

TWO NEW ISSUES

*In the opinion of Bond Counsel, under existing law (i) assuming continuing compliance with certain covenants and the accuracy of certain representations, interest on the Tax-Exempt Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax, and (ii) interest on, and any profit made on the sale, exchange or other disposition of, the Tax-Exempt Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. Interest on the Tax-Exempt Bonds may be subject to certain federal taxes imposed only on certain corporations. (See **TAX MATTERS FOR TAX-EXEMPT BONDS** herein.) In the opinion of Bond Counsel, under existing law interest on, and any profit made on the sale, exchange or other disposition of, the Taxable Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. **INTEREST ON THE TAXABLE BONDS IS NOT EXCLUDED FROM GROSS INCOME FOR FEDERAL INCOME TAX PURPOSES.** (See **TAX MATTERS FOR TAXABLE BONDS** herein.)*

OFFICIAL STATEMENT
\$247,000,000
STATE OF OHIO
GENERAL OBLIGATION BONDS

\$147,000,000
Infrastructure Improvement
General Obligation Bonds, Series 2019A (Tax-Exempt)

\$100,000,000
Third Frontier Research and Development
General Obligation Bonds, Series 2019B (Federally Taxable)

Dated: Date of Initial Delivery

Due: As shown on inside cover

The Bonds: The Infrastructure Improvement General Obligation Bonds, Series 2019A (Tax-Exempt) (the Infrastructure Improvement Series 2019A Bonds or Tax-Exempt Bonds) and the Third Frontier Research and Development General Obligation Bonds, Series 2019B (Federally Taxable) (the Third Frontier Series 2019B Bonds or the Taxable Bonds) are general obligations of the State of Ohio issued by the Ohio Public Facilities Commission (the Commission) for the respective purposes of financing or assisting in the financing of the cost of public infrastructure capital improvement projects of local subdivisions and financing or assisting in the financing of the cost of research and development projects in support of Ohio industry, commerce and business. The Infrastructure Improvement Series 2019A Bonds and the Third Frontier Series 2019B Bonds are collectively referred to herein as the “Bonds”.

Security: The Bonds are general obligations of the State of Ohio. *The full faith and credit, revenue and taxing power of the State (with exceptions stated herein) are pledged to the payment of Debt Service on the Bonds.* (See **THE BONDS GENERALLY – Sources of Payment.**)

Book-Entry Only: The Bonds will be issued in denominations of \$5,000 or in whole multiples of \$5,000 and will be initially issued only as fully-registered bonds, one for each maturity of each series, issuable under a book-entry system, registered initially in the name of The Depository Trust Company or its nominee (DTC). There will be no distribution of Bonds to the ultimate purchasers. The Bonds in certificated form as such will not be transferable or exchangeable, except for transfer to another nominee of DTC or as otherwise described in this Official Statement. (See **Appendix B.**)

Payment: (See **MATURITY SCHEDULES** on inside cover.) Principal and interest on the Bonds will be payable to the registered owner (DTC), principal on presentation and surrender at the office of the Bond Registrar (initially, the Treasurer of State of Ohio) and interest transmitted on each interest payment date (March 1 and September 1, beginning March 1, 2020 for the Infrastructure Improvement Series 2019A Bonds and May 1 and November 1, beginning May 1, 2020 for the Third Frontier Series 2019B Bonds) by the Bond Registrar to DTC as the registered owner as of the 15th day preceding that interest payment date.

Prior Redemption: The Bonds are subject to prior redemption at the option of the Commission as described herein. (See **THE BONDS – Prior Redemption.**)

This cover page includes certain information for quick reference only. *It is not a summary of the bond issue. Investors should read the entire Official Statement to obtain information as a basis for making informed investment judgments.*

The Bonds are offered when, as and if issued by the Commission and accepted by the Original Purchasers, subject to the opinions on certain legal matters relating to their issuance by Thompson Hine LLP, Bond Counsel, and certain other conditions. Certain legal matters will be passed upon for the Commission by Squire Patton Boggs (US) LLP, which is also serving as Disclosure Counsel to the Commission.

The Infrastructure Improvement Series 2019A Bonds have been purchased by a syndicate managed by UBS Financial Services Inc. The Third Frontier Series 2019B Bonds have been purchased by a syndicate managed by Wells Fargo Bank, National Association.

The Bonds are expected to be available in definitive form for delivery through DTC on or about November 20, 2019.

The date of this Official Statement is November 8, 2019, and the information speaks only as of that date.

MATURITY SCHEDULES

\$147,000,000
STATE OF OHIO
Infrastructure Improvement General Obligation Bonds, Series 2019A
(Tax-Exempt)

