no current intent to do so.

Outstanding General Obligation Bonded Indebtedness

As of August 31, 2019, there were \$1,634,065,000 (unaudited) State general obligation bonds outstanding, excluding the Bonds.

The annual debt service requirements for the outstanding general obligation bonded indebtedness following the issuance of the Bonds are as follows:

GENERAL OBLIGATION BONDED DEBT SERVICE

Fiscal Year Ending (6/30)	<u>Outstanding Debt Service *</u>			<u>Plus Debt Service on the Bonds</u>			<u>Total Debt Service</u>		
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 51,215,000	\$ 43,132,053	\$ 94,347,053	\$ -	\$ 2,325,693	\$ 2,325,693	\$ 51,215,000	\$ 45,457,746	\$ 96,672,746
2021	149,000,000	67,196,873	216,196,873	6,410,000	5,518,890	11,928,890	155,410,000	72,715,763	228,125,763
2022	149,305,000	60,260,530	209,565,530	6,405,000	5,243,035	11,648,035	155,710,000	65,503,565	221,213,565
2023	141,345,000	53,493,143	194,838,143	6,405,000	4,967,655	11,372,655	147,750,000	58,460,798	206,210,798
2024	138,690,000	47,545,135	186,235,135	6,405,000	4,691,995	11,096,995	145,095,000	52,237,130	197,332,130
2025	131,535,000	42,072,058	173,607,058	6,405,000	4,415,845	10,820,845	137,940,000	46,487,903	184,427,903
2026	129,325,000	36,542,110	165,867,110	6,405,000	4,138,645	10,543,645	135,730,000	40,680,755	176,410,755
2027	122,270,000	31,254,688	153,524,688	6,405,000	3,860,115	10,265,115	128,675,000	35,114,803	163,789,803
2028	117,480,000	26,261,709	143,741,709	6,405,000	3,580,395	9,985,395	123,885,000	29,842,104	153,727,104
2029	108,995,000	21,352,030	130,347,030	6,405,000	3,299,555	9,704,555	115,400,000	24,651,585	140,051,585
2030	84,645,000	16,965,337	101,610,337	6,405,000	3,017,805	9,422,805	91,050,000	19,983,142	111,033,142
2031	73,500,000	13,301,920	86,801,920	6,405,000	2,735,355	9,140,355	79,905,000	16,037,275	95,942,275
2032	65,625,000	10,108,938	75,733,938	6,405,000	2,452,275	8,857,275	72,030,000	12,561,213	84,591,213
2033	43,370,000	7,595,375	50,965,375	6,405,000	2,168,075	8,573,075	49,775,000	9,763,450	59,538,450
2034	36,365,000	5,672,000	42,037,000	6,405,000	1,882,405	8,287,405	42,770,000	7,554,405	50,324,405
2035	36,365,000	3,853,750	40,218,750	6,405,000	1,595,685	8,000,685	42,770,000	5,449,435	48,219,435
2036	30,815,000	2,174,250	32,989,250	6,405,000	1,306,935	7,711,935	37,220,000	3,481,185	40,701,185
2037	16,505,000	991,250	17,496,250	6,405,000	1,016,505	7,421,505	22,910,000	2,007,755	24,917,755
2038	7,715,000	385,750	8,100,750	6,405,000	726,075	7,131,075	14,120,000	1,111,825	15,231,825
2039	-	-	-	6,405,000	435,645	6,840,645	6,405,000	435,645	6,840,645
2040	-	-	-	6,405,000	145,215	6,550,215	6,405,000	145,215	6,550,215
	<u>\$1,634,065,000</u>	<u>\$490,158,898</u>	<u>\$2,124,223,898</u>	<u>\$128,105,000</u>	<u>\$ 59,523,798</u>	<u>\$187,628,798</u>	<u>\$1,762,170,000</u>	<u>\$549,682,695</u>	<u>\$2,311,852,695</u>

* As of August 31, 2019

Authorized and Unissued Bonds

The State had authorized as of August 31, 2019, \$1,244,975,075 (unaudited) of general obligation bonds that have not been issued, including the Bonds and excluding an additional amount not to exceed 2.5% of certain authorized amounts to be used for funding discounts and the cost of issuance at the discretion of the State Funding Board. Of such authorized and unissued amount, \$736,000,000 is for highway improvements. In addition, \$29,700,000 of the authorized and unissued amount is allocated to the Tennessee transportation infrastructure improvement bond program, which is for the repair, replacement or rehabilitation of bridges. Bonds for highway improvements and for the Tennessee transportation infrastructure improvement program are authorized for contractual purposes and authorizations are canceled when construction projects are completed. No general obligation bonds or CP have been issued for these purposes since 1977 and the State does not currently anticipate issuing general obligation bonds or CP for these programs; however, the State can give no assurance that this practice will continue.

Rate of Debt Retirement

The following table sets forth the rate of scheduled debt retirement of the State on all outstanding general obligation bonds as of June 30, 2019, excluding the Bonds (unaudited).

<u>Principal Amount Due Within</u>	<u>Principal Amount</u>	<u>% of Total</u>
5 Years	\$ 734,105,000	42.22%
10 Years	1,343,710,000	77.29%
15 Years	1,647,215,000	94.74%
19 Years	1,738,615,000	100.00%

STATE FINANCES

The Budget Process

The State of Tennessee Budget for the appropriate fiscal year originates in the executive branch with the Governor's annual budget recommendation to the General Assembly (the "Recommended Budget"). Initially, budget preparation instructions are issued by the Department of Finance and Administration to all State agencies and departments. These instructions describe the Administration's guidelines related to continuing the current level of service (baseline budget) and proposed cost increase requests. The instructions are to be used by agencies and departments in preparing their department budgets for submission to the Department of Finance and Administration in October of each year.

During the fall, each department's budget request is reviewed, and requests for cost increases are analyzed by the Department of Finance and Administration. Conferences are held with departmental and agency representatives, the Director of Budget, and the Department of Finance and Administration staff to determine which, if any, of the proposals should be recommended.

During the 1997 legislative session, the Office of Legislative Budget Analysis was created to enable the General Assembly to strengthen its expertise in governmental budgeting and financing and in making public policy decisions. The office was created as an independent department of the legislature working for both the Senate and the House of Representatives and charged with reviewing and analyzing the State's budget and overall financial condition. The staff summarizes and analyzes the Governor's budget proposal for members of the General Assembly, secures budget justification data from the various state agencies, provides recommendations on budget proposals and provides assistance on financial matters to the standing committees, as directed.

Under State law, the Governor submits the Recommended Budget to the General Assembly at the start of the legislative session. The Recommended Budget must be presented to the General Assembly prior to February 1 of each year, except that a Governor in the first year of a four-year term of office must present a budget prior to March 1 of that year. However, the General Assembly may extend these deadlines by joint resolution. Subsequently, the Governor submits a General Appropriation Bill and bond authorization bills containing appropriations and general obligation bond authorizations required to finance the program levels and capital outlay proposed in the Recommended Budget. Throughout the legislative session, the Finance, Ways and Means Committees and appropriate standing committees of the House and Senate hold budget hearings for each department to determine if changes should be made to the General Appropriation Bill and general obligation bond authorizations. After review and consideration, the Finance, Ways and Means Committees report on the General Appropriation Bill and bond authorization bills, with any committee amendments, to the House of Representatives and Senate for action.

Under the State Constitution, money may be drawn from the Treasury only through an appropriation made by law. The primary source of the annual expenditure authorization is the General Appropriation Act as approved by the General Assembly and signed by the Governor. These appropriations are generally limited to a one-year period of availability. The General Appropriation Act requires both a simple majority vote of the House and a simple majority vote of the Senate. Approval of the General Appropriation Bill usually occurs during the last week of the legislative session. Once signed by the speaker of each House of the General Assembly, the General Appropriation Act is sent to the Governor for signature. If the Governor does not act within ten days, excluding Sundays, the General Appropriation Act becomes law without signature. The Governor may reduce or eliminate specific line items in the General Appropriation Act or any other appropriations bill without vetoing the entire bill. Such individual line-item vetoes are subject to override by a vote of a majority of the members elected to each House of the General Assembly.

Appropriations also may be included in legislation other than the General Appropriation Act. Individual bills containing appropriations must be heard by the Finance, Ways and Means Committee, and may be heard by the relevant standing committee, in each House of the General Assembly. After all relevant committees recommend passage, bills containing appropriations must be approved by a majority vote in each House of the General Assembly and must be acted upon by the Governor. Bills of this character are also subject to reduction or elimination by individual line-item veto by the Governor, subject to further override by the General Assembly as described above.

Budgets and appropriations may be revised and amended from time-to-time during a fiscal year for a variety of reasons, including to assure that the fiscal year ends with a balanced budget. Consequently, there can be no assurance that any budget document will not be subsequently amended.

Funds necessary to meet an appropriation need not be in the Treasury at the time such appropriation is enacted; revenues may be appropriated in anticipation of their receipt.

Development of Revenue Estimates

The development of the general fund revenue estimates begins with a forecast of national economic activity for the State budget period. The State currently contracts with The University of Tennessee's Boyd Center for Business and Economic Research (the "Boyd Center" formerly known as "UT-CBER") to prepare an annual Economic Report to the Governor containing short-term business cycle-sensitive forecasts as well as longer-term or trend forecasts for the year and to prepare quarterly updates throughout the year. The Boyd Center subscribes to the macroeconomic forecasting services of Global Insight. The Global Insight forecast becomes the principal input to the Tennessee Econometric Model which is utilized to develop a forecast of similar indicators of in-state activity.

At least annually, the State Funding Board secures from the Boyd Center the estimated rate of growth of the State's economy as measured by the forecasted change in Tennessee personal income. The State Funding Board reviews the estimated rate of growth in Tennessee personal income and reports to the General Assembly its comments relating to the reasonableness of the estimate, including any different estimate deemed necessary.

The State Funding Board is further directed by statute to conduct public hearings to develop consensus ranges of estimates of State revenue for the current fiscal year and the next succeeding fiscal year. At the hearings, representatives of state higher education institution business centers, including the Boyd Center, present revenue

estimates and economic forecasts. The State Funding Board also hears from representatives from the Department of Revenue and the Fiscal Review Committee of the State. In November of each year the State Funding Board presents its consensus ranges of State revenue estimates, and a summary of the economic forecast on which the estimates are based, to the Governor and the Chairs of the Senate and House Finance, Ways and Means Committees. Although not mandated prior to final legislative action on the budget, the State Funding Board may receive updated estimates and forecasts at public hearings in the spring and may forward any revision to prior estimates and the reasons therefor to the Governor and Chairs of the Senate and House Finance, Ways and Means Committees. Pursuant to Section 9-4-5104, Tennessee Code Annotated, the Commissioner of Finance and Administration has the responsibility for preparing the revenue estimates presented in the Recommended Budget.

Reserve for Revenue Fluctuations

In 2013, the General Assembly enacted legislation re-determining the allocation goal for the reserve for revenue fluctuations (the “Reserve” or “Rainy Day Fund”) to be eight percent of estimated State tax revenues to be allocated to the general fund and education trust fund. Beginning with the budget for the Fiscal Year 1998-1999 the allocation goal had been five percent. Until the redetermination funding level is achieved, the Governor is to budget an allocation to the Reserve in an amount at least equal to ten percent of the estimated growth in estimated State tax revenues to be allocated to the general fund and education trust fund. Amounts in the Reserve may be utilized to meet State tax revenue shortfalls. Subject to specific provisions of the general appropriations bill, an amount not to exceed the greater of \$100 million or one-half (1/2) of the amount available in the Reserve may be used by the Commissioner of Finance and Administration to meet expenditure requirements in excess of budgeted appropriation levels. Prior to using any amounts in the Reserve for this purpose, the Commissioner shall notify the Secretary of the State Funding Board and the Chairs of the Finance, Ways and Means Committees of the Senate and the House of Representatives that the Reserve funds are to be used for this purpose. The Commissioner shall report information concerning the need to utilize these funds to the various committees.

The Reserve balance at the end of each of fiscal years 2014 through 2018, the estimated balance for fiscal year 2019 and the budgeted balance at the end of fiscal year 2020, respectively, are as follows:

Fiscal Year Ended	Balance
June 30, 2014	456,000,000
June 30, 2015	491,500,000
June 30, 2016	568,000,000
June 30, 2017	668,000,000
June 30, 2018	800,000,000
June 30, 2019	875,000,000 *
June 30, 2020	1,100,000,000 **

* Estimated and unaudited

** Budgeted

The Reserve is estimated to have increased by \$75.0 million for the fiscal year ending June 30, 2019 and budgeted to increase by an additional \$225.0 million for the fiscal year ending June 30, 2020. The statutory goal is for the Reserve to be eight percent of estimated State tax revenues to be allocated to the general fund and education trust fund. The Reserve is estimated to be 6% for fiscal year ending June 30, 2019 and 7.3% for fiscal year ending June 30, 2020. The State can give no assurance that the budgeted increase in the Reserve for the fiscal year ending June 30, 2020 will be achieved. See “STATE FINANCES - Financial Information and Budget Summary for Fiscal Years 2018-2019 and 2019-2020”.

Budgeting for Authorized and Unissued Debt

The State's current practice is to annually budget for five percent of all authorized and unissued general obligation bonds, including bonds authorized and not expected to be issued as described in "Authorized and Unissued Bonds" above, to account for assumed principal redemption (on the basis of an assumed 20-year, level-principal issue), plus an amount for assumed interest currently at a rate of six percent annually. The State cannot offer any assurance that it will continue this practice in the future.

Financial Control Procedures

The State Constitution requires, for current operations, that expenditures for any fiscal year not exceed the State's revenues and reserves, including the proceeds of any debt obligation, for that year.

Generally, the executive branch controls the expenditure of State funds for the operation of State government. Two important concepts are involved in the execution of the General Appropriation Act: preparation of work programs and development of allotment controls. Analysts of the Division of Budget, Department of Finance and Administration, and fiscal personnel in the various State departments and agencies have the responsibility of reconciling the General Appropriation Act, as approved, with the submitted Recommended Budget. State law requires that administrative agencies prepare a work program for each fiscal year. These work programs indicate separate annual spending requirements for payroll and other operating expenses necessary to carry out agency programs. The head of any agency may revise the work program during the fiscal year because of changed conditions and submit such revision for approval. If the Commissioner of Finance and Administration and the Governor approve the revision, then the same procedure for review, approval and control is followed as in making the original allotments. The aggregate of all allotments after the revision cannot exceed the total appropriations made to the agency for the fiscal year in question.

All expenditures of State administrative agencies are processed through the Department of Finance and Administration and are measured against work program allotments. Savings which may occur as a result of the difference between the amounts provided in the work program allotments for payroll and other operating expenditures and the amounts actually spent for those expenditures accumulate throughout the fiscal year unless a work program is revised to re-allot unspent amounts. Likewise, departmental revenue surpluses cannot be spent until approved by the Commissioner of Finance and Administration and, in some cases, reviewed by the Finance, Ways and Means Committees of the General Assembly. Such central spending control offers executive flexibility relative to any anticipated surplus or shortfall in the budget.

The Governor may effect spending reductions to offset unforeseen revenue shortfalls or unanticipated expenditure requirements for particular programs. These spending reductions can take the form of deferred equipment purchases, hiring freezes, and similar cutbacks. If necessary, the Governor may reduce portions of administrative budgets prior to allotment. Furthermore, the Governor is authorized to call special sessions of the General Assembly at any time to address financial or other emergencies.

TRANs may be issued to fund operating expenses. However, the State has not heretofore issued TRANs and has no current intent to do so. See "STATE INDEBTEDNESS - Tax Revenue Anticipation Notes" above for a description of restrictions on issuance of TRANs for this purpose.

Financial Information and Budget Summary for Fiscal Years 2018-2019 and 2019-2020

Financial Information

The fiscal year 2019-2020 Recommended Budget, as presented by the Governor to the General Assembly on March 4, 2019, projected recurring growth in total taxes of \$623.5 million, or 3.13%, and recurring growth in the general fund of \$512.2 million, or 3.21%, above fiscal year 2018-2019 estimates.

As discussed under "Development of Revenue Estimates" above, the State Funding Board periodically reviews and revises revenue estimates for budgeting purposes. The State Funding Board met on November 20, 2018, to hear and discuss updates on economic and revenue projections for the remainder of fiscal year 2018-2019 and to project revenue estimates for fiscal year 2019-2020. The State Funding Board reconvened on November 26, 2018, and adopted the following revised consensus tax revenue recurring growth projections for the 2018-2019 fiscal year (growth measured against actual results for the 2017-2018 fiscal year, as set forth in the following table)

and for the 2019-2020 fiscal year (recurring growth measured against the potential range of results for the 2018-2019 fiscal year, as set forth in the following table):

	Fiscal Year 2017-2018 Results	Fiscal Year 2018-2019		Fiscal Year 2019-2020	
		Low	High	Low	High
Total State Taxes	\$ 14,421,115,300	2.35%	3.25%	2.73%	3.13%
General Fund Only	\$ 11,965,971,200	2.20%	3.20%	2.71%	3.21%

The fiscal year 2019-2020 Recommended Budget was based on these consensus revenue estimates.

The State Funding Board is scheduled to convene in November 2019 to hear and discuss updates on economic and revenue projections for the remainder of fiscal year 2019-2020 and to project revenue estimates for fiscal year 2020-2021. The Board may schedule additional meetings at its discretion.

On an accrual basis, July is the twelfth month of fiscal year 2018-2019. Total state tax collections for the twelve months (August through July) were \$636.1 million above the July 1, 2018 budgeted estimate, and collections for the general fund were \$580.4 million above the budgeted estimates. Collections for the four other funds that share tax revenue proceeds were \$55.7 million more than the July 1, 2018 budgeted estimates. Collections are unaudited and subject to final accrual adjustments. The Rainy Day Fund balance is estimated to be \$875 million at June 30, 2019 and projected to be \$1.1 billion at June 30, 2020. See “STATE FINANCES – Reserve for Revenue Fluctuations”.