<u>Due Date</u>	<u>Par</u>	<u>Interest</u>			<u>CUSIP^(a)</u>	<u>Due Date</u>	<u>Par</u>	<u>Interest</u>			<u>CUSIP^(a)</u>
<u>March 1</u>	<u>Amount</u>	<u>Rate</u>	<u>Yield</u>	<u>Price</u>	<u>No.</u>	<u>March 1</u>	<u>Amount</u>	<u>Rate</u>	<u>Yield</u>	<u>Price</u>	<u>No.</u>
					<u>677522</u>						<u>677522</u>
2021	\$4,835,000	5.000%	1.130%	104.904%	Q64	2031	\$7,840,000	5.000%	1.740%*	122.199%*	R89
2022	5,055,000	5.000	1.140	108.663	Q72	2032	8,230,000	5.000	1.780*	121.894*	R97
2023	5,305,000	5.000	1.170	112.289	Q80	2033	8,645,000	5.000	1.840*	121.437*	S21
2024	5,570,000	5.000	1.200	115.807	Q98	2034	9,075,000	5.000	1.880*	121.133*	S39
2025	5,850,000	5.000	1.250	119.103	R22	2035	9,530,000	5.000	1.920*	120.831*	S47
2026	6,145,000	5.000	1.330	122.040	R30	2036	10,005,000	5.000	1.960*	120.529*	S54
2027	6,450,000	5.000	1.410	124.755	R48	2037	10,505,000	5.000	2.000*	120.229*	S62
2028	6,770,000	5.000	1.500	127.156	R55	2038	11,030,000	5.000	2.040*	119.929*	S70
2029	7,110,000	5.000	1.610*	123.199*	R63	2039	11,585,000	5.000	2.070*	119.704*	S88
2030	7,465,000	5.000	1.670*	122.736*	R71						

*Priced to a call date of March 1, 2027.

\$100,000,000
STATE OF OHIO
Third Frontier Research and Development General Obligation Bonds, Series 2019B
(Federally Taxable)

<u>Due Date</u>	<u>Par</u>	<u>Interest</u>			<u>CUSIP^(a)</u>
<u>May 1</u>	<u>Amount</u>	<u>Rate</u>	<u>Yield</u>	<u>Price</u>	<u>No.</u>
					<u>677522</u>
2021	\$10,260,000	1.750%	1.750%	100.000%	S96
2022	10,450,000	1.800	1.800	100.000	T20
2023	10,650,000	1.850	1.850	100.000	T38
2024	10,855,000	1.900	1.900	100.000	T46
2025	11,075,000	2.050	2.050	100.000	T53
2026	11,305,000	2.150	2.150	100.000	T61
2027	11,545,000	2.250	2.250	100.000	T79
2028	11,795,000	2.350	2.350	100.000	T87
2029	12,065,000	2.450	2.450	100.000	T95

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REGARDING THIS OFFICIAL STATEMENT

This Official Statement does not constitute an offering of any security other than the original offering of the Bonds of the State of Ohio identified on the Cover. No dealer, broker, sales or other person has been authorized by the State or the Commission to give any information or to make any representation other than that contained in this Official Statement, and if given or made such other information or representation must not be relied upon as having been given or authorized by the State or the Commission. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, and there shall be no sale of the Bonds by any person, in any jurisdiction in which it is unlawful to make such offer, solicitation or sale.

Upon issuance, the Bonds will not be registered by the State under the Securities Act of 1933, as amended, or any state securities law, and will not be listed on any stock or other securities exchange. Neither the Securities and Exchange Commission nor any other federal, state or other governmental entity or agency, except the Commission, will have, at the request of the State or the Commission, passed upon the accuracy or adequacy of this Official Statement or approved or disapproved the Bonds for sale.

This Official Statement contains statements that the State or the Commission believes may be “forward-looking statements.” Words such as “plan,” “estimate,” “project,” “budget,” “anticipate,” “expect,” “intend,” “believe” and similar terms are intended to identify forward-looking statements. The achievement of results or other expectations expressed or implied by such forward-looking statements involve known and unknown risks, uncertainties and other factors that are difficult to predict, may be beyond the control of the State or the Commission and could cause actual results, performance or achievements to be materially different from any results, performance or achievements expressed or implied by such forward-looking statements. The State and the Commission undertake no obligation, and do not plan, to issue any updates or revisions to any of the forward-looking statements in this Official Statement.

The information and expressions of opinion in this Official Statement are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder, under any circumstances, shall create any implication that there has been no change in the affairs of the State since its date.

The information approved and provided by the State in this Official Statement is the information relating to the particular subjects provided by the State or State agencies for the purpose of this Official Statement. Reliance should not be placed on any other information publicly provided, in any format including electronic, by any State agency for other purposes, including general information provided to the public or to portions of the public.

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SELECTED SUMMARY STATEMENT

\$147,000,000
Infrastructure Improvement
General Obligation Bonds, Series 2019A
(Tax-Exempt)

\$100,000,000
Third Frontier Research and Development
General Obligation Bonds, Series 2019B
(Federally Taxable)

The following summary supplements certain of the information on the Cover and summarizes selected other information in this Official Statement relating to the Bonds. It is not intended as a substitute for the more detailed discussions in this Official Statement to which reference should be made.

ISSUER. The State of Ohio (the State), acting by and through the Ohio Public Facilities Commission (the Commission). The Commission is a body politic and corporate constituting an agency and instrumentality of the State. Its members are five State executive officials holding elective office and the appointed Director of Budget and Management.

AUTHORIZATION. The Infrastructure Improvement Series 2019A Bonds are authorized by Section 2s of Article VIII of the Ohio Constitution. The Third Frontier Series 2019B Bonds are authorized by Section 2p of Article VIII of the Ohio Constitution. The Bonds are also authorized by Chapter 151 of the Ohio Revised Code.

PURPOSE OF BONDS. The Bonds are issued for the respective purposes of financing or assisting in the financing of the cost of public infrastructure capital improvement projects of local subdivisions and financing or assisting in the financing of the cost of research and development projects in support of Ohio industry, commerce and business.

SECURITY AND SOURCES OF PAYMENT. The Bonds are general obligations of the State. The full faith and credit, revenue and taxing power of the State are pledged to the payment of Debt Service. Among receipts not included in that pledge are highway user receipts and net state lottery proceeds. (See **THE BONDS GENERALLY— Sources of Payment.**)

PRIOR REDEMPTION. The Infrastructure Improvement Series 2019A Bonds maturing on and after March 1, 2029 are subject to prior redemption at the option of the Commission in whole or in part at par plus accrued interest on any date on or after March 1, 2027. The Third Frontier Series 2019B Bonds are subject to make-whole redemption at the option of the Commission as provided herein. (See **THE BONDS – Prior Redemption.**)

FORM AND MANNER OF MAKING PAYMENTS. The Bonds will be issued in the denomination of \$5,000 or in whole multiples of \$5,000 and will be originally issued only as fully registered bonds, one for each maturity, under a book-entry only method, and registered initially in the name of The Depository Trust Company, New York, New York, or its nominee (DTC). There will be no distribution of Bonds to the ultimate purchasers. The Bonds in book-entry form will not be transferable or exchangeable, except for transfer to another nominee of DTC or as otherwise described in this Official Statement. (See **Appendix B.**)

Principal and interest on the Bonds will be payable to the registered owner (DTC), principal on presentation and surrender at the office of the Bond Registrar (initially, the Treasurer of State of Ohio) and interest transmitted on each interest payment date (March 1 and September 1, beginning March 1, 2020 for the Infrastructure Improvement Series 2019A Bonds and May 1 and November 1, beginning May 1, 2020 for the Third Frontier Series 2019B Bonds) by the Bond Registrar to DTC as the registered owner as of the 15th day preceding that interest payment date.

TAX MATTERS FOR TAX-EXEMPT BONDS. In the opinion of Bond Counsel, under existing law (i) assuming continuing compliance with certain covenants and the accuracy of certain representations, interest on the Tax-Exempt Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax, and (ii) interest on, and any profit made on the sale, exchange or other disposition of, the Tax-Exempt Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. Interest on the Tax-Exempt Bonds may be subject to certain federal taxes imposed only on certain corporations. (See **TAX MATTERS FOR TAX-EXEMPT BONDS** herein.)

TAX MATTERS FOR TAXABLE BONDS. In the opinion of Bond Counsel, under existing law interest on, and any profit made on the sale, exchange or other disposition of, the Taxable Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. *INTEREST ON THE TAXABLE BONDS IS NOT EXCLUDED FROM GROSS INCOME FOR FEDERAL INCOME TAX PURPOSES.* (See **TAX MATTERS FOR TAXABLE BONDS** herein.)

BOND REGISTRAR. Treasurer of State of Ohio, Columbus, Ohio.

BOND COUNSEL. Thompson Hine LLP.

ISSUER AND DISCLOSURE COUNSEL. Squire Patton Boggs (US) LLP.

FINANCIAL ADVISER. Acacia Financial Group, Inc.

ORIGINAL PURCHASERS. The Infrastructure Improvement Series 2019A Bonds have been purchased by a syndicate managed by UBS Financial Services Inc (the Infrastructure Improvement Series 2019A Original Purchaser) at a price of \$176,324,010.23, and the Third Frontier Series 2019B Bonds have been purchased by a syndicate managed by Wells Fargo Bank, National Association (the Third Frontier Series 2019B Original Purchaser) at a price of \$99,811,100.00 after being determined by the Commission, and named in the respective Series Resolution, as providing the lowest true interest cost for the series of Bonds.

Questions regarding this Official Statement or the Bonds should be directed to Chris Guerrini, Office of Budget and Management, 30 East Broad Street, 34th Floor, Columbus, Ohio 43215-3457, telephone (614) 752-2531.

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GENERAL INTRODUCTORY STATEMENT

This Official Statement has been prepared by the Ohio Public Facilities Commission to provide certain information in connection with the original issuance and sale of:

- \$147,000,000 Infrastructure Improvement General Obligation Bonds, Series 2019A (Tax-Exempt); and
- \$100,000,000 Third Frontier Research and Development General Obligation Bonds, Series 2019B (Federally Taxable).

The Infrastructure Improvement General Obligation Bonds, Series 2019A (Tax-Exempt) are referred to herein as the “Infrastructure Improvement Series 2019A Bonds” or “Tax-Exempt Bonds”. The Third Frontier Research and Development General Obligation Bonds, Series 2019B (Federally Taxable) are referred to herein as the “Third Frontier Series 2019B Bonds” or “Taxable Bonds”. The Infrastructure Improvement Series 2019A Bonds and the Third Frontier Series 2019B Bonds are collectively referred to herein as the “Bonds.”

The Bonds are secured by a pledge of the full faith and credit, revenue and taxing power of the State (with stated exceptions described herein in **THE BONDS GENERALLY – Sources of Payment**), on parity with other State general obligation bonds. The Infrastructure Improvement Series 2019A Bonds are issued for the purpose of financing or assisting in the financing of the cost of public infrastructure capital improvement projects of local subdivisions (see **PROGRAMS FUNDED BY THE BONDS – Public Infrastructure Program**). The Third Frontier Series 2019B Bonds are issued for the purpose of financing or assisting in the financing of the costs of research and development projects in support of Ohio industry, commerce and business (see **PROGRAMS FUNDED BY THE BONDS – Third Frontier Research and Development Program**).