Fiscal Year 2019-2020 Budget Summary

As shown in the Recommended Budget, the fiscal year 2019-2020 budget is based on a recurring growth rate in total taxes of 3.13%. General Fund recurring cost increases total \$621.7 million, much of which is used to fund salary and benefits, program and inflationary growth in TennCare, the Basic Education Program, Higher Education, capital improvements, and capital maintenance. For the 2019-2020 Recommended Budget to remain balanced, State programs are reduced by an average of 0.7% for a total of \$42.3 million. Recurring appropriations are funded by recurring revenues. The Rainy Day Fund balance is budgeted to increase to \$1.1 billion after an additional deposit of \$225 million. For a further description of the 2019-2020 Recommended Budget, see “Budgetary Sources and Uses” section below.

The capital budgets as amended and approved by the General Assembly for fiscal year 2018-2019 and the Recommended Budget for fiscal year 2019-2020 are as follows:

	Fiscal Year	
	2018-19	2019-20
State Current Funds	\$ 190,178,000	\$ 313,096,800
Federal Funds	4,405,000	3,262,500
General Obligation Bonds (excl. Hwy. Imp.)	88,295,000	-
Highway Improvement Bonds	127,000,000	124,000,000
Other Miscellaneous Funds	115,327,000	100,660,800
Facilities Revolving Fund	26,130,000	47,963,000
Total	\$ 551,335,000	\$ 588,983,100

Bonds have not been issued for highway improvements or for the Tennessee transportation infrastructure improvement program since 1977, and there is no current intent to do so; however, there can be no assurance that this practice will continue. Bonds for these purposes are authorized for contractual purposes and authorizations are canceled when construction projects are completed.

TennCare Program

The TennCare Medicaid expansion program was launched in 1994. The TennCare program operates under a Section 1115 waiver from the Centers for Medicare and Medicaid Services (“CMS”) in the United States Department of Health and Human Services as a managed care program. Medicaid waiver programs are time-limited. The waiver under which TennCare is now operating began on July 1, 2002, and has been extended through June 30, 2021.

TennCare services are offered through managed care entities. Medical, behavioral and long-term care services are covered by “at risk” Managed Care Organizations (“MCO”) in each region of the State. Enrollees have their choice of MCOs serving the areas in which they live, except that some enrollees are assigned to TennCare Select. TennCare Select is a managed care plan for certain populations such as children in State custody and enrollees who may be living temporarily out-of-state. In addition to the MCOs, there is a pharmacy benefits manager for coverage of prescription drugs and a dental benefits manager for provision of dental services to children under age 21 and some persons over 21 that have an intellectual or developmental disability (beginning July 1, 2016). Coordination of care is the responsibility of the enrollee's primary care provider in his or her MCO. Long-term care services are provided in nursing facilities for elderly persons and in intermediate care facilities for persons with intellectual or developmental disabilities, as well as by home and community based services providers. These services had been “carved out” of TennCare and paid for by the State through a fee-for-service arrangement. However, in 2010, the State implemented the TennCare “CHOICES in Long-Term Care Program” which brought long-term care services for persons who are elderly and physically disabled into the managed care program. In 2016, a waiver amendment was approved to create the Employment and Community First CHOICES program which brought into managed care new enrollees with a need for home and community based services for individuals with intellectual or developmental disabilities.

The Division of TennCare within the Tennessee Department of Finance and Administration is the State agency charged with the responsibility for administering the TennCare program. In addition to overseeing the contracts with the managed care entities and overseeing the long-term care program, the Bureau of TennCare is responsible for payment of Medicare premiums, deductibles, and/or coinsurance for certain low-income Medicare beneficiaries.

The TennCare program currently has approximately 1.4 million enrollees consisting of approximately 830,000 children and approximately 580,000 adults. The 2019-2020 Recommended TennCare budget is \$12.27 billion, including federal funds, and is 31.8% of the total 2019-2020 Recommended Budget. Excluding federal funds, the cost of the TennCare program is budgeted to be 21% of the total State tax collections.

In fiscal year 2017-2018, the TennCare Reserve was \$311.3 million and is equal to 8.4% of the State funds contributed to the TennCare program. Historically, the TennCare Unobligated Reserve was \$242.5 million in fiscal year 2016-2017; \$226.2 million in fiscal year 2015-2016; \$267.7 million in fiscal year 2014-2015; \$306.9 million in fiscal year 2013-2014; \$306.9 million in fiscal year 2012-2013; \$115.6 million in fiscal year 2011-2012; \$234.7 million in fiscal year 2010-2011; and \$442 million in fiscal year 2009-2010. The TennCare Reserve is not statutorily required and there can be no assurance that the TennCare Reserve will be available for use in the TennCare program.

Budgetary Sources and Uses of Funds

The following tables compare budgetary sources and uses of funds for fiscal years 2018-2019 and 2019-2020:

2019-2020 Budget Document
2018-2019 Estimated Budget Compared to
2019-2020 Recommended Budget
Sources of Funds

	<u>Estimated Budget FY 2018-2019</u>	<u>Recommended Budget FY 2019-2020</u>	<u>Difference</u>
Tax Revenue - Revised Estimate			
Sales and Use Taxes	\$ 9,100,000,000	\$ 9,463,900,000	\$ 363,900,000
Other Taxes - Department of Revenue	5,677,300,000	5,775,900,000	98,600,000
Other Miscellaneous Revenues	2,220,663,000	2,190,842,900	(29,820,100)
Tobacco Funds	160,600,000	160,600,000	-
Lottery for Education Funds	389,700,000	388,300,000	(1,400,000)
Debt Service Fund Transfer	45,200,000 *	-	(45,200,000)
Reserve Transfers and Adjustments	310,416,000	811,556,800 *	501,140,800
Reversion - Overappropriation	76,808,500 *	76,808,500 *	-
Rainy Day Fund Transfer	<u>(75,000,000) *</u>	<u>(225,000,000) *</u>	<u>(150,000,000)</u>
Sub-Total	<u>\$ 17,905,687,500</u>	<u>\$ 18,642,908,200</u>	<u>\$ 737,220,700</u>
Federal Funds	\$ 14,164,781,000	\$ 13,954,065,000	\$ (210,716,000)
Current Services and Other Revenues	3,955,240,400	3,943,822,800	(11,417,600)
Tuition and Student Fees	1,888,035,200	1,888,035,200	-
Bonds	<u>215,295,000</u>	<u>124,000,000</u>	<u>(91,295,000)</u>
Total	<u>\$ 38,129,039,100</u>	<u>\$ 38,552,831,200</u>	<u>\$ 423,792,100</u>
	\$ -	\$ -	
* Reserves, Transfers and Reversion ¹	\$ 47,008,500	\$ 663,365,300	\$ 616,356,800

¹ Reserves are funds transferred to the general fund as authorized by the General Appropriations Act. Reserves also includes funds reserved for appropriation in the following fiscal year. Transfers are funds transferred to the general fund for specific purposes. Reversion is the estimated budget surplus remaining at the end of a fiscal year.

2019-2020 Budget Document
2018-2019 Estimated Budget Compared to
2019-2020 Recommended Budget
Uses of Funds

	<u>Estimated Budget FY 2018-2019</u>	<u>Estimated Budget FY 2019-2020</u>	<u>Difference</u>
General Government	\$ 1,511,101,500	\$ 1,588,759,100	\$ 77,657,600
Education	11,133,904,500	11,384,723,400	250,818,900
Health and Social Services	17,425,861,400	17,395,554,200	(30,307,200)
Law, Safety, and Correction	1,924,177,000	1,963,661,900	39,484,900
Resources and Regulation	1,023,359,500	1,004,279,100	(19,080,400)
Business and Economic Development	<u>724,474,400</u>	<u>712,751,700</u>	<u>(11,722,700)</u>
Total General Fund	<u>\$ 33,742,878,300</u>	<u>\$ 34,049,729,400</u>	<u>\$ 306,851,100</u>
Transportation	\$ 2,242,390,700	\$ 2,295,152,500	\$ 52,761,800
Debt Service Requirements	356,675,000	338,855,000	(17,820,000)
Capital Outlay Program	340,618,000	417,020,100	76,402,100
Facilities Revolving Fund	226,877,100	200,874,200	(26,002,900)
Cities and Counties - State Shared Taxes	<u>1,219,600,000</u>	<u>1,251,200,000</u>	<u>31,600,000</u>
Total State Budget All Programs	<u>\$ 38,129,039,100</u>	<u>\$ 38,552,831,200</u>	<u>\$ 423,792,100</u>

Investment Policy

The State Funding Board is charged with the establishment of policy guidelines for the investment of State funds. The State Treasurer is responsible for the management of the State Pooled Investment Fund (the "SPIF") (which includes the State's cash, various dedicated reserves and trust funds of the State, and the Local Government Investment Pool) and the Intermediate Term Investment Fund (the "ITIF"), a longer term investment option.

The primary investment objective for the SPIF is safety of principal, followed by liquidity and yield. No investments may be purchased with a remaining maturity of greater than 397 calendar days, the weighted average maturity cannot exceed 60 days, and the weighted average life cannot exceed 120 days. Investment instruments authorized by the Investment Policy for the SPIF approved by the State Funding Board pursuant to Section 9-4-602, Tennessee Code Annotated, for purchase by the SPIF include (1) bonds, notes and treasury bills of the United States or other obligations guaranteed as to principal and interest by the United States or any of its agencies; (2) repurchase agreements for obligations of the United States or its agencies; (3) certificates of deposit in banks and savings and loan associations recognized as state depositories pursuant to Section 9-4-107, Tennessee Code Annotated; provided, however, certificates of deposit shall be collateralized in accordance with the provisions of Tennessee Code Annotated; (4) prime commercial paper that is rated in the highest category by at least two nationally recognized commercial paper rating agencies; (5) prime bankers' acceptances that are eligible for purchase by the Federal Reserve System; and (6) securities lending agreements whereby securities may be loaned for a fee; provided, however, eligible collateral as defined in Section 9-4-103, Tennessee Code Annotated, whose market value is at least equal to one hundred two percent (102%) of the market value of the borrowed securities shall be required for each loan and for purposes of this provision, eligible collateral shall include cash collateral, which shall be equal to at least one hundred percent (100%) of the market values of the borrowed securities. For each type of investment, certain terms and conditions must be met. All securities purchased are held by a custodian pursuant to a custodian agreement.

The ITIF portfolio is intended to be a longer-term investment option to the SPIF. The ITIF is actively managed and is designed to invest in longer-term instruments in order to benefit from the normal steepness of the yield curve. The dollar weighted average maturity of the ITIF shall not exceed 3 years. An appropriate amount of the fund is maintained in short term investments to cover emergency withdrawals. No security will be purchased with a remaining life of over five years. Investment instruments authorized by the Investment Policy for the ITIF approved by the State Funding Board pursuant to Section 9-4-602, Tennessee Code Annotated, for purchase by the ITIF include: (1) bonds, notes and treasury bills of the United States or other obligations guaranteed as to principal and interest by the United States or any of its agencies; (2) obligations guaranteed as to principal and interest by the federal home loan mortgage corporation, federal national mortgage association, student loan marketing association and other United States government-sponsored corporations; (3) repurchase agreements for obligations of the United States or its agencies; (4) prime commercial paper that is rated in the highest category by at least two nationally recognized commercial paper rating agencies; and (5) prime bankers' acceptances that are eligible for purchase by the Federal Reserve System. For each type of investment, certain terms and conditions must be met. All securities purchased are held by a custodian pursuant to a custodian agreement.

In addition to the funds in the SPIF and the ITIF, TCRS (a pension trust fund), the Baccalaureate Education System Trust (a private-purpose trust), the Chairs of Excellence Trust (a permanent fund), the Tennessee Promise Endowment Fund (a trust to fund higher education scholarships), and the Other Post-Employment Benefits Trust (a trust to pay non-pension benefits to former state employees) (see "Other Post-Employment Benefits" page 18) are authorized by statutes to invest in long-term investments, including bonds, debentures, preferred stock and common stock, and real estate subject to the approval of the applicable boards of trustees. See "Appendix A - Financial Statements" - Note 5A "Deposits and Investments".

Accounting Standards

The Governmental Accounting Standards Board (“GASB”) is the body responsible for promulgating accounting and financial reporting standards that are followed by state and local governments desiring to present financial statements in accordance with generally accepted accounting principles (“GAAP”). The State adheres to GASB rules and issues audited financial statements in conformity with GAAP.

Other Post-Employment Benefits

In 2004, GASB issued Statements Nos. 43 and 45 that provide accounting and financial reporting requirements for retiree healthcare plans and employer participants, commonly known as Other Post-Employment Benefits (“OPEB”). In 2015, GASB issued Statements Nos. 74 and 75 which replaced Statements Nos. 43 and 45, respectively. Statement No. 74 was effective for FYE June 30, 2017 while Statement No. 75 was effective for FYE June 30, 2018.

State employees and teachers who meet specified criteria receive pension benefits provided to retirees through a defined benefit plan administered by TCRS. In addition to retirement benefits, certain qualified retirees may continue participation in OPEB plans sponsored by the State. Retirees who are not yet eligible for Medicare have access to the same benefits as current employees and pay monthly premiums that vary by years of service at retirement. After age 65, retirees may participate in a Medicare supplemental plan. The State’s financial support to this supplemental plan is a fixed amount based on years of service. Employees hired on or after July 1, 2014 are not eligible to participate in State administered OPEB plans.

The most recent completed actuarial valuations of post-employment medical benefits, as of July 1, 2017, was completed during fiscal year 2018. These studies were conducted using an actuarial cost method and focused on individual employers within each plan. The State’s obligations and OPEB expense resulting from the July 1, 2017 study are summarized below.

	As of June 30, 2018 (unaudited)	
	(expressed in thousands)	
	Total OPEB Liability	Total OPEB Expense
State Employee Group Plan		
State obligation for employees	\$ 915,974	\$ 70,195
Local Education Agency Group Plan		
State obligation on behalf of teachers	256,924	21,680
Medicare Supplement Plan		
State obligation for employees (including component unit and LEA)	392,305	17,551
Total State Obligation	\$ 1,565,203	\$ 109,426

The actuary reports may be reviewed at: <https://www.tn.gov/finance/rd-doa/fa-accfin-opeb.html>. The State was contracted with Gabriel Roeder Smith and Company to provide GASB required valuations for the State Employee Group, Teacher Group, Local Government Group and Tennessee (Medicare Supplement) OPEB plans for fiscal years ended June 30, 2014 through June 30, 2019. The next valuation results, as of July 1, 2018, are expected to be received in late summer of 2019, and will be reported in the FYE June 30, 2019 financial statements. Future valuations will be performed under a contract with Aon plc.

The OPEB information above was reported in the State’s Comprehensive Annual Financial Report (“CAFR”) for fiscal year 2017-2018. Historically, the State has not pre-funded any actuarially determined OPEB liability and instead used a pay-as-you-go funding arrangement for actual costs of OPEB liabilities incurred. However, pursuant to Sections 9-27-801, *et seq.* Tennessee Code Annotated, a trust (the “OPEB Trust”) was established and began operating effective January 1, 2019, whereby the State Employee Group Plan was converted

to a prefunding arrangement where assets are accumulated in the OPEB Trust and benefit payments are made directly from the OPEB Trust. The net position of the OPEB Trust for the fiscal year ending June 30, 2019 is estimated to be approximately \$210,000,000 (unaudited). The State has the flexibility to adjust the benefits and premium sharing provisions provided by insurance plans and to adjust the various OPEB plan options and operations on an annual basis. It will continue to analyze the cost of the choices available to retirees and the cost of the choices on the employees, retirees and the State's cash flow to manage these expenditures going forward.

The trustees (the "Trustees") of the OPEB Trust are the Commissioner of Finance and Administration, the chair of the Finance, Ways and Means Committee for the Senate, the chair of the Finance, Ways and Means Committee for the House of Representatives, and the State Treasurer, in his capacity as chair of the board of TCRS.

Financial Reporting Awards

The Government Finance Officers Association of the United States and Canada (the "GFOA") has awarded Certificates of Achievement for Excellence in Financial Reporting to the State for its CAFR for the fiscal years ended June 30, 1979 to June 30, 2008, thirty consecutive years. The State did not receive the award for the fiscal year ended June 30, 2009 due to the implementation of a new accounting system that delayed the report but did receive the award again for fiscal years ended June 30, 2010 to June 30, 2018. TCRS was also awarded a Certificate of Achievement for Excellence in Financial Reporting for its CAFR for the fiscal year ended June 30, 2018. This was the thirty-first consecutive year that TCRS received this award. To be awarded a Certificate of Achievement for Excellence, a governmental unit must publish an easily readable and efficiently organized comprehensive annual financial report, the content of which conforms to program standards. Such reports must satisfy both GAAP and applicable legal requirements.

THE TENNESSEE CONSOLIDATED RETIREMENT SYSTEM

Introduction

TCRS was established in 1972 as a trust to provide a defined benefit pension plan that covers three large groups of public employees - State employees (including higher education employees), public school teachers of grades K-12 (including teachers employed by public charter schools) ("Teachers"), and employees of participating local governments.

State and higher education employees (with limited exceptions described in the section "General Information") hired on or before June 30, 2014 are members of a legacy closed defined benefit plan (the "Closed Plan") and do not make contributions to the Closed Plan. Since July 1, 1981, all contributions made on behalf of members of the Closed Plan have been made by members' employers in amounts determined by actuarial valuations.

State and higher education employees (with limited exceptions described in the section "General Information") hired on or after July 1, 2014 are members of a hybrid retirement plan that provides both a defined benefit plan and a defined contribution plan (the "Hybrid Plan").

The State is ultimately responsible for the financial obligation of the benefits provided by TCRS to State and higher education employee members of the Closed Plan to the extent such obligation is not covered by employer contributions and investment earnings. Although the State's liability for its financial obligations under the Closed Plan is uncapped, the Hybrid Plan was designed so that the State's liability is limited to a total maximum annual employer cost of nine percent (9%) of an employee's salary. The plan provisions of the Closed Plan and the Hybrid Plan are described in "General Plan Provisions."