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 and except for certain information on the Cover and in **Appendix B**. The presentation of information, including tables of receipts from taxes and other sources, is intended to show recent historical information. It is not intended to indicate future or continuing trends in the financial or other positions of the State. No representation is made that past experience, as might be shown by that financial and other information, will necessarily continue in the future. Also see **REGARDING THIS OFFICIAL STATEMENT**.

References to provisions of Ohio law or of the Ohio Constitution are to those provisions now in effect. Those provisions may from time to time be amended, repealed or supplemented.

As used in this Official Statement:

“Act” means Sections 2p and 2s of Article VIII of the Ohio Constitution, as applicable, and Chapter 151 of the Ohio Revised Code.

“Beneficial Owner” means the owner of a book-entry interest in the Bonds, as defined in **Appendix B**.

“Commission” means the Ohio Public Facilities Commission.

“Cover” means the cover page and the inside cover of this Official Statement.

“Debt Service” means principal (including mandatory redemption payments, if any) of and interest and any redemption premium payable on the obligations referred to.

“Direct Participant” means a participant in the DTC system, as described in **Appendix B**.

“Fiscal Year” means a State Fiscal Year, currently the 12-month period from July 1 to June 30, and reference to a particular Fiscal Year (such as “Fiscal Year 2020”) means the Fiscal Year ending on June 30 of that year.

“Revised Code” means the Ohio Revised Code.

“State” or “Ohio” means the State of Ohio.

THE BONDS

General; Book-Entry System

The Bonds will be issued pursuant to the constitutional and statutory authorities described herein and the General Bond Resolutions and Series Resolutions adopted by the Commission. The Bonds are issuable in the form and denominations, and will be dated and mature, as described in this Official Statement. Interest will be computed on the basis of a 12-month, 360-day year.

The Treasurer of State of Ohio (the Treasurer) as Bond Registrar will keep all books and records necessary for registration, exchange and transfer of the Bonds.

The Bonds will be issued in the denomination of \$5,000 or in whole multiples of \$5,000 and will be delivered in book-entry-only form and, when issued, registered in the name of The Depository Trust Company (DTC), New York, New York, or its nominee Cede & Co., which will act as securities depository for the Bonds. For discussion of the book-entry system and DTC and the replacement of the Bonds in the event that the book-entry system is discontinued (see **Appendix B**).

Principal and interest on the Bonds will be payable to the registered owner (DTC). Principal will be payable on presentation and surrender at the office of the Bond Registrar (initially, the Treasurer of State of Ohio). Interest will be transmitted on each interest payment date (March 1 and September 1, beginning March 1, 2020 for the Infrastructure Improvement Series 2019A Bonds and May 1 and November 1, beginning May 1, 2020 for the Third Frontier Series 2019B Bonds) by the Bond Registrar to DTC as the registered owner as of the 15th day preceding that interest payment date.

Prior Redemption

Prior Optional Redemption of Infrastructure Improvement Series 2019A Bonds

The Infrastructure Improvement Series 2019A Bonds maturing on and after March 1, 2029 are subject to redemption at the option of the Commission prior to their stated maturities in whole or in part (if in part, by lot) on any date on or after March 1, 2027, at a redemption price equal to 100% of the principal amount redeemed plus accrued interest to the date fixed for redemption.

Selection of Infrastructure Improvement Series 2019A Bonds to be Redeemed

If fewer than all outstanding Infrastructure Improvement 2019A Bonds are called for optional redemption at one time, the maturity or maturities of those bonds to be called will be selected by, and in a manner determined by, the Commission.

If less than all of an outstanding Infrastructure Improvement Series 2019A Bond of one maturity under a book-entry system is to be called for redemption, the Bond Registrar will give notice of redemption only to DTC as registered owner. The selection of the book-entry interests in that Series 2019A Bond to be redeemed, and notice of call to the owners of those interests called, is the sole responsibility of DTC and its Direct Participants and those working through those Direct Participants.

If Bond certificates are issued to the ultimate owner, and if fewer than all of those Infrastructure Improvement 2019A Bonds of a single maturity are to be redeemed, the selection of those Infrastructure Improvement 2019A Bonds (or portions of Infrastructure Improvement 2019A Bonds, in amounts of \$5,000 or any whole multiples of \$5,000) to be redeemed will be made by lot in a manner determined by the Treasurer as Bond Registrar.

If there is to be a partial redemption by lot when Infrastructure Improvement 2019A Bonds of denominations greater than \$5,000 are then outstanding, each \$5,000 unit of principal will be treated by the Bond Registrar as if it were a separate bond of the denomination of \$5,000.

Make-Whole Optional Redemption of Third Frontier Series 2019B Bonds

The Third Frontier Series 2019B Bonds are subject to redemption prior to their stated maturities at the option of the Commission, in whole or in part (in whole multiples of \$5,000) on any Business Day (defined below) at the Make-Whole Redemption Price. The "Make-Whole Redemption Price" is the greater of:

- (i) 100% of the principal amount of the Third Frontier Series 2019B Bonds to be redeemed; or
- (ii) the sum of the present value of the remaining scheduled payments of principal and interest to the maturity date of the Third Frontier Series 2019B Bonds to be redeemed (taking into account any mandatory sinking fund redemption), not including any portion of those payments of interest accrued and unpaid as of the date on which those Third Frontier Series 2019B Bonds are to be redeemed, discounted on a semi-annual basis to the date on which those Third Frontier Series 2019B Bonds are to be redeemed, assuming a 360-day year consisting of twelve 30-day months, at the Treasury Rate (defined below) plus twenty (20) basis points;

plus, in each case, accrued and unpaid interest on those Third Frontier Series 2019B Bonds to be redeemed on the redemption date.