The State is not directly responsible for the pension benefits provided to Teachers or local government employees. However, the State does provide funding to the local school systems, which are referred to as Local Education Agencies ("LEAs"), to assist in the funding of a system of education in Tennessee. Funds provided by the State to LEAs may be used to finance the employer pension contributions of LEAs to TCRS.

TCRS is governed by a Board of Trustees (the "Board") that is responsible for the general administration and operations of TCRS within the requirements and provisions of State statutes. The Board is composed of nine ex-officio members (of which two are non-voting), nine representatives of the active TCRS membership, and two representatives for retirees. The ex-officio members include the chair and vice-chair of the legislative Council on

Pensions and Insurance (as nonvoting members), the Commissioner of Human Resources, the Commissioner of Finance and Administration, the Comptroller of the Treasury, the Secretary of State, the Administrative Director of the Courts, the State Treasurer (sits as the Chair), and the Director of TCRS (sits as the Secretary). The employee representatives consist of three Teachers (one from each grand division of the State who are selected for three-year terms by the Speaker of the Senate and the Speaker of the House of Representatives), two State employees from departments other than those represented by ex-officio members (elected by State and higher education employees for three-year terms), one public safety officer (appointed by the Governor for a three-year term), three representatives of local governments (appointed by the Tennessee County Services Association, the Tennessee Municipal League, and the County Officials Association of Tennessee for two-year terms), a retired Teacher (appointed by the Speaker of the House of Representatives for a three-year term), and a retired State or higher education employee (appointed by the Governor for a two-year term). All employee representatives must be vested members of TCRS.

By statute, an actuarial valuation of TCRS is to be conducted at least once in every two-year period. However, pursuant to the funding policy adopted by the Board on September 26, 2014, an actuarial valuation is conducted annually as of each June 30th for both accounting purposes and funding purposes. The latest actuarial valuation was performed as of June 30, 2018, and an actuarial valuation as of June 30, 2019 is underway. The Board certifies to the Governor each year the amount necessary to fund the Actuarially Determined Contribution (“ADC”) for State and higher education employees, and by statute the General Assembly is required to appropriate such amount. Thus, for each year since 1972, the State has paid to TCRS 100% of the ADC for State and higher education employees. The ADC represents the amount necessary to fund the normal cost (the cost of current service being accrued), the amortized amount of the unfunded accrued liabilities, and the cost of the administration of TCRS pursuant to the actuarial methodology described herein. The State has not generally waived immunity from suit or extended its consent to be sued, and sovereign immunity and other legal principles may bar actions to compel the General Assembly to appropriate moneys in the future for such purposes. Beginning July 1, 2014, the term ADC replaced the term ARC; however, ADC is essentially the same as the ARC.

The total pension liability of the Closed Plan in excess of its fiduciary net position (net assets), or net pension liability, at the June 30, 2018 measurement date, was \$1,615,412,016. The Closed Plan fiduciary net position as a percentage of the total pension liability, or funded ratio, was 90.26% at June 30, 2018, calculated in accordance with GASB Statement No. 68 (“GASB 68”). The funded ratio was 88.88% for 2017, 87.96% for 2016, 91.26% for 2015 and 95.11% for 2014. Before 2014, the funded ratio was calculated using the actuarial value of assets as determined in an actuarial valuation with such amount then divided by actuarial accrued liability. Historical funded ratios were 89.4% for 2013, 88.30% for 2011, 86.32% for 2009, and 90.93% for 2007. In most years before 2014, the funded ratio would have been lower if based on market value of assets.

The Hybrid Plan is a legally separate agent plan pursuant to State statute and a separate set of accounting and actuarial records is maintained for this plan. At the June 30, 2018 measurement date, the funded ratio of the Hybrid Plan was 132.39% with fiduciary net position exceeding total pension liability by \$38,573,088. The funded ratio was 131.51% for 2017, 130.56% for 2016 and 142.55% for 2015.

The amounts and percentages set forth in this section relating to TCRS are based upon numerous demographic and economic assumptions, including investment return rates, inflation rates, salary increase rates, cost of living adjustments, post-employment mortality, active member mortality and rates of retirement. Prospective purchasers of the Bonds are cautioned to review and carefully assess the reasonableness of the assumptions set forth in the documents that are cited as the sources for the information in this section. In addition, prospective purchasers of the Bonds are cautioned that such sources and the underlying assumptions are provided as of their respective dates and are subject to change. Prospective purchasers of the Bonds should also be aware that some of the information presented in this section contains forward-looking statements and the actual results of TCRS may differ materially from the information presented herein.

General Information

TCRS was established effective July 1, 1972 by Public Chapter 814, Acts of 1972. Tennessee Code Annotated Section 8-34-202 provides that TCRS has the powers, privileges and immunities of a corporation and that all of its business shall be transacted, all of its funds invested, and all of its cash and other property held in trust for the purpose for which received. By statute, the general administration and responsibility for the proper operation of TCRS are vested in the Board. The Treasury Department, a constitutional office in the legislative

branch of State government, is responsible for the administration of TCRS, including the investment of assets in both the Closed Plan and the Hybrid Plan, in accordance with State statute and in accordance with the policies, rules, and regulations established by the Board.

State and higher education employees must become members of TCRS except that higher education employees exempt from the Federal Fair Labor Standards Act may waive membership in TCRS and elect to participate in the Optional Retirement Program, a defined contribution plan described in the section “Other Retirement Programs.”

Teachers are members of TCRS. The more than 200 LEAs are responsible on a cost sharing basis for the financial obligation of the benefits provided by TCRS to Teachers to the extent such obligations are not covered by their employee contributions and investment earnings. The obligation is funded by LEA employer contributions as determined by an actuarial valuation. LEAs do not have taxing authority. The local governing body of an LEA and the State provide funding to LEAs to finance the cost of providing a system of education for the children of the State. The State’s education funding formula includes an amount to be used toward some, but not all, of an LEA’s pension cost (LEA’s employer contributions to TCRS). For TCRS purposes, the Teacher group includes certificated Teachers and does not include non-teaching personnel such as bus drivers, cafeteria workers, maintenance employees, custodians, and secretaries.

Local governments may join TCRS as a participating employer in order to provide pension benefits for their employees. However, each local government is responsible for the financial obligation of the benefits provided by TCRS to their employees to the extent such obligations are not covered by their employee contributions and investment earnings. The State is not responsible for the liability associated with local governments participating in TCRS. Local governments participating in TCRS include cities, counties, special school districts, utility districts, emergency communication districts, and other political subdivisions of the State. As of June 30, 2019 there are more than 600 local governments in the TCRS plan. Employees of local governments could include general employees, non-teaching employees of a school system, transportation department employees, public safety employees, utility employees, and employees of other departments of the local government.

State employees and higher education employees are combined for actuarial and financial obligation purposes, and the State is considered an agent employer group pursuant to GASB. Since the State is financially responsible for State and higher education employees in the Hybrid Plan, up to the point where cost controls occur, as described in the section “Cost Controls and Unfunded Liability Controls of the Hybrid Plan”, separate accounting and actuarial records are maintained for this group. LEAs are combined into a teacher cost-sharing group for actuarial and financial obligation purposes. Since LEAs are financially responsible for Teachers in the Hybrid Plan up to the point where cost controls occur, as described in the section “Cost Controls and Unfunded Liability Controls of the Hybrid Plan”, separate accounting and actuarial records are maintained for this Teacher group. Each participating local government in TCRS is maintained separately for actuarial and financial obligation purposes and is considered an agent employer for financial purposes. However, the assets of all public employee groups participating in TCRS are commingled for investment purposes with each group receiving its pro rata share of investment gains and losses.

It has been TCRS’ practice to conduct an actuarial audit every ten years, the last audit being completed effective with the 2009 valuation. The current funding policy continues this practice. By statute, an actuarial experience study shall be conducted at least once every six years to establish demographic assumptions (pattern of retirement, turnover, mortality, etc.) and economic assumptions (investment earnings rate, salary, retiree cost of living, etc.). Pursuant to the funding policy adopted by the Board, an actuarial experience study is conducted every four years. The most recent experience study was conducted in 2016. As mentioned above, actuarial valuations are required every two years but by policy are conducted annually.

TCRS issues audited financial statements on an annual basis. By statute, an independent audit is conducted by the Comptroller of the Treasury, an office established by the State’s Constitution. The Comptroller of the Treasury is a part of the legislative branch of State government and is accountable to the General Assembly. The financial statements are prepared in conformity with GAAP in the United States of America.

The Comptroller of the Treasury performed the audit of the most recent financial statements of TCRS as of June 30, 2018. The latest actuarial valuations for funding and accounting purposes (as of June 30, 2018), and actuarial experience study (as of June 30, 2016) were performed by the actuarial and consulting firm of Findley,

Inc. The latest actuarial audit (as of July 1, 2009) was performed by the actuarial and consulting firm of Gabriel, Roeder, Smith, & Company. Such reports are available on the Tennessee Treasury website at www.treasury.tn.gov/Retirement/Boards-and-Governance/GASB-and-Actuarial-Information.

As of June 30, 2018 the membership in TCRS was as follows (unaudited):

	<u>Active Employees</u>	<u>Inactive Employees or Beneficiaries Currently Receiving Benefits</u>	<u>Inactive Employees Entitled to but not yet Receiving Benefits</u>	<u>Total</u>
State & Higher Education Employees				
Closed Plan	40,611	57,593	40,314	138,518
Hybrid Plan	<u>19,194</u>	<u>7</u>	<u>9,495</u>	<u>28,696</u>
Total	59,805	57,600	49,809	167,214
Teachers				
Closed Plan	59,487	50,922	31,264	141,673
Hybrid Plan	<u>19,634</u>	<u>3</u>	<u>5,195</u>	<u>24,832</u>
Total	79,121	50,925	36,459	166,505

* Information from most recent actuarial valuation (measurement period of 7/1/2017-6/30/2018).

General Plan Provisions

Closed Plan

The description under this section applies to employees hired on or before June 30, 2014; the Closed Plan was closed to new membership on June 30, 2014. Employees, whether vested or non-vested, as of June 30, 2014, continue to accrue benefits under these benefit provisions.

State employees, higher education employees and Teachers are vested upon completing five years of employment. Eligibility for a retirement benefit is either age sixty (60) and vested or at any age after thirty (30) years of service credit. A reduced benefit is available at age fifty-five (55). Disability benefits are available after five (5) years of employment if the member is totally and permanently disabled and cannot engage in gainful employment. Death benefits are available under certain conditions.

The benefit provided by TCRS is a mathematical formula that uses a member's highest consecutive five year average salary ("five (5) year salary") and a member's years of creditable service. The formula is a multi-step calculation that provides a benefit that, stated in a simplified manner, is between one and five-tenths percent (1.5%) and one and sixth-tenths percent (1.6%) of the member's five (5) year salary multiplied by years of service. For example, a thirty (30) year employee will receive approximately forty-eight percent (48%) of his or her five (5) year salary.

Retirees are entitled to Cost of Living Adjustments ("COLA") after retirement. As required by Tennessee Code Annotated Section 8-36-701, cost of living adjustments are made every July 1 for retirees who have been retired at least twelve (12) months and if the consumer price index (all items-United States city average as published by the U.S. Department of Labor) increases by more than five-tenths of one percent (0.5%). If the consumer price index increases between five-tenths of one percent (0.5%) and one percent (1.0%), the increase granted is one percent (1.0%). Otherwise, the adjustment is the actual increase in the consumer price index except that the COLA is capped at a maximum of three percent (3.0%).

State employees and higher education employees hired on or before June 30, 2014, are non-contributory, i.e., they do not contribute a portion of their salary. The five percent (5.0%) employee contribution is made on their behalf by their employers. Teachers contribute five percent (5.0%) of salary. Separate accounting and actuarial records are maintained for each group.

There are no cost controls or unfunded liability controls for the Closed Plan.

Defined benefit pension plan for employees hired on or after July 1, 2014 as a component of the Hybrid Plan

Employees hired on or after July 1, 2014 are members of the Hybrid Plan which consists of two components, a defined benefit plan and a defined contribution plan. The defined contribution component is described in the section "Other Retirement Programs." The defined benefit component description follows.

State employees, higher education employees and Teachers are vested upon completing five (5) years of employment. Eligibility for a retirement benefit is either age sixty-five (65) and vested or under the rule of ninety (90) where a combination of age and service credit totals ninety (90). An actuarially reduced benefit is available at age sixty (60) or the rule of eighty (80). Disability benefits are available after five (5) years of employment if the member is totally and permanently disabled and cannot engage in gainful employment. Death benefits are available under certain conditions.

The defined benefit provided by TCRS is a mathematical formula that uses a member's highest consecutive five (5) year salary and a member's years of creditable service. The formula provides a benefit equal to one percent (1.0%) of the member's five (5) year salary multiplied by the member's years of creditable service.

Retirees are entitled to COLA after retirement. As required by Tennessee Code Annotated, Section 8-36-701, COLAs are made every July 1 for retirees who have been retired at least twelve (12) months and if the consumer price index (all items-United States city average as published by the U.S. Department of Labor) increases by more than five-tenths of one percent (0.5%). If the consumer price index increases between five-tenths of one percent (0.5%) and one percent (1.0%), the increase granted is one percent (1.0%). Otherwise, the adjustment is the actual increase in the consumer price index except that the COLA is capped at a maximum of three percent (3.0%).

State and higher education employees hired on or after July 1, 2014, contribute five percent (5.0%) of salary. Teachers also contribute five percent (5.0%) of salary.

Cost Controls and Unfunded Liability Controls of the Hybrid Plan

The Hybrid Plan was designed so that the maximum employer pension cost is limited to a total of nine percent (9.0%) of salary combined for the defined benefit plan and the defined contribution plan. Employer contributions are targeted at four percent (4.0%) of salary to the defined benefit plan and at five percent (5.0%) of salary to the defined contribution plan. Should the actuarially determined employer contribution for the defined benefit plan be less than four percent (4.0%), the excess will be held by TCRS in a stabilization reserve trust (“SRT”). When an actuarial valuation is performed and the actuarial rate for the defined benefit plan exceeds four percent (4.0%), then a series of cost control steps automatically occur in the following sequence: (1) utilize funds in the stabilization reserve, if any; (2) reduce or suspend the maximum annual COLA; (3) shift some or all of the employer contributions from the defined contribution plan to the defined benefit plan; (4) increase employee contribution by one percent (1.0%) of salary; (5) reduce the benefit accrual factor below one percent (1.0%) and (6) freeze the plan with no future accruals being earned by employees. These cost controls apply to the State and higher education employees as a group. These same cost controls apply separately to the Teacher group in the Hybrid Plan

The Hybrid Plan also was designed to control the actuarial unfunded liability. If an actuarial valuation determines that the unfunded liability of the Hybrid Plan for State and higher education employees exceeds twelve and five-tenths percent (12.5%) of the five year average of the State’s bond indebtedness, then the same controls set out in the preceding paragraph will automatically occur. These provisions also apply separately to the Teacher group in the Hybrid Plan.

Investments and Investment Policy

Tennessee Code Annotated Section 8-37-104 establishes the types of investments that are permitted. An investment policy is adopted by the Board related to the authorized investment types and portfolio structure. The current investment policy adopted by the Board is available on the Tennessee Treasury website at www.treasury.tn.gov/Retirement/Board-and-Governance/Reporting-and-Investment-Policies.

The actual allocation of assets and the policy target range at June 30, 2019 are (unaudited):

<u>Asset Class</u>	<u>Policy Range</u>	<u>Actual Allocation</u>
North American Stock	25-50%	33.4%
Domestic Bonds	20-60%	26.4%
Inflation Indexed Bonds	0-15%	1.4%
Short-term Securities	0-10%	1.0%
International Bonds	0-10%	0.0%
International Stocks	5-25%	17.3%
Private Equity & Strategic Lending	0-20%	11.9%
Real Estate	0-20%	8.6%
		<u>100.0%</u>

The historical annualized rates of return (net of fees) on TCRS investments as of June 30, 2019 are (unaudited):

<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>15 Year</u>	<u>20 Year</u>	<u>25 Year</u>
7.38%	9.00%	6.62%	9.51%	7.07%	6.23%	7.62%

The historical annual rates of return (net of fees) on TCRS investments for the last ten years are:

<u>Year Ended</u> <u>June 30</u>	<u>Rate of Return</u>
2019*	7.4%
2018	8.2%
2017	11.4%
2016	2.8%
2015	3.3%
2014	16.7%
2013	9.9%
2012	5.6%
2011	19.6%
2010	10.2%

*unaudited

Actuarial Methodology for Funding Purposes

The funding policy adopted by the Board provides that the actuarial valuation will be conducted based on the following: entry-age normal actuarial method; 10-year smoothing of assets within a 20% corridor; and level dollar amortization of unfunded liabilities over a closed period not to exceed 20 years. As of June 30, 2018, under the 10-year smoothing of assets methodology net investment losses of approximately \$1.8 billion are being deferred in the Closed plan and \$3.5 million in the Hybrid plan. The June 30, 2018 actuarial valuation established the employer contribution rate for the period July 1, 2019 through June 30, 2020.

Economic and Demographic Assumptions

The latest actuarial experience study was conducted in 2016 and determined the economic and demographic assumptions to be utilized in the 2017, 2018, 2019, and 2020 actuarial valuations.

The long term investment earnings assumption of 7.25% is compounded annually. A graded salary increase assumption based on age is utilized with larger increases expected for younger employees and smaller increases for older employees. The salary range begins at 8.72% at age 20 while the upper portion of the range at age 70 is 3.44%. The approximate average salary assumption increase is 4.00%. The social security wage base is assumed to increase 3.0%. The cost of living adjustment for retirees is assumed to increase 2.25% annually. A rate of inflation of 2.5% is assumed in establishing the economic assumptions. All of the economic assumptions noted above reflect lower values from the 2016 experience study.