"Treasury Rate" means, with respect to any redemption date for any particular Third Frontier Series 2019B Bond, the greater of:

- (i) the yield to maturity as of the 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, but not more than forty-five (45) calendar 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 remaining average life of the Third Frontier Series 2019B Bonds to be redeemed (taking into account any mandatory sinking fund redemptions); 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 the Designated Consultant (defined below), and such determination shall be conclusive and binding on the owners of the Third Frontier Series 2019B 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 Consultant, and such calculation shall be conclusive and binding on the owners of the Third Frontier Series 2019B Bonds.

"Comparable Treasury Issue" means, with respect to any redemption date for a particular Third Frontier Series 2019B Bond, the United States Treasury security or securities selected by the Designated Consultant that has an actual or interpolated maturity comparable to the remaining average life of the Third Frontier Series 2019B Bond to be redeemed. If interpolation is utilized, the straight-line method will be applied to such interpolation.

"Comparable Treasury Price" means, with respect to any redemption date for a particular Third Frontier Series 2019B Bond, (i) if the Designated Consultant 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 Consultant obtains fewer than four Reference Treasury Dealer Quotations, the average of all such quotations.

"Designated Consultant" means an independent accounting firm, investment banking firm or financial adviser retained by the Commission at the State's expense.

"Reference Treasury Dealer" means each of the four firms, specified by the Commission from time to time, that are 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 Commission 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 Third Frontier Series 2019B Bond, the average, as determined by the Designated Consultant, 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 Consultant by such Reference Treasury Dealer at 3:30 P.M., New York City time, on the second Business Day preceding such redemption date.

"Business Day" means any day, other than a Saturday or Sunday, and other than a day on which the Bond Registrar or a paying agent (other than the Bond Registrar), as applicable, is required, or authorized or not prohibited, by law (including without limitation, executive orders) to close and is closed.

Selection of Third Frontier Series 2019B Bonds to be Redeemed. For so long as the Third Frontier Series 2019B Bonds are registered in book entry only form and DTC or its nominee is the sole registered owner of the Third Frontier Series 2019B Bonds, the Bond Registrar will give notice of redemption only to DTC as registered owner with instructions that any redemption of less than all of the outstanding Third Frontier Series 2019B Bonds shall be allocated as nearly as practical among all the owners of book entry interests in those Bonds (in the amounts of \$5,000 or any whole multiple) then outstanding in proportion to the total principal amount of each owner's book entry interests in those Bonds. That allocation and the selection of the book entry interests of Third Frontier Series 2019B Bonds to be redeemed will be by and is the sole responsibility of DTC and its Direct Participants and those working through those Direct Participants. Any redemption of less than all of the outstanding Third Frontier Series 2019B Bonds processed through DTC will be treated by DTC, in accordance with its rules and procedures, as a "Pro Rata Pass-Through Distribution of Principal," provided that, so long as the Third Frontier Series 2019B Bonds are held in book-entry form, the selection for redemption of such Third Frontier Series 2019B Bonds shall be made in accordance with the operational arrangements of DTC then in effect.

It is the Commission's intent that redemption allocations made by DTC be made on a pro rata pass-through distribution of principal basis as described above. However, neither the Commission nor the Third Frontier Series 2019B

Original Purchaser can provide any assurance that DTC, DTC's direct and indirect participants or any other intermediary will allocate the redemption of Third Frontier Series 2019B Bonds on such basis. If the DTC operational arrangements do not allow for the redemption of the Third Frontier Series 2019B Bonds on a pro rata pass-through distribution of principal basis, then the Third Frontier Series 2019B Bonds will be selected for redemption, in accordance with DTC procedures, by lot.

If the Third Frontier Series 2019B Bonds are not registered in book entry only form, any redemption of less than all of the outstanding Third Frontier Series 2019B Bonds shall be allocated (in the amounts of \$5,000 or any whole multiple) among the registered owners of those Third Frontier Series 2019B Bonds then outstanding as nearly as practical in proportion to the principal amounts of the then outstanding Third Frontier Series 2019B Bonds owned by each registered owner. This will be calculated based on the following formula:

$$\frac{(\text{principal to be redeemed}) \times (\text{principal amount owned by owner})}{(\text{principal amount outstanding})}$$

Notice of Redemption; Effect

The Bond Registrar is to cause notice of redemption, identifying the Bonds or portions of those Bonds to be redeemed, to be sent by first-class mail at least 30 days prior to the redemption date. Notice is to be sent to the registered owner (initially, DTC) of each Bond to be redeemed at the address shown on the register on the 15th day preceding that mailing. Any defect in the notice or any failure to receive notice by mail as to any of the Bonds will not affect the validity of any proceedings for the redemption of any other of the Bonds.

If the Bonds are redeemed and on the redemption date moneys for that redemption are held in the respective Bond Service Fund or by the paying agent so as to be available for redemption, then on that redemption date those Bonds redeemed will be due and payable, and from and after that redemption date the redeemed Bonds (or portions of the Bonds) will cease to bear interest and those Bonds (or portions of those Bonds) will not be deemed to be outstanding under the Bond proceedings.