The demographic assumptions include: post-retirement mortality, pre-retirement mortality, withdrawal rate for termination of employment, the marital status of members, the age differences of the married members and their spouses, disability rate, and pattern of retirement. The demographic assumptions are based on the past experience of participants in TCRS and most current Society of Actuaries mortality tables. Additionally, the mortality assumptions reflect improvements and projections of further improvements in life expectancy.

Summary of Fiscal Health of TCRS

**Funded Status Based on GASB Pension Standards+*
At June 30, 2018
(dollars expressed in thousands)**

<u>Group</u>	<u>Plan Fiduciary Net Position</u>	<u>Total Pension Liability</u>	<u>Net Pension Liability (Asset)</u>	<u>Plan Fiduciary Net Position as a % of the Total Pension Liability</u>	<u>Covered Payroll</u>	<u>Net Pension Liability (Asset) as a % of Covered Employee Payroll</u>
State & Higher Education Employees						
Closed Plan	\$14,973,256	\$16,588,668	\$1,615,412	90.26%	\$2,280,469	70.84%
Hybrid Plan	157,677	119,104	(38,573)	132.39%	727,339	(5.30%)
Teachers						
Closed Plan	24,028,523	23,676,632	(351,891)	101.49%	3,501,704	(10.05%)
Hybrid Plan	213,543	168,190	(45,353)	126.97%	873,677	(5.19%)

+ unaudited

* Information from most recent actuarial valuation (measurement period of 7/1/2017-6/30/2018).

Historical Fiduciary Net Position

The available historical plan fiduciary net position for the last ten years for the state employee and higher education group and the teacher group are shown in the following table:

Historical Plan Fiduciary Net Position (dollars expressed in thousands)

<u>Year ended June 30</u>	<u>State & Higher Education Employees Closed Plan</u>	<u>State & Higher Education Employees Hybrid Plan **</u>	<u>Teachers Closed Plan</u>	<u>Teachers Hybrid Plan **</u>
2018+*	\$14,973,256	\$157,677	\$24,028,523	\$213,543
2017	14,300,961	86,564	22,873,664	124,800
2016	13,334,528	35,994	21,191,573	57,990
2015	13,457,746	9,317	21,268,085	18,676
2014	13,430,683		21,214,637	
2013	11,827,560		18,656,536	
2012	11,070,535		17,426,697	
2011	10,764,495		16,875,007	
2010	9,219,743		14,389,656	
2009	8,586,203		13,359,796	

+ unaudited

* Information from most recent actuarial valuation (measurement period of 7/1/2017-6/30/2018).

** Plan began July 1, 2014.

**Historical Funding Progress Based on Plan Fiduciary Net Position
State and Higher Education Employees Closed Plan
At June 30
(dollars expressed in thousands)**

Valuation Year	Plan Fiduciary Net Position	Total Pension Liability	Net Pension Liability (Asset)	Plan Fiduciary Net Position as a % of the Total Pension Liability	Covered Payroll	Net Pension Liability (Asset) as a % of Covered Employee Payroll
2018+*	\$14,973,256	\$16,588,668	\$1,615,412	90.26%	\$2,280,469	70.84%
2017	14,300,961	16,090,560	1,789,599	88.88%	2,333,672	76.69%
2016	13,334,528	15,159,093	1,824,565	87.96%	2,376,794	76.77%
2015	13,457,747	14,747,029	1,289,282	91.26%	2,540,327	50.75%
2014	13,430,683	14,120,632	689,949	95.11%	2,658,354	25.95%
2013	11,827,560	13,822,969	1,995,409	85.56%	2,489,709	80.15%
2011	10,764,495	13,284,473	2,519,978	81.03%	2,431,765	103.63%
2009	8,586,203	11,936,316	3,350,113	71.93%	2,530,585	132.38%
2007	10,633,938	11,241,864	607,926	94.59%	2,501,095	24.31%
2005	8,985,992	9,202,389	216,397	97.65%	2,245,692	9.64%

+ unaudited

*Information from most recent actuarial valuation (measurement period of 7/1/2017-6/30/2018).

Note 1: Annual reporting began in 2014. Valuation years beginning with 2014 are based on GASB 67 and 68 requirements, years prior to 2014 are based on funding methodology.

**Historical Funding Progress Based on Plan Fiduciary Net Position
State and Higher Education Employees Hybrid Plan
At June 30
(dollars expressed in thousands)**

Valuation Year	Plan Fiduciary Net Position	Total Pension Liability	Net Pension Liability (Asset)	Plan Fiduciary Net Position as a % of the Total Pension Liability	Covered Payroll	Net Pension Liability (Asset) as a % of Covered Employee Payroll
2018+*	\$157,677	\$119,104	(\$38,573)	132.39%	\$727,339	(5.30%)
2017	86,564	65,826	(20,738)	131.50%	518,664	(4.00%)
2016	35,994	27,569	(8,424)	130.56%	305,786	(2.76%)
2015	9,317	6,536	(2,781)	142.55%	107,086	(2.60%)

+ unaudited

* Information from most recent actuarial valuation (measurement period of 7/1/2017-6/30/2018).

Note 1: Plan began July 1, 2014.

**Historical Funding Progress Based on Plan Fiduciary Net Position
Teachers Closed Plan
At June 30
(dollars expressed in thousands)**

Valuation Year	Plan Fiduciary Net Position	Total Pension Liability	Net Pension Liability (Asset)	Plan Fiduciary Net Position as a % of the Total Pension Liability	Covered Payroll	Net Pension Liability (Asset) as a % of Covered Employee Payroll
2018+*	\$24,028,523	\$23,676,632	(\$351,891)	101.49%	\$3,501,704	(10.05%)
2017	22,873,664	22,840,946	(32,718)	100.14%	3,536,976	(0.93%)
2016	21,191,573	21,816,518	624,945	97.14%	3,609,801	17.31%
2015	21,268,085	21,309,048	40,963	99.81%	3,743,503	1.09%
2014	21,214,637	21,198,387	(16,250)	100.08%	3,925,132	(0.41%)
2013	18,658,230	20,300,591	1,642,361	91.91%	3,747,221	43.83%
2011	16,875,007	19,423,152	2,548,145	86.88%	3,626,582	70.26%
2009	13,359,796	17,118,650	3,758,854	78.04%	3,523,942	106.67%
2007	16,637,769	15,998,286	(639,483)	104.00%	3,241,772	(19.73%)
2005	14,185,802	14,646,578	460,776	96.85%	3,000,297	15.36%

+ unaudited

* Information from most recent actuarial valuation (measurement period of 7/1/2017-6/30/2018).

Note 1: Annual reporting began in 2014. Valuation years beginning with 2014 are based on GASB 67 and 68 requirements, years prior to 2014 are based on funding methodology.

Note 2: In some Official Statements of the State of Tennessee, this table was titled "Historical Funding Progress Based on Market Value of Assets".

**Historical Funding Progress Based on Plan Fiduciary Net Position
Teachers Hybrid Plan
At June 30
(dollars expressed in thousands)**

Valuation Year	Plan Fiduciary Net Position	Total Pension Liability	Net Pension Liability (Asset)	Plan Fiduciary Net Position as a % of the Total Pension Liability	Covered Payroll	Net Pension Liability (Asset) as a % of Covered Employee Payroll
2018+*	\$213,543	\$168,190	(\$45,353)	126.97%	\$873,677	(5.19%)
2017	124,800	98,417	(26,383)	126.81%	655,206	(4.03%)
2016	57,990	47,579	(10,411)	121.88%	440,004	(2.37%)
2015	18,676	14,653	(4,023)	127.46%	207,773	(1.94%)

+ unaudited

* Information from most recent actuarial valuation (measurement period of 7/1/2017-6/30/2018).

Note 1: Plan began July 1, 2014.

Cash Flows

**Selected Cash Flows
State Employees, Higher Education Employees, and Teachers
(Closed and Hybrid Plans)
(dollars expressed in thousands)**

Fiscal Year	Cash Inflows		Cash Out Flows		Net Cash Flows
	Contributions	Interest and Dividends *	Benefits and Refunds	Administrative Cost	
2018	\$ 1,078,540	\$ 3,057,527	\$ 2,136,649	\$ 13,293	\$ 1,986,125
2017	965,890	3,865,904	2,049,988	11,802	2,770,004
2016	944,260	916,301	1,978,488	13,469	(131,396)
2015	948,804	1,056,413	1,885,341	10,345	109,531
2014	959,366	779,544	1,778,888	6,784	(46,762)
2013	932,678	782,794	1,661,602	5,446	48,424
2012	925,549	767,409	1,536,603	4,749	151,606
2011	914,226	740,075	1,434,296	3,525	216,480
2010	769,038	708,925	1,336,574	3,924	137,465
2009	769,714	793,334	1,271,327	3,616	288,105

* Interest and Dividends includes interest, dividends and all gains and losses, whether realized or unrealized.

Projections

The following table provides a projection of expected benefit payment patterns. The projection is based upon the assumptions utilized in preparing the 2013 actuarial valuation and has not been updated since that time. The assumptions include those regarding future salary levels, retirement dates, incidence of disability and mortality and annual cost of living adjustments.

Benefit Payment Projections for TCRS*
Based on July 1, 2013 Actuarial Valuation
Includes State Employees, Higher Education Employees, Teachers and Employees
of Local Governments
(dollars expressed in thousands)

<u>Year</u>	<u>Current Retirees</u>	<u>Future Retirees</u>	<u>Total</u>
2013	\$ 1,937,005	\$ 66,807	\$ 2,003,812
2014	1,932,550	200,405	2,132,955
2015	1,925,197	335,784	2,260,981
2016	1,914,802	474,772	2,389,574
2017	1,901,219	616,980	2,518,199
2018	1,884,276	764,734	2,649,010
2019	1,863,825	919,830	2,783,655
2020	1,839,741	1,079,768	2,919,509
2021	1,811,897	1,243,050	3,054,947
2022	1,780,173	1,415,060	3,195,233
2023	1,744,468	1,594,440	3,338,908
2024	1,704,708	1,777,281	3,481,989
2025	1,660,851	1,966,371	3,627,222
2026	1,612,850	2,162,100	3,774,950
2027	1,560,692	2,362,871	3,923,563
2028	1,504,416	2,572,593	4,077,009
2029	1,444,126	2,789,741	4,233,867
2030	1,379,985	3,012,246	4,392,231
2031	1,312,210	3,239,968	4,552,178
2032	1,241,098	3,469,424	4,710,522

* Includes State Employees, Higher Education Employees, Teachers and Employees of Local Governments.

Actual benefit payments for FY 2016 totaled \$2,312,706,000, for FY 2017 totaled \$2,410,601,000, and for FY 2018 totaled \$2,520,303,000.

Funding Policy Adopted by TCRS Board of Trustees

By statute, it is the State’s policy to fund the pension plan liabilities at the rate determined by an actuarial valuation. The employer contribution rate includes the normal cost, accrued liability cost, and cost of administration.

The Board adopted a formal funding policy in September 2014 for benefits accrued under the TCRS. The current funding policy adopted by the Board is available on the Tennessee Treasury website at www.treasury.tn.gov/retirement/boards-and-governance/reporting-and-investment-policies. The essential elements of the funding policy are:

- Annual actuarial valuations will be performed beginning June 30, 2015.
- The actuarial valuation method will be entry age normal.
- Actuarial value of assets will be smoothed over a ten year period.
- Actuarial value of assets cannot be 20% more or less than the market value of assets.
- Unfunded liability shall be amortized using level dollar amortization method.
- A new tier of unfunded liability shall be established with each actuarial valuation.
- The maximum amortization shall be a closed 20-year period for each tier.
- An actuarial experience study will be performed at a minimum of every four years.
- An actuarial audit will be performed at least once in a ten year period.

Actuarially Determined Contributions

**Actuarially Determined Contributions
(previously called Annual Required Contributions)
and Percentage Contributed
(dollars expressed in thousands)**

Year Ended June 30	State & Higher Education Employees Closed Plan		State & Higher Education Employees Hybrid Plan *	
	Employer Contribution	Employer Contribution as a Percentage of ADC	Employer Contribution	Employer Contribution as a Percentage of ADC
2018	\$435,455	100%	\$28,611	291%
2017	360,434	100%	20,339	326%
2016	366,114	100%	12,016	186%
2015	392,467	100%	4,214	185%
2014	410,608	100%		
2013	391,352	100%		
2012	382,888	100%		
2011	383,365	100%		
2010	341,585	100%		
2009	350,770	100%		

* Plan began July 1, 2014.

**Actuarially Determined Contributions
(previously called Annual Required Contributions)
and Percentage Contributed
(dollars expressed in thousands)**

Year Ended June 30	Teachers Closed Plan		Teachers Hybrid Plan *	
	Employer Contribution	Employer Contribution as a Percentage of ADC	Employer Contribution	Employer Contribution as a Percentage of ADC
2018	\$318,337	100%	\$34,957	245%
2017	319,576	100%	26,262	257%
2016	327,522	100%	17,539	159%
2015	338,413	100%	\$8,311	162%
2014	348,539	100%		
2013	344,534	100%		
2012	343,594	100%		
2011	339,833	100%		
2010	236,545	100%		
2009	233,215	100%		

* Plan began July 1, 2014.

The combined annual required contributions are funded from a contribution of State funds, Federal funds, student tuition and fees, and local education agencies. The combined annual required contribution for the state and higher education employees was \$464,066,000 for the fiscal year ended June 30, 2018 as shown on the schedule above.

Employer Contributions

The 2018 actuarial valuation established the employer contribution rates for the Closed Plan for the fiscal year ending June 30, 2020, to be 19.66% of salary for general State employees and higher education employees, 23.34% of salary for public safety employees and 25.55% for State judges. The combined aggregate rate for such period will be 19.80% of salary. LEAs will make employer contributions at the rate of 10.63% of salary for Teachers in the Closed Plan during the fiscal year ending June 30, 2020.

The 2018 actuarial valuation determined the ADC rates for the Hybrid Plan for the fiscal year ending June 30, 2020. The statutorily established 4.0% employer contribution rate will consist of an ADC of 1.73% of salary and a contribution of 2.27% to the SRT for general State employees and higher education employees, an ADC of 2.57% of salary and a contribution of 1.43% to the SRT for public safety employees and an ADC of 7.31% of salary for State Judges. The combined aggregate rate will be 4.00% of salary. LEAs will make an ADC of 2.03% of salary and a contribution of 1.97% to the SRT for Teachers in the Hybrid Plan during the fiscal year ending June 30, 2020. Additionally, as part of the Hybrid Plan, employers make contributions equal to 5% of salary to the defined contribution plan as described below.

Other Retirement Programs

Optional Retirement Program in Higher Education

Employees in higher education who are exempt from the Federal Fair Labor Standards Act may waive membership in the TCRS (“ORP Employees”) and elect to participate in the Optional Retirement Program (“ORP”), a defined contribution plan. ORP Employees hired prior to July 1, 2014 do not contribute to the ORP. By statute, employer contributions for ORP Employees hired on or before June 30, 2014 are made at the rate of ten percent (10.0%) of salary up to the social security wage base and 11.0% of salary above the wage base. ORP Employees hired on or after July 1, 2014 contribute 5.0% of salary to the ORP. By statute, employer contributions for such employees are made at the rate of 9.0% of salary.

ORP Employees are immediately vested in employer and employee contributions and make their own determinations as to how such contributions are invested. Currently, there are a variety of investment products for ORP Employees to choose from among three different vendors. There were approximately 12,500 ORP Employees at June 30, 2019. Employer contributions from the State and higher education institutions totaled \$71.7 million for the Closed Plan and \$26.4 million for the Hybrid Plan during the fiscal year ended June 30, 2019.

Defined Contribution Plan for State Employees and Higher Education Employees hired on or after July 1, 2014 as a component of the Hybrid Plan

One component of the Hybrid Plan is a defined contribution plan for State employees and higher education employees hired on or after July 1, 2014. By statute, employer contributions are made at the rate of 5.0% of salary. However, employer contributions may be reduced as part of the cost controls and unfunded liability controls previously described for the defined benefit plan component. Upon employment, employees are automatically enrolled to contribute 2.0% of salary to the defined contribution plan but employees may elect to increase or decrease the employee contributions at any time.

Employees are immediately vested in employee and employer contributions. Employees can choose among a variety of investment products.

Defined Contribution Plan for Teachers hired on or after July 1, 2014 as a component of Hybrid Plan

One component of the Hybrid Plan is a defined contribution plan for Teachers hired on or after July 1, 2014. By statute, employer contributions are made by the LEAs at the rate of 5.0% of salary. However, employer contributions may be reduced as part of the cost controls and unfunded liability controls previously described for the defined benefit plan component. Upon employment, Teachers are automatically enrolled to contribute 2.0% of salary to the defined contribution plan, but Teachers may elect to increase or decrease their employee contributions at any time.

Employees are immediately vested in employee and employer contributions. Employees can choose among a variety of investment products.

Deferred Compensation Plan for State Employees and Higher Education Employees

The deferred compensation program is a voluntary defined contribution plan to provide State employees and higher education employees with the opportunity to accumulate supplemental retirement income on a tax advantaged basis. The program offers employees two plans - a 457 plan and a 401(k) plan. The contributions to the 401(k) plan can be made to traditional and/or Roth plans.

Employee contribution limits are established by federal statute. In the 401(k) plan, employee contributions are matched by employer contributions up to a maximum of \$50 per month. Employer contributions are subject to the funding being appropriated in the budget each fiscal year; otherwise no match will be made.

For the year ended June 30, 2019, 80,652 State and higher education employees actively participated in the 401(k) plan on a voluntary basis or as part of the Hybrid Plan with an additional 6,525 employees participating in the 457 plan. Employer contributions to the 401(k) for the Hybrid Plan totaled \$44.8 million and \$32.5 million for the employer match on voluntary contributions. Additionally, 40,899 Teachers actively participated on a voluntary basis or as part of the Hybrid Plan. LEA employer contributions to the 401(k) for the Hybrid Plan totaled \$55 million.