So long as all the Bonds of a Series are held under a book-entry system by a securities depository (such as DTC) the redemption notice will be sent by the Bond Registrar to the depository or its nominee. Selection of book-entry interests in those Bonds redeemed, and giving notice of the redemption to the owners of those interests redeemed, is the sole responsibility of the depository and of its Direct Participants and those working through those Direct Participants. Any failure of the depository to advise any Direct Participant or of any Direct Participant or any person acting through a Direct Participant to notify the Beneficial Owners, of any such notice and its content or effect will not affect the validity of any proceedings for the redemption of any of the Bonds. See **THE BONDS - General; Book Entry System and Appendix B**.

THE BONDS GENERALLY

Constitutional and Statutory Authorization

The Infrastructure Improvement Series 2019A Bonds are one issue in a continuing series of State of Ohio Infrastructure Improvement General Obligation Bonds under Section 2s (approved by the voters in 2014) of Article VIII of the Ohio Constitution authorizing the issuance of State general obligation bonds or notes for the purpose of financing or assisting in the financing of the cost of public infrastructure capital improvement projects of local subdivisions of the State. The Third Frontier Series 2019B Bonds are one issue in a continuing series of State of Ohio Third Frontier General Obligation Bonds under Section 2p (approved by the voters in 2005 and 2010) of Article VIII of the Ohio Constitution authorizing the issuance of general obligation bonds or notes for the purpose of financing or assisting in the financing of the cost of research and development projects in support of Ohio industry, commerce and business. See **STATE DEBT in Appendix A**. The Act implements the State bond issuing aspects of those constitutional provisions.

Sources of Payment

The Bonds are general obligations of the State. The full faith and credit, revenue and taxing power of the State are pledged to the timely payment of Debt Service. Excluded from that pledge are highway user receipts (fees, excises and license taxes relating to the registration, operation or use of vehicles on the public highways or to fuels used for propelling such vehicles) and net State lottery proceeds. Payment of Debt Service is not dependent on, subject to, or related in any manner to the progress on or the completion of or operation of any funded facilities or projects.

See **FISCAL MATTERS in Appendix A** for a discussion of State revenues, including the revenues excluded from the pledge. Some aspects of the committed State receipts are as follows:

- 50% of State income tax receipts must be returned to the political subdivision in which the receipts originate.

- The State currently does not levy any ad valorem taxes on real or tangible personal property. In any case, the Constitution has long limited the amount of the aggregate of those ad valorem property tax levies for all purposes (without an approving vote of the electors or municipal charter provisions) to 1% of a particular property's true value in money.
- Certain revenues and receipts of the State and State agencies are subject to prior pledges to State revenue and revenue-type financings.

The State has covenanted, in the Act, that the State and its applicable officers and agencies, including the General Assembly, shall, so long as the Bonds are outstanding in accordance with their terms, maintain statutory authority for and cause to be levied, collected and applied sufficient excises, taxes and revenues of the State so that the revenues will be sufficient to pay Debt Service when due, to establish and maintain any reserves and other requirements, and to pay financing costs, all as provided for in the Bond proceedings. The Act expressly provides for the repeal and reduction of particular fees, excises or taxes, and the levy of any new or increased fees, excises or taxes, and the substitution of resources, to pay Debt Service. The rights of bondholders to such revenues are on parity with the rights of holders of other general obligation bonds of the State previously issued or to be issued.

The State Capital Improvements Bond Service Fund and the Third Frontier Research and Development Projects Bond Service Fund (each a Bond Service Fund) are each created by the Act as a trust fund pledged to the payment of Debt Service on the respective Bonds. A sufficient amount of revenues of the State are committed and, without necessity for further appropriation, shall be paid to the applicable Bond Service Fund to pay Debt Service on the Bonds when due. The Act requires the Commission, by July 15 of each Fiscal Year, to certify or cause to be certified to the Director of Budget and Management (the Director) the total amount of moneys required during that Fiscal Year to meet in full all Debt Service on outstanding obligations, including the Bonds, and any related financing costs payable from the applicable Bond Service Fund (not from the proceeds of refunding obligations), and the Director is required to transfer from the General Revenue Fund to each Bond Service Fund, without necessity of appropriations by the General Assembly, the amount so certified for the payment of Debt Service, costs of any credit enhancement facilities, and other financing costs set forth in that certification. Under the Bond proceedings, the Commission is also to make supplemental certifications to the Director for each Debt Service payment date and as may be requested by the Director.

If on the 10th calendar day prior to their due date, moneys to the credit of the applicable Bond Service Fund are insufficient to meet in full all payments of Debt Service on that due date, no later than the 8th day before that Debt Service payment date the Director is to transfer to the applicable Bond Service Fund from committed State receipts sufficient revenues to pay that Debt Service when due.

Moneys to the credit of a Bond Service Fund may be invested in one or more of the following:

- Notes, bonds or other direct obligations of the United States or of any agency or instrumentality of the United States, or in no-front-end-load money market mutual funds consisting exclusively of those obligations, or in repurchase agreements (including those issued by any fiduciary) secured by those obligations, or in collective investment funds consisting exclusively of those obligations.
- Obligations of the State or any political subdivision of the State.
- Certificates of deposit of any national bank located in Ohio and any State bank subject to inspection by the State superintendent of financial institutions.
- The Treasurer's pooled investment program.