Employees are immediately vested in employee and employer contributions. Employees can choose among a variety of investment products.

**Other Employer Contributions for
State and Higher Education Employees
Participating in the ORP or 401(k)**

Year Ended 30-Jun	ORP Employer Contributions	DC Employer Contributions*	Total Non-TCRS Employer Contributions
2019+	\$ 98,093,651	\$ 77,257,990	\$ 175,351,641
2018	100,608,949	68,028,252	168,637,201
2017	96,501,258	56,492,141	152,993,399
2016	94,115,457	44,260,831	138,376,288
2015	94,003,305	34,046,882	128,050,187

+ unaudited

* DC ER contributions include Hybrid contributions and \$50 employer match.

DEBT OF CERTAIN AGENCIES AND AUTHORITIES

The following entities are the corporate governmental agencies and instrumentalities of the State authorized to issue various debt instruments. The State is not liable for any debt instrument issued by any of the following entities, and no such debt instrument is a debt or obligation of the State and the full faith and credit of the State is not pledged to the payment thereof.

Tennessee Local Development Authority

In 1978, the General Assembly created the Tennessee Local Development Authority (the “TLDA”) pursuant to Sections 4-31-101 et seq., Tennessee Code Annotated. TLDA is a corporate governmental agency and instrumentality of the State. TLDA is authorized to (i) loan funds to local governments for sewage treatment, waterworks and capital projects (the “State Loan Programs”), for firefighting equipment, and for airport facilities; (ii) loan funds to certain small business concerns for pollution control equipment; (iii) make funds available for loans for agricultural enterprises; (iv) make loans to not-for-profit organizations providing certain mental health, mental retardation, and alcohol and drug services; and (v) make loans to local government units to finance construction of capital outlay projects for K-12 educational facilities. In order to fund these loans, TLDA is empowered to issue its bonds and notes. The aggregate amounts outstanding for certain programs are limited as follows: \$10,000,000 for firefighting equipment; \$200,000,000 for airport facilities; \$50,000,000 for pollution control equipment; \$50,000,000 for mental health, mental retardation, and alcohol and drug services; \$30,000,000 for agricultural enterprises; \$15,000,000 for petroleum underground storage tank cleanup costs; and \$75,000,000 for capital outlay projects for K-12 educational facilities.

In 2009 the General Assembly delegated to the TLDA the authority to allocate the State’s portion of the “national qualified energy conservation bond limitation,” as defined in § 54D of the Internal Revenue Code of 1986, codified in 26 U.S.C. § 54D. In 2012 the General Assembly clarified that a “qualified energy conservation project” constitutes a capital project under the State Loan Programs.

Bonds and notes issued by TLDA are secured by: (i) in the case of loans to local governments, monies received by TLDA under loan program agreements with the local governments and by the local governments' allocation of state-shared taxes; (ii) in the case of loans to small business concerns, monies received under agreements with those concerns; (iii) in the case of agricultural loans, monies received under agreements with

lenders and a pledge of any money, income or revenue from any source; (iv) in the case of loans to not-for-profit organizations, monies received under State grant agreements and a pledge of the department of mental health and mental retardation's annual budget; and (v) in the case of loans to local government units to finance construction of capital outlay projects for K-12 educational facilities, monies received by TLDA under loan agreements with local education agencies payable from taxes authorized to be levied for the purpose and certain proceeds of the Tennessee lottery for education.

Currently the only program being funded by TLDA is the State Loan Programs. As of August 31, 2019, TLDA had \$1,970,000 (unaudited) of bonds outstanding for these Programs.

Tennessee State School Bond Authority

In 1965, the General Assembly created the Tennessee State School Bond Authority (the "Authority"), pursuant to Sections 49-3-1201 et seq., Tennessee Code Annotated. The Authority is a corporate governmental agency and instrumentality of the State. The Authority is authorized to issue its bonds and notes to finance capital outlay programs for higher educational facilities which may be required or convenient for the purposes of The University of Tennessee, including its branches and divisions, and for the purposes of the institutions of higher education under the supervision and administration of the Tennessee Board of Regents of the State University and Community College System of the State of Tennessee. In 1980, the General Assembly further authorized the Authority to issue its bonds or notes to provide funds for the making of student loans by the Tennessee Student Assistance Corporation; however, no such bonds or notes have been issued for this purpose. The Authority also is authorized to issue Qualified Zone Academy Bonds ("QZAB") and Qualified School Construction Bonds ("QSCB") to finance improvement loans to cities and counties for qualifying K-12 schools for capital projects.

Generally, all outstanding higher educational facility debt obligations of the Authority are secured by financing charges payable under contracts and agreements entered into by the Authority and the Board of Trustees of The University of Tennessee and the Tennessee Board of Regents of the State University and Community College System of the State of Tennessee, as successor to the State Board of Education; legislative appropriations; and certain funds and accounts established by the Higher Educational Facilities General Bond Resolutions of the Authority. The QZABs and QSCBs are part of a Federal government program in which a Federal income tax credit is given to investors in lieu of interest on the bonds. For certain of the QSCBs, a Federal income tax credit is given to bondholders in lieu of the payment of interest on bonds, and in certain other QSCBs an election is made by the Authority to receive direct interest subsidy payments from the United States Treasury, which if not needed to cure defaults under loan agreements with the borrowers, are transferred to them. The QZABs and QSCBs are secured by a general obligation pledge of the borrowers and a pledge of unobligated State-shared taxes of the borrowers.

As of August 31, 2019, the Authority had outstanding \$1,498,245,000 (unaudited) aggregate principal amount of higher educational facility bonds, \$193,739,157 (unaudited) of higher educational facility revolving credit facility, and \$30,145,000 (unaudited) aggregate principal amount of QZAB bonds. As of August 31, 2019, the total par amount of QSCBs outstanding was \$389,440,000 (unaudited). A sinking fund has been established for the retirement of the QSCBs, and \$207,918,938 (unaudited) was the book value of assets on deposit as of August 31, 2019.

Tennessee Housing Development Agency

In 1973, the General Assembly created the Tennessee Housing Development Agency (the "Agency"), pursuant to Sections 13-23-101 et seq., Tennessee Code Annotated (the "Tennessee Housing Development Agency Act"). The Agency is authorized, among other things, to issue its bonds and notes to make funds available for the financing of residential housing for persons and families of lower and moderate income.

The Agency has established a mortgage finance program and is making funds available for loans for residential housing for persons or families of lower and moderate income. Such loans are secured by eligible mortgages on the properties. The Agency has made, but does not currently make, loans for multi-family residential housing for rental occupancy.

In order to accomplish its objectives, the General Assembly has authorized the Agency to issue its bonds and notes, provided that the aggregate principal amount outstanding on such bonds and notes may not exceed \$2,930,000,000, excluding bonds and notes which have been refunded. The Agency's net indebtedness, excluding the bonds and notes which have been refunded, at August 31, 2019, was \$2,511,310,000 (unaudited).

Obligations of the Agency are secured by, among other things, mortgage loans made by the Agency from the proceeds of such obligations. Obligations of the Agency issued prior to April 18, 2013, incorporate provisions of the Tennessee Housing Development Agency Act that provide a mechanism for certifying to the Governor and to the Commissioner of Finance and Administration amounts, if any, needed for debt service or operating expenses of the Agency and authorizes the General Assembly to appropriate, to expend and to provide for the payment of such amounts, but imposes no legal obligation upon the General Assembly to do so. These provisions of the Tennessee Housing Development Agency Act do not constitute a legally enforceable obligation of the State to pay any such amounts. Under the Constitution of the State, no monies may be withdrawn from the Treasury but in consequence of appropriations made by law.

State Veterans' Homes Board

In 1988, the General Assembly created the Tennessee State Veterans' Homes Board (the "Veterans' Homes Board") pursuant to Sections 58-7-101 to 58-7-112, inclusive, Tennessee Code Annotated. A political subdivision and instrumentality of the State, the Veterans' Home Board is authorized to issue its debt instruments to finance public homes for the support and care of honorably discharged veterans of the United States armed forces. Such homes will be established only if Federal Veterans' Administration funds are available to provide a share of the construction and operation costs. Prior to the issuance of any debt instruments, the Veterans' Homes Board must receive the approval of the State Funding Board. The Veterans' Homes Board has no outstanding bonds. Loans to the Veterans' Homes Board were funded through the issuance of general obligation bonds authorized by the General Assembly.

LITIGATION

Due to its size and broad range of activities, the State and its officers and employees are involved in a number of legal actions. In view of the financial condition of the State, it is the opinion of the Commissioner of Finance and Administration that the State's financial condition will not be materially affected by such litigation, based on information known at the date of this Official Statement.

Tobacco Master Settlement. Though there is no current tobacco payment litigation involving Tennessee, there is the potential for the State to be involved in future arbitrations arising out of disputes concerning an adjustment to annual tobacco payments. Tennessee and 51 other states and territories receive annual payments from participating tobacco manufacturers under the 1998 Tobacco Master Settlement Agreement ("MSA"). The amount of those payments varies each year depending on domestic sales volume and several other adjustments. A Non-Participating Manufacturer Adjustment ("NPM Adjustment") can reduce a state's payment if certain conditions occur and if the state did not diligently enforce its model escrow statute, which requires tobacco manufacturers that did not settle to pay into an escrow account each quarter. If an arbitration results in a finding that a state did not diligently enforce the escrow requirements during a calendar year, the state shares the NPM Adjustment with any other states found non-diligent for that year. Thus, the amount of the payment reduction is inversely proportional to the number of states that lose the diligent enforcement determination (i.e., the greater the number of losing states, the lower the payment reduction). A state can lose up to its entire MSA payment for a year, although such a result is very unlikely. Tennessee's annual MSA payment generally ranges from One Hundred and Forty Million Dollars (\$140,000,000.00) to One Hundred and Sixty Million Dollars (\$160,000,000.00). Tennessee and thirty-four (34) other states have resolved the NPM Adjustment disputes for the years 2003-2018 in a settlement with the participating tobacco manufacturers. However, as of January 1, 2018, Tennessee is once again subject to the potential for an NPM Adjustment to be applied if its diligent enforcement efforts, or lack thereof, are challenged in an arbitration and the State is unsuccessful in proving its diligence. It should be noted that the 2004 arbitration, for the states that did not join the more recent settlement, is still being litigated. Thus, any arbitration for 2018 most likely would not begin for a number of years.

State of Mississippi v. State of Tennessee, et al. (U.S. Supreme Court). On June 10, 2014, the State of Mississippi filed a motion in the U.S. Supreme Court for leave to commence an original action against the State of Tennessee, the City of Memphis, and the city's utility, Memphis Light, Gas and Water. This is in connection with Memphis' withdrawal of ground water, which is primarily used to supply drinking water. Mississippi is alleging that these withdrawals have been taking ground water that is in Mississippi, which that state claims to own in a proprietary capacity. Mississippi is seeking an injunction to limit Memphis's ground water withdrawals, and Six Hundred and Fifteen Million Dollars (\$615,000,000.00) in damages for past withdrawals. Mississippi

filed a similar motion in 2009, which the Supreme Court denied. The State believes that it has strong legal and factual arguments that should prevail in a trial of the case. However, there is no guarantee of such a result and the State could be enjoined and/or required to pay damages, if Mississippi were to succeed in its lawsuit. At this time, it is impossible to quantify the economic impact upon the State if Mississippi succeeds in its lawsuit. On June 29, 2015, the Supreme Court issued an order granting the State of Mississippi's motion to file its action. The State filed its answer on September 14, 2015. On November 10, 2015, the Supreme Court appointed Judge Eugene E. Siler, Jr., to be the Special Master; Judge Siler served full-time on the U.S. Court of Appeals for the Sixth Circuit before assuming senior status in 2001. The Special Master held an initial status conference on January 26, 2016, in which he granted the State's and Memphis's request to file a motion for judgment on the pleadings, and stayed all discovery until he ruled on that motion. The motion was filed February 25, 2016. An amicus brief supporting the State's motion was filed by the United States on March 3, 2016. Mississippi filed its response to the motion on April 6, 2016, along with a motion to exclude what it refers to as references in the defendants' motions and the amicus brief to facts beyond Mississippi's complaint. On April 28, 2016, the State filed a reply brief to the Mississippi response and also an opposition to Mississippi's motion to exclude. In addition, on that same date the United States filed a memorandum in opposition to Mississippi's motion to exclude. On August 12, 2016, the Special Master issued his decision denying Tennessee's motion for judgment on the pleadings. While the Special Master agreed with Tennessee's argument that Mississippi has no enforceable property right to the unapportioned ground water in the aquifer at issue, the Special Master viewed this legal argument as premised on the factual question of whether the aquifer is an interstate water resource, and thought that a limited evidentiary hearing on this question would be appropriate. An October 26, 2016, Case Management Plan, as amended, set forth a schedule for discovery in preparation for the evidentiary hearing. In accordance with that plan, all discovery was completed in September 2017. A November 1, 2017, Joint Case Management Plan, as amended, set monthly deadlines through March 20, 2018, for the parties to exchange material fact statements and responses culminating with a joint final statement of undisputed and disputed facts. Also, on March 20, 2018, the parties submitted a joint proposed order setting forth their plan for the hearing and any pre- or post-hearing briefing.

The Special Master approved a joint order setting the evidentiary hearing for May 20-24, 2019. The hearing was held on those days and went well for Tennessee and Memphis. Tennessee's two experts and Memphis' expert offered persuasive testimony that the aquifer and its groundwater are an interstate resource. The experts were composed under cross-examination by Mississippi's attorneys, and no significant inroads were made into their direct testimony. All the cross-examination questions were ones for which the experts were prepared. Tennessee's attorneys also were effective in their cross-examination of Mississippi's two experts. The parties have 90 days from the end of the hearing in which to obtain and review the hearing transcript and prepare proposed findings of fact, with transcript citations, and conclusions of law. During this time, the parties may also submit any additional arguments regarding the relevancy of the proof that was admitted during the hearing. After the proposed findings of fact and conclusions of law are filed, the parties will present closing arguments in-person to the Special Master. The date and location for the closing arguments have not yet been determined. After hearing the closing arguments, the Special Master will take the matter under advisement, and prepare a report with recommended findings of fact and conclusions of law. It may be three-to-four months (or potentially longer) before the Special Master issues his report and recommendations.

Comcast Holdings Corp. v. Richard Roberts, Commissioner of Revenue, (Chancery Court for the State of Tennessee Twentieth Judicial District, Davidson County, No. 15-1098-I); *Comcast Holdings Corp. v. David Gerregano, Commissioner of Revenue*, (Chancery Court for the State of Tennessee Twentieth Judicial District, Davidson County, No. 19-209-III). These two franchise and excise tax cases concern whether Comcast's receipts from its Tennessee customers should be included as sales in the receipts factor of its franchise-and-excise-tax apportionment formula. The State recently prevailed in a similar suit brought by Comcast for earlier tax years. There, the Court of Appeals affirmed the holding of the trial court that Comcast had inappropriately categorized its services and had failed to establish that the earnings in question should be apportioned outside Tennessee. Comcast did not appeal that decision, so it is final. In the two cases listed above, Comcast makes similar arguments for later years. These cases challenge assessments of Eighteen Million Twenty-One Thousand Four Hundred Ninety-Six Dollars (\$18,021,496.00) and Seventeen Million Seventy-Five Thousand Six Hundred Sixty-Four Dollars (\$17,075,664.00), for a total of more than Thirty-Five Million Dollars (\$35,000,000.00), which Comcast has already paid. In light of the recent ruling in the State's favor in a similar case, the State does not know whether Comcast will dismiss these cases or continue to pursue them and attempt to distinguish them from the recent decision.

CSX Transportation, Inc. v. Commissioner of Revenue; ExxonMobil Oil Corp. v. Commissioner of Revenue; Norfolk Southern Railway Co. v. Commissioner of Revenue; Valero Marketing & Supply Co. v. Commissioner of Revenue (all Chancery Court for the State of Tennessee Twentieth Judicial District, Davidson County). The cases above are the remaining refund cases concerning Tennessee's taxes on railroads' purchases of diesel fuel under the pre-2014 law, in which the railroads allege that the law discriminated against them in violation of the federal Railway Revitalization and Regulatory Reform Act (the "4-R Act"). The railroads have argued that this previous taxing regime was discriminatory because their purchases of fuel, but not purchases by competing trucking companies, were subject to sales tax, even though trucking companies paid a separate, and generally higher, diesel-fuel tax. The leading case was *Illinois Central Railroad Co. v. Tennessee Department of Revenue*, in which the federal Sixth Circuit Court of Appeals ruled that Tennessee's previous taxing regime did not violate the 4-R Act. The United States Supreme Court has now denied certiorari in that case, so the issue is concluded insofar as claims by Illinois Central are concerned. The State believes that this outcome will control the remaining cases, in which potential refunds of as much as One Hundred Seventy-Five Million Dollars (\$175,000,000.00) are sought. While these refund cases in state court are still pending after the Supreme Court's recent denial of certiorari at the end of June 2019, there appear to be no viable arguments for a different outcome as to the other railroads. Accordingly, the State believes that it will prevail in these cases, also.

A group of cases is also pending concerning railroads' liability under the current (post-2014) law, the Tennessee Transportation Fuel Equity Act, which placed railroads under the same tax obligations as trucking companies. The railroads contend that this law singles them out in violation of the 4-R Act. The federal district court denied the railroads' motions for preliminary injunctions but stayed collection pending appeal. The State believes that the principles announced by the Sixth Circuit in *Illinois Central* will result in eventual dismissal of the railroads' claims under the new law as well. In any event, because of the stay, no amounts have been paid into the State Treasury under the new law, so refunds are not an issue. The State believes that it will eventually be able to collect the amounts due for periods after the 2014 law became effective that are presently being withheld by the railroads and paid into escrow under a private arrangement of the railroad companies.

Hamilton County Bd. of Ed., Bradley County Bd. of Ed., McMinn County Bd. of Ed., Marion County Bd. of Ed., Grundy County Bd. of Ed., Coffee County Bd. of Ed., and Polk County Bd. of Ed. v. Haslam, Ramsey, Harwell, McQueen, Rolston, Edwards, Chancey, Roberts, Pearre, Tucker, Hartgrove, Johnson, and Troutt (Chancery Court for the State of Tennessee Twentieth Judicial District, Davidson County). The State was served with this suit on March 24, 2015. Seven local school boards brought suit against the Governor, the Speakers of both Houses, the Commissioner of Education, and the members of the State Board of Education, all in their official capacities only, alleging that the State has violated: (1) the holdings of the Tennessee Supreme Court in three previous education funding cases, as well as the Tennessee Constitution, and (2) State education funding statutes. The essential claim of the Complaint is that the State does not adequately fund public education in Tennessee. The Complaint seeks a declaratory judgment holding that: (a) the current system of funding public education violates Article XI, Section 12, of the Tennessee Constitution, and fails to provide a free public education, (b) the State educational funding system fails to provide Tennessee students with substantially equal educational opportunities, (c) the General Assembly must appropriate sufficient funds to fully implement the recommendations of the State's Basic Education Program ("BEP") Review Committee dated November 1, 2014, and (d) the General Assembly must include in the BEP funding formula the cost components associated with the rigorous academic standards imposed by the General Assembly.

The Plaintiffs filed a Motion for the Court to certify the case as a class action and include every county school system in the State in the class. That motion was denied. The Defendants filed a Motion to Dismiss for Failure to State a Claim. That motion was also denied. As a result, the parties are working through the discovery process.

The Defendants believe that they have strong legal and factual arguments and should prevail ultimately on the merits. However, there is no guarantee of such a result. The Plaintiffs' Amended Complaint claims "funding shortfalls" ranging from One Hundred and Thirty-Five Million Dollars (\$135,000,000.00) to Seven Hundred Million Dollars (\$700,000,000.00). Therefore, if the Plaintiffs were to succeed in their lawsuit, the State could possibly have to increase its annual funding for education by as much as Seven Hundred Million Dollars (\$700,000,000.00).

Shelby County Bd. of Ed. and Metro. Bd. of Pub. Ed. v. Haslam, Ramsey, Harwell, McQueen, Rolston, Edwards, Chancey, Roberts, Pearre, Tucker, Hartgrove, Johnson, and Troutt, and Heyburn (Chancery Court for the State of Tennessee Twentieth Judicial District, Davidson County). The State was served with this lawsuit on August 31, 2015. The Shelby County Board of Education brought this suit against the Governor, the Speakers of both Houses, the Commissioner of Education, and the members of the State Board of Education, as well as the Board's Executive Director, all in their official capacities only, alleging that the State has violated: (1) the holdings of the Tennessee Supreme Court in three previous education funding cases, as well as the Tennessee Constitution, and (2) State education funding statutes. On December 15, 2017, Shelby County was permitted to file an Amended Complaint and Davidson County's Metropolitan Board of Public Education was added as a co-Plaintiff. The essential claim of the Amended Complaint is that the State does not adequately fund public education in Tennessee. The Amended Complaint in this case goes beyond the relief sought in the Hamilton County case referred to above, by seeking full funding of the existing BEP funding formula (not the recommendations of the BEP Review Committee). In this case, Shelby and Davidson Counties seek a declaratory judgment holding that: (a) some portions of the BEP program are inadequate and therefore in violation of Article XI, Section 12, of the Tennessee Constitution; thus, the State is failing to provide a free public education, (b) the State educational funding system fails to provide Tennessee students with substantially equal educational opportunities, and (c) the General Assembly must appropriate sufficient funds to implement a revised version of the current school funding formula that includes, for example, pre-school education programs.

The Defendants believe that they have strong legal and factual arguments and should prevail ultimately on the merits. However, there is no guarantee of such a result. Since the Plaintiffs' Amended Complaint includes in its prayer for relief a major revamp and expansion of the existing BEP funding scheme, including a prayer for relief that seeks funding for an entirely new program—pre-school programs—the total relief sought in this case is likely significantly higher than the Hamilton County case above. However, it is impossible at this time to put an accurate dollar figure on any increase in funding for education that the State would have to make if the Plaintiffs were to prevail in this lawsuit. In addition, it should be noted this case and the Hamilton County case above overlap to a significant extent, i.e., they both seek funding changes to the existing system that would affect every other State school system. Consequently, the relief sought in the two cases should not simply be added together to determine the State's potential liability in these matters.

Measurement Incorporated v. State of Tennessee Department of Education (Tennessee Claims Commission, Middle Division). Claimant is a full-service education company with its principal offices located in Durham, North Carolina. Claimant states it entered into two multi-million Dollar contracts (the "Contracts") with Tennessee Department of Education ("TDOE") that required Claimant to provide various test development, administration, scoring, and reporting services in connection with statewide education assessment testing of students. Claimant alleges that following execution of the Contracts, it commenced work and provided extensive services in close collaboration with TDOE personnel until April 27, 2016, when TDOE unilaterally cancelled the Contracts. Claimant alleges that TDOE has failed and refused to pay for anything more than a small and arbitrary percentage of the total amount owed under the Contracts for the time period of November 15, 2014, through April 27, 2016, and that Claimant's damages are approximately Twenty-Five Million Dollars (\$25,000,000.00). TDOE believes Claimant did not fully perform its obligations under the Contracts, it has strong legal and factual arguments supporting its defense and counterclaim against Claimant, and any judgment or settlement in this case would be less than the requested amount. There is, however, no guarantee of such a result.

Atkins, et al. v. Parker, et al. (U.S. D.C. M.D. Tenn.). (*Formerly Graham, et al. v. Parker, et al.*). This is a class action brought against Tennessee Department of Correction ("TDOC") officials, including Commissioner Tony Parker and Chief Medical Officer Dr. Kenneth Williams. The District Court certified a class consisting of all persons currently incarcerated in any TDOC-related facility who have Hepatitis C (HCV) infection. Plaintiffs allege ongoing violations of their Eighth and Fourteenth Amendment rights due to Defendants' alleged deliberate indifference to the medical needs of HCV-infected inmates. Plaintiffs seek a permanent injunction against current TDOC practices and procedures related to the diagnosis and treatment of HCV-infected inmates. Plaintiffs seek to require TDOC to identify and treat all HCV-infected inmates with the use of FDA-approved, direct-acting antiviral drugs ("DAAs"). In May 2019, TDOC identified approximately 4,800 inmates with known chronic HCV infection. However, additional infected individuals will be identified as currently untested inmates are tested and as additional infected inmates are incarcerated. The Tennessee General Assembly made a non-recurring appropriation in the amount of Twenty-Four Million Six Hundred Seventy-Eight Thousand Seven Hundred Dollars (\$24,678,700.00) for the purchase of DAAs to treat chronic HCV infected inmates in the FY19-20 Budget. In

addition, the General Assembly is making recurring appropriations totaling Four Million Six Hundred Thousand Dollars (\$4,600,000.00) for acquisition of DAAs. TDOC's third-party provider of medical services contractually matches that expenditure up to a limit of Two Million Dollars (\$2,000,000.00). The resulting total of currently available funds for purchase of DAAs is Thirty-One Million Two Hundred Seventy-Eight Thousand Seven Hundred Dollars (\$31,278,700.00). A private prison management company, CoreCivic, Inc. ("CoreCivic"), currently manages, either directly or as a subcontractor, four (4) prisons in Tennessee that house TDOC inmates. TDOC contracts directly with CoreCivic to manage one (1) State-owned prison (the "Direct Contract") and TDOC also contracts with three (3) local authorities to house TDOC inmates. Such local authorities then subcontract with CoreCivic to house the TDOC inmates in three (3) prisons (the "Subcontracts"). The Direct Contract was recently amended and extended until June 30, 2020. TDOC is preparing a Request for Proposals (the "RFP") for bids on the Direct Contract. While CoreCivic previously bore the expense of DAA medication in prison facilities that it managed, the Direct Contract was amended to include a provision that the cost of treatment of chronic HCV infected inmates incarcerated at the State-owned prison will now be borne by the State. It is anticipated that a similar provision will be included in the Subcontracts, as well as a new Direct Contract with the winning bidder upon completion of the RFP process. At the time the lawsuit was brought, a course of treatment with DAAs was estimated to cost a minimum of Ninety Thousand Dollars (\$90,000.00) per individual. This average cost per individual for treatment with DAAs was reduced to Fifty-Three Thousand Dollars (\$53,000.00) (as of June 2017), to Twenty-Seven Thousand Dollars (\$27,000.00) (as of September 2017), and to approximately Seventeen Thousand Dollars (\$17,000.00) at present.

District Judge Crenshaw tried the case without a jury from July 16 to 19, 2019. The proof showed that in May 2019 Dr. Williams released a guidance for the treatment of HCV in the prison population. This guidance calls for the treatment of HCV infected inmates with advanced fibrosis (F3), cirrhosis (F4), and others, including persons co-infected with HIV. Plaintiffs' expert contends that all HCV-infected inmates must be treated, regardless of the extent of their fibrosis. Defendants' experts contended that only HCV-infected persons with F3 and F4 and some co-infected persons required treatment. Dr. Williams estimates that all chronic-HCV infected inmates within this latter group can be treated within the limits of the current appropriated funds at current drug prices. Approximately thirty percent (30%) of the HCV infected inmate population is expected to be classified as F3s and F4s. If Judge Crenshaw were to order that all HCV-infected inmates must be treated (taking into account the addition of a portion of currently untested inmates as well as the addition of more infected inmates), an approximate estimate of the potential cost to the State at current prices is between One Hundred Twenty-Five and One Hundred Fifty Million Dollars (\$125,000,000.00-\$150,000,000.00).

At the close of the proof, Judge Crenshaw ordered the parties to participate in a mediation before William E. Young, Former Chancellor, Chancery Court for the State of Tennessee Twentieth Judicial District, Davidson County. If the case cannot be settled in mediation, Judge Crenshaw has directed the parties to submit proposed findings of fact and conclusions of law. In that case, Judge Crenshaw said that he would issue his ruling in September.

Thomas, et al. v. Long, et al., 18-5766 (6th Cir.) and *Robinson, et al. v. Long, et al.*, 18-6121 (6th Cir.). Both of these certified class action cases have been brought against Jeff Long in his official capacity as Commissioner of the Tennessee Department of Safety ("TDS"). Both cases raise Equal Protection and Due Process challenges to statutes that require/authorize the revocation or suspension of driver's licenses as a consequence of a driver's failure to pay certain court-ordered fines and costs. In the Thomas case, the statute at issue is Tenn. Code Ann. § 40-24-105(b), which requires TDS to revoke a person's driver's license after that individual has failed to pay fines, court costs, and litigation fees imposed by a court judgment in a criminal proceeding. In the Robinson case, the statute at issue is Tenn. Code Ann. § 55-50-502(a)(1)(H), which authorizes TDS to suspend a person's driver's license after that person fails to pay fines and court costs imposed by a court for moving traffic violations in a civil proceeding. In both cases, Plaintiffs – on behalf of themselves and the certified classes – assert that the statutes are unconstitutional because they discriminate against the indigent. In Thomas, the U.S. District Court for the Middle District of Tennessee granted summary judgment for the Plaintiffs, finding the statute to be unconstitutional. The District Court issued a permanent injunction essentially enjoining enforcement of the statute and directing TDS to reinstate licenses that had previously been revoked under the statute. In Robinson, the same District Court granted a preliminary injunction and found that Plaintiffs has demonstrated a substantial likelihood that the statute was unconstitutional. Accordingly, the preliminary injunction enjoined enforcement of that statute and directed TDS to reinstate licenses previously suspended under the statute. Both cases currently are on appeal, and – in light of the Sixth Circuit's recent decision in *Fowler v. Benson*, 924 F.3d 247 (6th Cir. 2019) – the State

believes that it has strong legal and factual arguments that should prevail on appeal and warrant reversals of the District Court decisions. However, such results cannot be guaranteed. If the appeals are unsuccessful, it is difficult to estimate the economic impact upon the State – both in terms of lost revenue from nonpayment of fines, and in terms of costs associated with reinstatements of licenses and waiver of reinstatement fees. However, a reasonably conservative estimate, taking into account both anticipated costs and offsets, is that such an impact would be between Eight and Ten Million Dollars (\$8,000,000.00-\$10,000,000.00). In addition, if the appeals are unsuccessful, the State may be ordered to pay Plaintiffs’ attorneys’ fees and costs. In Thomas, Plaintiffs’ counsel already have submitted a motion for an award of over Six Hundred Eighty Thousand Dollars (\$680,000.00) in pre-appeal fees/costs. If the appeal is unsuccessful, the amount sought likely will increase. In addition, a similar motion for an award of attorneys’ fees and costs can be anticipated in the Robinson case, if the appeal is unsuccessful.

TAX MATTERS

Series A Bonds

Opinions of Bond Counsel

In the opinion of Hawkins Delafield & Wood LLP, Bond Counsel to the State, under existing statutes and court decisions and assuming continuing compliance with certain tax covenants described herein, (i) interest on the Series A Bonds (hereinafter in Tax Matters referred to as the “Tax-Exempt Bonds”) is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”), and (ii) interest on the Tax-Exempt Bonds is not treated as a preference item in calculating the alternative minimum tax under the Code. In rendering its opinion, Bond Counsel has relied on certain representations, certifications of fact, and statements of reasonable expectations made by the State and others in connection with the Tax-Exempt Bonds, and Bond Counsel has assumed compliance by the State with certain ongoing covenants to comply with applicable requirements of the Code to assure the exclusion of interest on the Tax-Exempt Bonds from gross income under Section 103 of the Code.

In addition, in the opinion of Bond Counsel to the State, under existing laws of the State, the principal of and interest on the Tax-Exempt Bonds are exempt from taxation by the State or by any county, municipality or taxing district of the State, except for inheritance, transfer and estate taxes, and except to the extent included within the measure of franchise and excise taxes.

Bond Counsel expresses no opinion regarding any other federal or state tax consequences with respect to the Tax-Exempt Bonds. Bond Counsel renders its opinion under existing statutes and court decisions as of the issue date, and assumes no obligation to update, revise or supplement its opinion to reflect any action hereafter taken or not taken, or any facts or circumstances that may hereafter come to its attention, or changes in law or in interpretations thereof that may hereafter occur, or for any other reason. Bond Counsel expresses no opinion on the effect of any action hereafter taken or not taken in reliance upon an opinion of other counsel on the exclusion from gross income for federal income tax purposes of interest on the Tax-Exempt Bonds, or under state and local tax law.

For the proposed form of opinion of Bond Counsel relating to federal and State tax matters, see Appendix C.

Certain Ongoing Federal Tax Requirements and Covenants

The Code establishes certain ongoing requirements that must be met subsequent to the issuance and delivery of the Tax-Exempt Bonds in order that interest on the Tax-Exempt Bonds be and remain excluded from gross income under Section 103 of the Code. These requirements include, but are not limited to, requirements relating to use and expenditure of gross proceeds of the Tax-Exempt Bonds, yield and other restrictions on investments of gross proceeds, and the arbitrage rebate requirement that certain excess earnings on gross proceeds be rebated to the Federal Government. Noncompliance with such requirements may cause interest on the Tax-Exempt Bonds to become included in gross income for federal income tax purposes retroactive to their issue date, irrespective of the date on which such noncompliance occurs or is discovered. The State has covenanted to comply with certain applicable requirements of the Code to assure the exclusion of interest on the Tax-Exempt Bonds from gross income under Section 103 of the Code.

Certain Collateral Federal Tax Consequences

The following is a brief discussion of certain collateral federal income tax matters with respect to the Tax-Exempt Bonds. It does not purport to address all aspects of federal taxation that may be relevant to a particular owner of a Tax-Exempt Bond. Prospective investors, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the federal tax consequences of owning and disposing of the Tax-Exempt Bonds.

Prospective owners of the Tax-Exempt Bonds should be aware that the ownership of such obligations may result in collateral federal income tax consequences to various categories of persons, such as corporations (including S corporations and foreign corporations), financial institutions, property and casualty and life insurance companies, individual recipients of Social Security and railroad retirement benefits, individuals otherwise eligible for the earned income tax credit, and taxpayers deemed to have incurred or continued indebtedness to purchase or carry obligations the interest on which is excluded from gross income for federal income tax purposes. Interest on the Tax-Exempt Bonds may be taken into account in determining the tax liability of foreign corporations subject to the branch profits tax imposed by Section 884 of the Code.

Bond Premium

In general, if an owner acquires a Tax-Exempt Bond for a purchase price (excluding accrued interest) or otherwise at a tax basis that reflects a premium over the sum of all amounts payable on the Tax-Exempt Bond after the acquisition date (excluding certain “qualified stated interest” that is unconditionally payable at least annually at prescribed rates), that premium constitutes “bond premium” on that Tax-Exempt Bond (a “Premium Bond”). In general, under Section 171 of the Code, an owner of a Premium Bond must amortize the bond premium over the remaining term of the Premium Bond, based on the owner’s yield over the remaining term of the Premium Bond determined based on constant yield principles (in certain cases involving a Premium Bond callable prior to its stated maturity date, the amortization period and yield may be required to be determined on the basis of an earlier call date that results in the lowest yield on such bond). An owner of a Premium Bond must amortize the bond premium by offsetting the qualified stated interest allocable to each interest accrual period under the owner’s regular method of accounting against the bond premium allocable to that period. In the case of a Premium Bond, if the bond premium allocable to an accrual period exceeds the qualified stated interest allocable to that accrual period, the excess is a nondeductible loss. Under certain circumstances, the owner of a Premium Bond may realize a taxable gain upon disposition of the Premium Bond even though it is sold or redeemed for an amount less than or equal to the owner’s original acquisition cost. Owners of any Premium Bonds should consult their own tax advisors regarding the treatment of bond premium for federal income tax purposes, including various special rules relating thereto, and state and local tax consequences, in connection with the acquisition, ownership, amortization of bond premium on, sale, exchange, or other disposition of Premium Bonds.