The income from those investments is to be credited to the Bond Service Fund.

STATE DEBT under **Appendix A** generally describes other bonds of the State outstanding or currently authorized that are general obligations of the State or that are other direct State obligations payable from general State sources, including appropriated lease rental payments.

Defeasance

The Bonds will be deemed to have been paid or caused to be paid (including particular Bonds being refunded) and no longer deemed outstanding if there is held in trust, by the Bond Registrar or the Bond Registrar's agent, for and irrevocably committed to that purpose either of, or a combination of, the following: moneys or direct obligations of or obligations guaranteed as to payment of principal and interest by the United States or senior debt obligations of the U.S. government-sponsored enterprises rated on the date of purchase in the highest category for short-term or long-term debt as applicable, by any two nationally recognized rating organizations, verified by an independent public accounting firm of national reputation (or equivalent expert) to be of such maturities and interest payment dates and to bear such interest or other investment income as will be, without further investment or reinvestment of either the principal of or the investment earnings or other investment earnings (likewise to be held in trust and committed, except as described below)

sufficient for the payment at and to maturity of all applicable Debt Service.

Any moneys held in cash may be invested only in direct obligations of the United States and obligations guaranteed as to principal and interest by the United States, or senior debt obligations of U.S. government-sponsored enterprises, the maturities or redemption (at the holder's option) dates of which will coincide as nearly as practicable with, but will not be later than, the times at which those moneys will be required for those payment purposes.

Any income or interest earned by those investments, to the extent not required for those payment purposes, may be transferred to the applicable Bond Service Fund or the State's General Revenue Fund (GRF).

Non-presentment

If a Bond is not presented for payment when due or an interest payment check is uncashed, and if moneys for the purpose of paying and sufficient to pay that amount have been made available, all liability of the State to the holder for the payment will cease and be completely discharged. A separate special subaccount in the applicable Bond Service Fund is to hold that money, without liability for interest on it, for the benefit of the registered owner of that Bond, who thereafter will be restricted exclusively to that money for any claim of whatever nature with respect to that Bond. The Bond Registrar is to keep a record of the amounts with respect to the Bonds so deposited in that subaccount.

Purpose and Application of Proceeds

The Infrastructure Improvement Series 2019A Bonds are issued for the purpose of financing or assisting in the financing of the cost of public infrastructure capital improvement projects of local subdivisions (see **PROGRAMS FUNDED BY THE BONDS – Public Infrastructure Program**). The proceeds from the sale of the Infrastructure Improvement Series 2019A Bonds are to be deposited into the following funds held by the Treasurer:

- To the State Capital Improvements Fund, an amount not less than \$147,000,000 (representing the par amount of the Infrastructure Improvement Series 2019A Bonds), as determined by the Director of Budget and Management.
- The balance received by the Commission, less costs of issuance, to the State Capital Improvements Bond Service Fund.

The Third Frontier Series 2019B Bonds are being issued for the purpose of financing or assisting in the financing of the cost of research and development projects in support of Ohio industry, commerce and business (see **PROGRAMS FUNDED BY THE BONDS – Third Frontier Research and Development Program**). The aggregate proceeds from the sale of the Third Frontier Series 2019B Bonds, less costs of issuance, are to be deposited into the Third Frontier Research and Development Taxable Bond Fund.

PROGRAMS FUNDED BY THE BONDS

Public Infrastructure Program

In order to implement Section 2s (and predecessor Sections 2k, 2m and 2p) of Article VIII of the Ohio Constitution, the General Assembly enacted Section 164.02, Revised Code, creating the Ohio Public Works Commission (OPWC). The OPWC is charged with recommending candidates to the Governor for appointment to the position of Director of the OPWC, providing oversight and advice to that Director in the development of policy guidelines for the implementation of the program and reporting to the General Assembly. The OPWC is also responsible for appointing the members of the Ohio Small Government Capital Improvements Commission (the OSGCIC).

The OPWC consists of seven members appointed as follows: two persons are appointed by the Speaker of the House of Representatives; one person is appointed by the Minority Leader of the House of Representatives; two persons are appointed by the President of the Senate; one person is appointed by the Minority Leader of the Senate; and one person from the private sector is appointed alternately by the Speaker of the House of Representatives and the President of the Senate. Additionally, the Directors of the Departments of Transportation and Natural Resources, the Environmental Protection Agency and the Development Services Agency, and the Chairman of the Ohio Water Development Authority are nonvoting, ex-officio members of the OPWC.

The current members of the OPWC, and their terms of office, are as follows:

<u>Member</u>	<u>Term of Office Expires December 31</u>
Patrick Ginnetti	2019
Kimberly Marshall	2020
Dean Ringle	2019
Vacant	2019
Sandra Tunnell	2019

Vacant 2019
Randy Riley 2020

Ex Officio Members

Lydia L. Mihalik	Director, Ohio Development Services Agency
James V. Stewart	Chairman, Ohio Water Development Authority
Jack Marchbanks	Director, Ohio Department of Transportation
Laurie A. Stevenson	Director, Ohio Environmental Protection Agency
Mary Mertz	Director, Ohio Department of Natural Resources

Linda S. Bailiff was appointed Director of the OPWC for a term beginning on January 31, 2019 and ending on March 18, 2021 by Governor Mike DeWine.