Information Reporting and Backup Withholding

Information reporting requirements apply to interest paid on tax-exempt obligations, including the Tax-Exempt Bonds. In general, such requirements are satisfied if the interest recipient completes, and provides the payor with, a Form W-9, “Request for Taxpayer Identification Number and Certification,” or if the recipient is one of a limited class of exempt recipients. A recipient not otherwise exempt from information reporting who fails to satisfy the information reporting requirements will be subject to “backup withholding,” which means that the payor is required to deduct and withhold a tax from the interest payment, calculated in the manner set forth in the Code. For the foregoing purpose, a “payor” generally refers to the person or entity from whom a recipient receives its payments of interest or who collects such payments on behalf of the recipient.

If an owner purchasing a Bond through a brokerage account has executed a Form W-9 in connection with the establishment of such account, as generally can be expected, no backup withholding should occur. In any event, backup withholding does not affect the excludability of the interest on the Tax-Exempt Bonds from gross income for federal income tax purposes. Any amounts withheld pursuant to backup withholding would be allowed as a refund or a credit against the owner’s federal income tax once the required information is furnished to the Internal Revenue Service.

Miscellaneous

Tax legislation, administrative actions taken by tax authorities, or court decisions, whether at the federal or state level, may adversely affect the tax-exempt status of interest on the Tax-Exempt Bonds under federal or

state law or otherwise prevent beneficial owners of the Tax-Exempt Bonds from realizing the full current benefit of the tax status of such interest. In addition, such legislation or actions (whether currently proposed, proposed in the future, or enacted) and such decisions could affect the market price or marketability of the Tax-Exempt Bonds.

Prospective purchasers of the Tax-Exempt Bonds should consult their own tax advisors regarding the foregoing matters.

Series B Bonds

Opinions of Bond Counsel

In the opinion of Hawkins Delafield & Wood LLP, Bond Counsel to the State, (i) interest on the Series B Bonds (hereinafter in Tax Matters referred to as the “Taxable Bonds”) is included in gross income for federal income tax purposes and (ii) under existing laws of the State, the principal of and interest on the Taxable Bonds are exempt from taxation by the State or by any county, municipality or taxing district of the State, except for inheritance, transfer and estate taxes, and except to the extent included within the measure of franchise and excess taxes.

Certain Federal Income Tax Consequences

The following discussion is a brief summary of certain United States federal income tax consequences of the acquisition, ownership and disposition of Taxable Bonds by original purchasers of the Taxable Bonds who are “U.S. Holders,” as defined herein. This summary does not discuss all of the United States federal income tax consequences that may be relevant to a U.S. Holder in light of its particular circumstances or to U.S. Holders subject to special rules. Owners of Taxable Bonds should consult with their own tax advisors concerning the United States federal income tax and other consequences with respect to the acquisition, ownership and disposition of the Taxable Bonds as well as any tax consequences that may arise under the laws of any state, local or foreign tax jurisdiction.

Certain taxpayers that are required to prepare certified financial statements with certain regulatory or governmental agencies may be required to recognize income, gain and loss with respect to the Taxable Bonds at the time that such income, gain or loss is taken into account on such financial statements instead of under the rules described below.

Generally, upon the sale, exchange, redemption, or other disposition (which would include a legal defeasance) of a Taxable Bond, a U.S. Holder generally will recognize taxable gain or loss in an amount equal to the difference between the amount realized (other than amounts attributable to accrued interest not previously includable in income) and such U.S. Holder’s adjusted tax basis in the Taxable Bond.

In general, information reporting requirements will apply to non-corporate U.S. Holders with respect to payments of principal, payments of interest and the proceeds of the sale of a Taxable Bond before maturity within the United States. Backup withholding may apply to U.S. Holders of Taxable Bonds under Section 3406 of the Code. Any amounts withheld under the backup withholding rules from a payment to a U.S. Holder, and which constitutes over-withholding, would be allowed as a refund or a credit against such U.S. Holder’s United States federal income tax provided the required information is furnished to the Internal Revenue Service.

The term “U.S. Holder” means a beneficial owner of a Taxable Bond that is: (i) a citizen or resident of the United States, (ii) a corporation, partnership or other entity created or organized in or under the laws of the United States or of any political subdivision thereof, (iii) an estate the income of which is subject to United States federal income taxation regardless of its source or (iv) a trust whose administration is subject to the primary jurisdiction of a United States court and which has one or more United States fiduciaries who have the authority to control all substantial decisions of the trust.

Miscellaneous

Tax legislation, administrative actions taken by tax authorities, or court decisions, whether at the federal or state level, may adversely affect the tax-exempt status of interest on the Taxable Bonds under state law or otherwise prevent beneficial owners of the Taxable Bonds from realizing the full current benefit of the tax status of such interest. In addition, such legislation or actions (whether currently proposed, proposed in the future, or enacted) and such decisions could affect the market price or marketability of the Taxable Bonds.

Prospective purchasers of the Taxable Bonds should consult their own tax advisors regarding the foregoing matters.

SALE BY COMPETITIVE BIDDING

Pursuant to a competitive sale, the Series A Bonds were awarded to BofA Securities, Inc. at a purchase price of \$120,197,083.35 (consisting of the principal amount of the Series A Bonds plus bond premium of \$20,210,207.25 and less underwriter's discount of \$118,123.90); and the Series B Bonds were awarded to J.P. Morgan Securities LLC at a purchase price of \$27,987,400.00 (consisting of the principal amount of the Series B Bonds less underwriter's discount of \$12,600.00).

BofA Securities, Inc. and J.P. Morgan Securities LLC have supplied the information as to the initial public offering prices set forth on the inside cover of this Official Statement with respect to the Bonds purchased by them. The Bonds may be offered and sold to certain dealers, banks and others at prices different than the public offering prices set forth on the inside cover page, and such public offering prices may be changed from time to time.

FINANCIAL ADVISOR

PFM Financial Advisors LLC ("PFM") is employed by the State to perform professional services in the capacity of financial advisor. In its role as financial advisor to the State Funding Board, PFM has provided advice on the plan of financing and structure of the Bonds, reviewed certain legal and disclosure documents, including this Official Statement, for financial matters. PFM has not independently verified the factual information contained in this Official Statement, but relied on the information supplied by the State and other sources and the State's certification as to the Official Statement.

RATINGS

Moody's Investors Service, Inc. ("Moody's"), S&P Global Ratings ("Standard and Poor's") and Fitch Ratings ("Fitch") have given the Bonds ratings of Aaa, AAA, and AAA, respectively. Such ratings reflect only the respective views of such organizations and an explanation of the significance of a rating may be obtained only from the rating agency furnishing the same. A securities rating is not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal at any time and there is no assurance that any rating will be maintained for a given period of time or that it will not be revised downward or withdrawn entirely by the rating agency if in its judgment, circumstances so warrant. Any such downward revision or withdrawal of ratings may have an adverse effect on the market price of the Bonds.

LEGAL OPINIONS

The validity of the Bonds will be approved by the legal opinion of Hawkins Delafield & Wood LLP, New York, New York, Bond Counsel to the State. For the proposed form of Bond Counsel opinion relating to the Bonds, see Appendix C. Certain legal matters will be passed upon by the Attorney General and Reporter of the State of Tennessee, as counsel to the State Funding Board. No representation is made to the holders of the Bonds that any such counsel have verified the accuracy, completeness or fairness of the statements in this Official Statement, and such counsel assume no responsibility to the holders of the Bonds except for the matters that will be set forth in their respective opinions.

CONTINUING DISCLOSURE

The State has authorized the Continuing Disclosure Undertaking (the "Undertaking") with respect to the Bonds to assist in complying with U.S. Securities and Exchange Commission Rule 15c2-12(b)(5) (the "Rule"). The Undertaking will be for the benefit of the holders of the Bonds, and beneficial owners will be third-party beneficiaries thereof. The form of the Undertaking is included herein as Appendix E.

In connection with the issuance of the Bonds, the State reviewed the financial information, operating data and event notices filed by the State within the preceding five years with the Municipal Securities Rulemaking

Board's Electronic Municipal Market Access ("EMMA") system pursuant to the State's Rule 15c2-12 continuing disclosure undertakings and identified, among other things, the following. Watkins Institute is not deemed to be a component unit of the State and its financial information, including indebtedness, is not reported in the State's CAFR; accordingly no information on its indebtedness was reported to EMMA and will not be reported in the future. Information regarding TennCare budgeted expenditures (the "TennCare Information") presented in tabular format in relevant Official Statements was not presented in such format in the State's CAFRs, but current-year budgeted and actual TennCare expenditures were presented in each of the State's CAFRs. Certain TCRS information (the "TCRS Information") presented in tabular format in relevant Official Statements (Unfunded Liability if Actuarial Value of Assets were Valued at Market; Historical Funding Progress Based on Fiduciary Net Position/Market Value of Assets; Historical Fiduciary Net Position/Market Value of Assets; Comparison of Market Value of Assets to Actuarial Value of Assets; and Cash Flows) was reported in different form in the State's CAFR and the comprehensive annual financial report of the TCRS filed by the State each year; in addition, both the TennCare Information and the TCRS Information were also included in the same tabular format in Official Statements posted on EMMA in the last five years, except for actuarial valuation information that was not included in the 2015 Official Statement because of changes in GASB accounting rules. The foregoing results of the State's continuing disclosure review are provided without regard to the materiality of the identified information.

The State periodically provides investor updates of certain information to persons who have notified the Office of State and Local Finance of a desire to receive such information. The State is not required under any undertaking to provide such information and provides no assurance that it will continue to do so.

FORWARD-LOOKING STATEMENTS

The statements contained in this Official Statement, and in any other information provided that are not purely historic, are forward-looking statements, including statements regarding the expectations, hopes, intentions, or strategies regarding the future.

Readers should not place undue reliance on forward-looking statements. All forward-looking statements included in this Official Statement are based on information available on the date hereof, and the State assumes no obligation to update any such forward-looking statements.

The forward-looking statements herein are necessarily based on various assumptions and estimates and are inherently subject to various risks and uncertainties, including risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in social, economic, business, industry, market, legal and regulatory circumstances and conditions and actions taken or omitted to be taken by third parties, including customers, suppliers, business partners and competitors, and legislative, judicial and other governmental authorities and officials. Assumptions related to the foregoing involve judgments with respect to, among other things, future economic, competitive, and market conditions and future business and policy decisions, all of which are difficult or impossible to predict accurately and, therefore, there can be no assurance that the forward-looking statements included in this Official Statement would prove to be accurate.

MISCELLANEOUS

Any statements in this Official Statement involving matters of opinion or estimates, whether or not expressly so stated, are intended as such and not as representatives of fact. No representation is made that such statements will be realized.

All financial and other information presented in this Official Statement has been provided by the State from its records, except for information expressly attributed to other sources. The presentation of information, including tables of receipts from taxes and other revenues, is intended to show recent historic information, and it is not intended to indicate future or continuing trends in the financial position or other affairs of the State. No representation is made that past experience, as it might be shown by such financial and other information, will necessarily continue or be repeated in the future.

References to and summaries of provisions of the State Constitution and laws of the State or of any other documents referred to in this Official Statement are qualified in their entirety by reference to the complete provisions thereof.

This Official Statement is not to be construed as a contract or agreement between the State and the purchasers or holders of any of the Bonds.

STATE OF TENNESSEE

By: */s/Justin P. Wilson*

Comptroller of the Treasury;

Secretary of the Funding Board of
the State of Tennessee

FINANCIAL STATEMENTS

The Comprehensive Annual Financial Report (“CAFR”) of the State, including the audited Basic Financial Statements, for the fiscal year ended June 30, 2018 has been filed with the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access (“EMMA”) system (see “Continuing Disclosure” and Appendix E) and is obtainable from them in accordance with their procedures. A printed version is also available upon request to the State Funding Board, Cordell Hull State Office Building, 4th Floor, 425 Fifth Avenue North, Nashville, Tennessee 37243-1402, telephone (615) 401-7872, fax (615) 741-5986. The 2018 CAFR and certain prior year CAFRs are posted on the State’s website at <http://www.tennessee.gov/finance/article/fa-accfin-cafr>.

The following reports, each of which are included in the 2018 CAFR and have been posted on the State’s website, are incorporated herein by reference:

Auditor’s Report

Management’s Discussion and Analysis

Basic Financial Statements:

Government-wide Financial Statements:

Statement of Net Position

Statement of Activities

Fund Financial Statements:

Balance Sheet-Governmental Funds

Statement of Revenues, Expenditures, and Changes in Fund Balances-Governmental Funds

Reconciliation of the Statement of Revenues, Expenditures, and Changes in Fund Balances of Governmental Funds to the Statement of Activities

Statement of Net Position-Proprietary Funds

Statement of Revenues, Expenses, and Changes in Fund Net Position-Proprietary Funds

Statement of Cash Flows-Proprietary Funds

Statement of Fiduciary Net Position-Fiduciary Funds

Statement of Changes in Fiduciary Net Position-Fiduciary Funds

Notes to the Financial Statements

Required Supplementary Information:

Infrastructure Assets Reported Using the Modified Approach

OPEB Schedule of Changes in the Total OPEB Liability and Related Ratios

OPEB Schedule of the State’s Proportionate Share of the Collective Total OPEB Liability

Schedule of Changes in the State of Tennessee’s Net Pension Liability (Asset) and Related Ratios Based on Participation in the Closed State and Higher Education Employee Pension Plan of TCRS

Schedule of Changes in the State of Tennessee’s Net Pension Liability (Asset) and Related Ratios Based on Participation in the State and Higher Education Employee Retirement Plan of TCRS

Schedule of the State of Tennessee’s Contributions Closed State and Higher Education Employee Pension Plan

Schedules of the State of Tennessee’s Contributions State and Higher Education Employee Retirement Plan

Schedule of Revenues, Expenditures, and Changes in Fund Balances-Budget and Actual Major Governmental Funds

Note to RSI

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STATISTICAL SECTION

The Comprehensive Annual Financial Report (“CAFR”) of the State, including selected statistical data (unaudited), for the fiscal year ended June 30, 2018 has been filed with the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access (“EMMA”) system (see “Continuing Disclosure” and Appendix E) and is obtainable from them in accordance with their procedures. A printed version is also available upon request to the State Funding Board, Cordell Hull State Office Building, 4th Floor, 425 Fifth Avenue North, Nashville, Tennessee 37243-1402, telephone (615) 401-7872, fax (615) 741-5986. The 2018 CAFR and certain prior year CAFRs are posted on the State’s website at <http://www.tennessee.gov/finance/article/fa-accfin-cafr>.

The following statistical data, all of which is included in the 2018 CAFR and has been posted on the State’s website, is incorporated herein by reference:

Financial Trends

Revenue Capacity

Debt Capacity

Demographic and Economic Information

Operating Information

Schedule of Fees/Charges, Legislative Appropriations and Debt Service

Student Fees and Charges for Institutions with Tennessee State School Bond Authority Debt

Principal Amount of Debt Outstanding By Institution

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FORM OF PROPOSED OPINION OF BOND COUNSEL

October 3, 2019

The Honorable Governor and Members of
the Funding Board of the State of Tennessee
Nashville, Tennessee 37243

**STATE OF TENNESSEE
GENERAL OBLIGATION BONDS
2019 SERIES A, \$100,105,000
2019 SERIES B (FEDERALLY TAXABLE), \$28,000,000**

Dear Sirs:

At your request we have examined into the validity of \$100,105,000 General Obligation Bonds, 2019 Series A (the "Series A Bonds"), and \$28,000,000 General Obligation Bonds, 2019 Series B (Federally Taxable) (the "Series B Bonds" and, collectively with the Series A Bonds, the "Bonds") of the State of Tennessee (the "State"). The Bonds are dated as of the date hereof, and mature, are subject to redemption prior to maturity, are payable and bear interest, all as provided in the resolution of the Funding Board hereinafter mentioned.

The Bonds recite that they are issued under and pursuant to and in full compliance with the Constitution and laws of the State, including specifically Title 9, Chapter 9, Tennessee Code Annotated, various Public Acts of the General Assembly of the State of Tennessee, and a resolution adopted by the Funding Board of the State of Tennessee on August 9, 2019, to provide for the retirement at maturity of certain of the State's general obligation bond anticipation notes constituting commercial paper.

We have examined the Constitution and statutes of the State; certified copies of proceedings of the Funding Board of the State of Tennessee and Public Acts of the General Assembly of the State of Tennessee authorizing the issuance of the Bonds, and an executed Bond of each series, and have made such other examination of law and fact, as we have considered appropriate for purposes of this opinion letter.

Based on the foregoing, we are of the opinion that:

(1) The Bonds have been authorized and issued in accordance with the Constitution and laws of the State, and constitute valid direct general obligations of the State for the payment of the principal of and premium, if any, and interest on which there is also pledged the full faith and credit of the State. The State has not generally waived immunity from suit or extended its consent to be sued, and monetary actions against the State for breach of contractual obligations may be heard and determined under current law exclusively in the Tennessee Claims Commission, an administrative tribunal, where the State may be liable only for actual damages and certain costs.

(2) Under existing statutes and court decisions, (i) interest on the Series A Bonds is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) interest on the Series A Bonds is not treated as a preference item in calculating the alternative minimum tax under the Code. In rendering the opinions in this paragraph (2), we have relied on certain representations, certifications of fact, and statements of reasonable expectations made by the State and others in connection with the Series A Bonds, and have assumed compliance by the State with certain ongoing covenants to comply with applicable requirements of the Code to assure the exclusion of the interest on the Series A Bonds from gross income under Section 103 of the Code. Under the Code, noncompliance with such requirements may cause the interest on the Series A Bonds to be included in gross income for federal income tax purposes retroactive to the date of issuance thereof, irrespective of the date on which such noncompliance occurs or is discovered.

(3) Under the existing laws of the State, the principal of and interest on the Bonds are exempt from taxation by the State or by any county, municipality or taxing district of the State, except for inheritance, transfer and estate taxes and except to the extent included within the measure of franchise and excise taxes.

The opinions expressed in paragraph (1) above are subject to applicable bankruptcy, insolvency, reorganization, moratorium and other laws heretofore or hereafter enacted affecting creditors' rights, and are subject to the application of principles of equity relating to or affecting the enforcement of contractual obligations, whether such enforceability is considered in a proceeding in equity or at law.

We express no opinion herein as to (i) federal, state or local tax consequences arising with respect to the Bonds, or the ownership or disposition thereof, except as stated in paragraphs (2) and (3) above, (ii) the effect of any action taken or not taken, in reliance upon an opinion of other counsel, on the exclusion from gross income for federal income tax purposes of interest on the Series A Bonds, or under state or local tax law, or (iii) the accuracy, adequacy, sufficiency or completeness of the Official Statement dated September 17, 2019 (or any update or amendment thereof or supplement thereto) relating to the Bonds, or any other financial or other information which has been or may be supplied to purchasers or prospective purchasers of the Bonds.

This opinion letter is rendered solely with regard to the matters expressly opined on above and does not consider or extend to any documents, agreements, representations or other material or matters of any kind not specifically opined on above. No other opinions are intended nor should they be inferred.

This opinion letter is issued as of the date hereof, and we assume no obligation to update, revise or supplement this letter to reflect any action hereafter taken or not taken, or any facts or circumstances, or changes in law or in interpretations thereof, that may hereafter occur, or for any other reason

Very truly yours,

BOOK-ENTRY ONLY SYSTEM

The Depository Trust Company (“DTC”), New York, New York, will act as securities depository for the Bonds. The Bonds will be issued as fully-registered bonds 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 each series of the Bonds bearing interest at each interest rate, each in the aggregate principal amount of such maturity bearing interest at such rate, 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 a Standard & Poor’s rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC’s records. The ownership interest of each actual purchaser of each Bond (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participant’s records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in Bonds, except in the event that use of the book-entry system for the Bonds is discontinued.

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC’s partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the Bonds with DTC and their registration in the name of Cede & Co or such other nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC’s records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holding 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 and regulatory requirements as may be in effect from time to time. Beneficial Owners of the Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Bond documents. For example, Beneficial Owners of the Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of notices be provided directly to them.

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

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

Principal and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the State or any Paying Agent, 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 or the State or any Paying Agent, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the State or any Paying Agent, 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 or Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Bonds at any time by giving reasonable notice to the State. Under such circumstances, in the event that a successor securities depository is not obtained, Bond certificates are required to be printed and delivered.

The State 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 prepared and delivered to DTC.

THE FOREGOING INFORMATION CONCERNING DTC AND DTC'S BOOK-ENTRY ONLY SYSTEM HAS BEEN OBTAINED FROM DTC, A SOURCE THAT STATE BELIEVES TO BE RELIABLE, BUT THE STATE TAKES NO RESPONSIBILITY FOR THE ACCURACY THEREOF. NEITHER THE STATE, THE UNDERWRITERS, NOR THE PAYING AGENT AND REGISTRAR CAN MAKE ANY ASSURANCE THAT DTC OR THE DTC PARTICIPANTS WILL ACT IN A MANNER DESCRIBED HEREIN, NOR WILL THEY HAVE ANY RESPONSIBILITY OR OBLIGATION TO THE DTC PARTICIPANTS OR BENEFICIAL OWNERS FOR (1) SENDING TRANSACTION STATEMENTS; (2) MAINTAINING, SUPERVISING OR REVIEWING, THE ACCURACY OF, ANY RECORDS MAINTAINED BY DTC OR ANY DTC PARTICIPANT; (3) PAYMENT OR THE TIMELINESS OF PAYMENT BY DTC, ANY DIRECT DTC PARTICIPANT, OR ANY INDIRECT DTC PARTICIPANT TO ANY BENEFICIAL OWNER OF ANY AMOUNT DUE TO ANY BENEFICIAL OWNER IN RESPECT TO THE PRINCIPAL OR REDEMPTION PREMIUM, IF ANY, OR INTEREST ON BONDS; (4) DELIVERY OR TIMELY DELIVERY BY DTC OR ANY DTC PARTICIPANT TO ANY BENEFICIAL OWNER OF ANY NOTICE (INCLUDING NOTICE OF REDEMPTION) OR OTHER COMMUNICATIONS TO ANY BENEFICIAL OWNER WHICH IS REQUIRED OR PERMITTED UNDER THE TERMS OF THE BOND DOCUMENTS TO BE GIVEN TO BONDHOLDERS; (5) THE SELECTION OF THE BENEFICIAL OWNERS TO RECEIVE PAYMENT IN THE EVENT OF ANY PARTIAL REDEMPTION OF BONDS; OR (6) ANY ACTION TAKEN BY DTC OR ITS NOMINEE AS THE REGISTERED OWNER OF THE BONDS.

So long as Cede & Co. is the registered owners of the Bonds, as nominee for DTC, references in the Official Statement to the Bondholders or registered owners of the Bonds (other than under the caption "Tax Matters" in the Official Statement) shall mean Cede & Co. or any other DTC nominee, as aforesaid, and shall not mean the Beneficial Owners of the Bonds.

CONTINUING DISCLOSURE UNDERTAKING

This Continuing Disclosure Undertaking (the “Undertaking”) is dated and made as of October 3, 2019, by the State of Tennessee (the “State”) in connection with the issuance of the State’s \$100,105,000 aggregate principal amount of General Obligation Bonds, 2019 Series A, and \$28,000,000 aggregate principal amount of General Obligation Bonds 2019 Series B (Federally Taxable) (collectively, the “Bonds”). As authorized by Section 10 of the resolution (the “Bond Resolution”) of the Funding Board of the State of Tennessee (the “Funding Board”) adopted on August 9, 2019, authorizing the Bonds, the State agrees as follows:

ARTICLE I

Definitions

Section 1.1. Definitions. The following terms used in this Undertaking shall have the following respective meanings:

(1) “Annual Financial Information” means (i) updated versions of the following financial information and operating data contained in, or incorporated by reference pursuant to an Appendix to, the Official Statement with respect to the State, for each fiscal year of the State:

- Special Tax Collections
- Total Sales and Use Tax Collections
- Allocation of Sales and Use Tax to Debt Service
- Outstanding General Obligation Bonded Indebtedness
- Long-Term General Obligation Bonded Debt Service by Fiscal Year and Maturity
- Maximum and Actual Principal Amounts of Commercial Paper Outstanding
- Other Post-Employment Benefits
 - Unfunded Actuarial Liability
 - Annual Required Contribution
- Rainy Day Fund Reserve Balance
- Tennessee Consolidated Retirement System
 - Statistical data
 - Tables
- Debt of Certain Agencies and Authorities
 - Tennessee Local Development Authority
 - Tennessee State School Bond Authority
 - Tennessee Housing Development Agency
 - State Veterans’ Homes Board
- The statistical data incorporated by reference in Appendix B to the Official Statement, to the extent and in the form presented in the State’s most recent Comprehensive Annual Financial Report

and (ii) the information regarding amendments to this Undertaking required pursuant to Sections 4.2(c) and (d) of this Undertaking. Annual Financial Information shall include Audited Financial Statements, if available, or Unaudited Financial Statements.

The descriptions contained in clause (i) above of financial information and operating data constituting Annual Financial Information are of general categories or types of financial information and operating data. When such descriptions include information that no longer can be generated because the operations to which it related have been materially changed or discontinued, a statement to that effect shall be provided in lieu of such information.

(2) “Audited Financial Statements” means the annual financial statements of the State, audited by the Comptroller of the Treasury, Division of State Audit, as now required by State law (or such other auditor as hereafter may be required or permitted by State law). Audited Financial Statements shall be prepared in accordance with GAAP.

(3) “Counsel” means Hawkins Delafield & Wood LLP or other nationally recognized bond counsel or counsel expert in federal securities laws, in each case acceptable to the State.

(4) “EMMA” means the MSRB’s Electronic Municipal Market Access system or its successor.

(5) “Financial Obligation” means: (A) debt obligation; (B) derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (C) guarantee of (A) or (B) above, but does not include municipal securities as to which a final official statement has been provided to the MSRB consistent with the Rule.

(6) “GAAP” means generally accepted accounting principles for governmental units as prescribed by the Governmental Accounting Standards Board, the Financial Accounting Standards Board, or any successor to the duties and responsibilities of either of them.

(7) “MSRB” means the Municipal Securities Rulemaking Board established pursuant to the provisions of Section 15B(b) of the Securities Exchange Act of 1934, as amended, or any successor to the MSRB or the functions of the MSRB contemplated by this Undertaking.

(8) “Notice Event” means any of the following events with respect to the Bonds:

- (i) principal and interest payment delinquencies;
- (ii) non-payment related defaults, if material;
- (iii) unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) unscheduled draws on credit enhancements reflecting financial difficulties;
- (v) substitution of credit or liquidity providers, or their failure to perform;
- (vi) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax status of the Bonds;
- (vii) modifications to rights of Bondholders, if material;
- (viii) bond calls, if material, and tender offers;
- (ix) defeasances;
- (x) release, substitution, or sale of property securing repayment of the Bonds, if material;
- (xi) rating changes;
- (xii) bankruptcy, insolvency, receivership or similar event of the State;

(Note to clause (xii): For the purposes of the event identified in clause (xii) above, the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for the State in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or government authority has assumed jurisdiction over substantially all of the assets or business of the State, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the State.)

(xiii) the consummation of a merger, consolidation, or acquisition involving the State or the sale of all or substantially all the assets of the State, other than in the ordinary course of business, the entry into a

definitive agreement to undertake such action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material;

(xiv) appointment of a successor or additional trustee or the change of name of a trustee, if material;

(xv) incurrence of a Financial Obligation of the issuer or obligated person, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a Financial Obligation of the State, any of which affect security holders, if material; and

(xvi) default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a Financial Obligation of the State, any of which reflect financial difficulties.

(9) "Notice Event Notice" means notice of a Notice Event.

(10) "Official Statement" means the Official Statement dated September 17, 2019, of the State relating to the Bonds.

(11) "Rule" means Rule 15c2-12 promulgated by the SEC under the Securities Exchange Act of 1934 (17 CFR Part 240, §240.15c2-12), as in effect on the effective date hereof, including any official interpretations thereof.

(12) "SEC" means the United States Securities and Exchange Commission.

(13) "Unaudited Financial Statements" means the same as Audited Financial Statements, except that they shall not have been audited.

ARTICLE II

The Undertaking

Section 2.1. Purpose. This Undertaking is being executed, delivered and made solely to assist the underwriters of the Bonds in complying with subsection (b)(5) of the Rule.

Section 2.2. Annual Financial Information. (a) The State shall provide Annual Financial Information with respect to each fiscal year of the State, commencing with the fiscal year ending June 30, 2019, by no later than 7 months after the end of the respective fiscal year, to the MSRB.

(b) The State shall provide, in a timely manner, notice of any failure of the State to provide the Annual Financial Information by the date specified in subsection (a) above to the MSRB.

Section 2.3. Audited Financial Statements. If not provided as part of Annual Financial Information by the date required by Section 2.2(a) hereof because not available, the State shall provide Audited Financial Statements, when and if available, to the MSRB.

Section 2.4. Notice Events. (a) If a Notice Event occurs, the State shall provide, in a timely manner not in excess of ten (10) business days after the occurrence of such Notice Event, a Notice Event Notice to the MSRB.

(b) Any such notice of a defeasance of Bonds shall state whether the Bonds have been escrowed to maturity or to an earlier redemption date and the timing of such maturity or redemption.

Section 2.5. Additional Disclosure Obligations. The State acknowledges and understands that other State and federal laws, including but not limited to the Securities Act of 1933 and Rule 10b-5 promulgated under the Securities Exchange Act of 1934, may apply to the State and that, under some circumstances, additional disclosures or other action in addition to those required by this Undertaking may be required to enable the State to fully discharge all of its duties and obligations under such laws.

Section 2.6. Additional Information. Nothing in this Undertaking shall be deemed to prevent the State from disseminating any other information, using the means of dissemination set forth in this Undertaking or any other means of communication, or including any other information in any Annual Financial Information or Notice Event Notice, in addition to that which is required by this Undertaking. If the State chooses to do so, the State shall have no obligation under this Undertaking to update such additional information or include it in any future Annual Financial Information or Notice Event Notice.

ARTICLE III

Operating Rules

Section 3.1. Reference to Other Documents. It shall be sufficient for purposes of Section 2.2 hereof if the State provides Annual Financial Information by specific reference to documents (i) available to the public on the MSRB Internet Web site (currently, www.emma.msrb.org) or (ii) filed with the SEC. The provisions of this Section shall not apply to Notice Event Notices pursuant to Section 2.4 hereof.

Section 3.2. Submission of Information. Annual Financial Information may be provided in one document or multiple documents, and at one time or in part from time to time.

Section 3.3. Filing with Certain Dissemination Agents or Conduits. The State may from time to time designate an agent to act on its behalf in providing or filing notices, documents and information as required of the State under this Undertaking, and revoke or modify any such designation.

Section 3.4. Transmission of Notices, Documents and Information. (a) Unless otherwise required by the MSRB, all notices, documents and information provided to the MSRB shall be provided to EMMA, the current Internet Web address of which is www.emma.msrb.org.

(b) All notices, documents and information provided to the MSRB shall be provided in an electronic format as prescribed by the MSRB (currently, portable document format (pdf) which must be word-searchable except for non-textual elements) and shall be accompanied by identifying information as prescribed by the MSRB.

Section 3.5. Fiscal Year. (a) The State's current fiscal year is July 1 – June 30. The State shall promptly notify the MSRB of each change in its fiscal year.

(b) The State shall provide Annual Financial Information at least annually notwithstanding any fiscal year longer than 12 calendar months.

ARTICLE IV

Effective Date, Termination, Amendment and Enforcement

Section 4.1. Effective Date; Termination. (a) This Undertaking shall be effective upon the issuance of the Bonds.

(b) The State's obligations under this Undertaking shall terminate with respect to each Bond upon the legal defeasance, prior redemption or payment in full of such Bond.

(c) This Undertaking, or any provision hereof, shall be null and void in the event that the State (1) receives an opinion of Counsel to the effect that those portions of the Rule which require this Undertaking, or such provision, as the case may be, do not or no longer apply to the Bonds, whether because such portions of the Rule are invalid, have been repealed, or otherwise, as shall be specified in such opinion, and (2) delivers copies of such opinion to the MSRB.

Section 4.2. Amendment. (a) This Undertaking may be amended without the consent of the holders of the Bonds, if all of the following conditions are satisfied: (1) such amendment is made in connection with a change in circumstances that arises from a change in legal (including regulatory) requirements, a change in law (including rules and regulations) or in interpretations thereof, or a change in the identity, nature or status of the State or the type of business conducted thereby, (2) this Undertaking as so amended would have complied with the requirements of the Rule as of the date hereof, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances, (3) the State shall have received an opinion of Counsel to the same effect as set forth in clause (2) above, (4) the State shall have received either an opinion of Counsel or a determination by a person, in each case unaffiliated with the State, to the effect that the amendment does not materially impair the interests of the holders of the outstanding Bonds, and (5) the State shall have delivered copies of such opinion(s) and amendment to the MSRB.

(b) This Undertaking may be amended without the consent of the holders of the Bonds if all of the following conditions are satisfied: (1) an amendment to the Rule is adopted, or a new or modified official interpretation of the Rule is issued, after the effective date hereof which is applicable to this Undertaking, (2) the State shall have received an opinion of Counsel to the effect that performance by the State under this Undertaking as so amended will not result in a violation of the Rule as so amended or officially interpreted and (3) the State shall have delivered copies of such opinion and amendment to the MSRB.

(c) To the extent any amendment to this Undertaking results in a change in the categories or types of financial information or operating data provided pursuant to this Undertaking, the first Annual Financial Information provided thereafter shall include a narrative explanation of the reasons for the amendment and the impact of the change in the type of operating data or financial information being provided.

(d) If an amendment is made pursuant to Section 4.2(a) hereof to the accounting principles to be followed by the State in preparing its financial statements, the Annual Financial Information for the fiscal year in which the change is made shall present a comparison between the financial statements or information prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles. Such comparison shall include a qualitative and, to the extent reasonably feasible, quantitative discussion of the differences in the accounting principles and the impact of the change in the accounting principles on the presentation of the financial information.

Section 4.3. Contract; Benefit; Third-Party Beneficiaries; Enforcement. (a) The provisions of this Undertaking shall constitute a contract with and inure solely to the benefit of the holders from time to time of the Bonds, except that beneficial owners of Bonds shall be third-party beneficiaries of this Undertaking and shall be deemed to be holders of Bonds for purposes of Section 4.3(b) hereof. The provisions of this Undertaking shall create no rights in any person or entity except as provided in this subsection (a).

(b) The obligations of the State to comply with the provisions of this Undertaking shall be enforceable by any holder of outstanding Bonds; however, the holders' rights to enforce the provisions of this Undertaking shall be limited solely to a right, by action in mandamus or for specific performance, to compel performance of the State's obligations under this Undertaking.

(c) Any failure by the State to perform in accordance with this Undertaking shall not constitute a default or an event of default under the Bond Resolution or State law and shall not result in any acceleration of payment of the Bonds, and the rights and remedies provided by the Bond Resolution and applicable State law upon the occurrence of such a default or an event of default shall not apply to any such failure.

(d) This Undertaking shall be construed and interpreted in accordance with the laws of the State, and any suits and actions arising out of this Undertaking shall be instituted in a court of competent jurisdiction in the State; provided, however, that to the extent this Undertaking addresses matters of federal securities laws, including the Rule, this Undertaking shall be construed in accordance with such federal securities laws and official interpretations thereof.

Section 4.4. Effective Date. This Undertaking shall be effective upon the issuance and delivery by the State of the Bonds.

STATE OF TENNESSEE

By: _____

Sandra Thompson
Assistant Secretary, Funding Board
of the State of Tennessee, *and*
Director, Office of State and Local
Finance, State of Tennessee

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