For the purpose of allocating funds to finance public infrastructure capital improvement projects of local subdivisions, the State is divided into 19 Districts (the Districts) with a District Public Works Integrating Committee (DPWIC) established for each District. Each DPWIC appoints a subcommittee (the Village and Township Subcommittee) of its members to represent the interests of villages and townships with populations of the unincorporated areas of the townships of less than 5,000 persons (Villages and Townships). The DPWICs accept project applications from local subdivisions and select the projects to be submitted to the Director. The Village and Township Subcommittees review and select eligible projects for the Villages and Townships and submit those projects to the Administrator of the OSGCIC. Eligible projects include improvements to roads, bridges, culverts, water supply and wastewater systems, storm water collection systems and solid waste disposal facilities.

Proceeds from new bond issuances are disbursed from the State Capital Improvement Fund for the purpose of providing loans and grants for selected eligible projects. The Revised Code, General Bond Resolution and Series Resolutions adopted by the Commission impose certain restrictions on the amount of such proceeds that may be used for loans, local debt support and credit enhancements, or new or expansion projects, and impose certain other restrictions. Each recipient of funds will be required, in writing, to agree:

1. To use Ohio products, materials, services and labor to the extent practicable.
2. As to a grant for repair or replacement of existing infrastructure, that such grant does not exceed 90% of the estimated total cost of the Capital Improvement Project.
3. As to a grant for new or expanded infrastructure, that such grant does not exceed 50% of the estimated cost of the new or expansion elements of the Capital Improvement Project.
4. To comply with the minority set-aside requirements listed in Section 164.07(A), Revised Code, to the extent permitted by applicable court decisions.
5. To comply with the prevailing wage requirements referenced in Section 164.07(B), Revised Code.
6. To use moneys for purposes provided.
7. To do all things necessary to preserve the tax-exempt status of applicable Infrastructure Improvement General Obligation Bonds.

The OPWC may, if necessary to comply with changes in applicable laws, modify, eliminate or add to the program requirements.

Third Frontier Research and Development Program

The Third Frontier program was announced in February 2002 and reflects the State's commitment to expanding Ohio's high-tech research capabilities and promoting innovation and company formation to create high-paying jobs. The original 10-year, \$1.6 billion State investment provided funding for the program through Fiscal Year 2012 and leveraged significant additional federal and private sector funding. In May 2010, voters approved a renewal of the Third Frontier Program authorizing an additional \$700 million in funding. Of the total State funding, \$1.2 billion will come from the issuance of Third Frontier Research and Development General Obligation Bonds.

The Third Frontier program is administered by the Third Frontier Commission created in 2003 to oversee the allocation of funds appropriated by the General Assembly to support Third Frontier programs and activities. The Third Frontier Commission consists of the Director of the Ohio Development Services Agency, the Chancellor of the Ohio Department of Higher Education, the Governor's science and technology advisor, the Chief Investment Officer of JobsOhio and six regional business representatives and one public-at-large representative appointed by the Governor with the advice and consent of the Senate. In addition, a 16-member Third Frontier Advisory Board composed of leaders from industry, academia and government advises the Third Frontier Commission on strategic planning and general management and coordination of programs.

The Third Frontier program seeks compelling business models for near-term market opportunities based on technology and tech-enabled products and services focused in the following areas: 1) Software/Information Technology; 2) Biomedical/Life Sciences; 3) Advanced Materials; 4) Sensors; 5) Energy; and 6) Advanced Manufacturing.

Current sources of Third Frontier funding include General Revenue Fund appropriations to the Technology Programs and Grants Fund and Third Frontier Research and Development General Obligation Bond proceeds.

The proceeds of the Third Frontier Series 2019B Bonds may provide funding for the following Third Frontier programs and initiatives:

Commercial Acceleration Loan Fund – Loans to provide early-stage funding to investment-validated Ohio companies to develop next generation products and services. The program seeks to support companies and technology platforms that represent a potential path to growth, market entry and entering the regulatory approval process within three to five years. Typical projects include but are not limited to commercial scale demonstrations in market use conditions; manufacturing scale-up beyond pilot plant; acquisitions of exclusive intellectual property rights; launch of next generation of products; services or processes; and design engineering/packaging. The program gives preference to projects with a focus on certain areas of technology and clusters identified as providing growth opportunities.

Entrepreneurial Services Provider Program – Grants to increase the technology-based entrepreneurial commercialization outcomes throughout a defined geographical region and to focus the effort on strategic technology-based sectors that offer exceptional economic development prospects for the region. Each ESP represents a comprehensive, coordinated network of high-value services and assistance providers that is visible and easily accessible to technology-based entrepreneurs and small tech-based companies throughout its region. Each ESP provides an approach that tightly integrates sources of deal flow, entrepreneurial support, and capital to effectively grow the technology-based entrepreneurial commercialization outcomes throughout its region.

Fellowship Grant Program – Grants to intermediary organization(s) to manage the curated placement of fellows into Ohio early-stage technology or technology-enable companies. Fellows are recent graduates of a baccalaureate program that will be placed into a full-time position with a qualified technology company.

Opioid Abuse, Prevention and Treatment Technology Initiative – Grants to accelerate the development and commercialization of products in the categories of medical devices, diagnostics, pharmaceuticals, and health technology that address issues associated with opioid addiction. Projects must contribute to near-term tangible solutions associated with addiction prevention, treatment and overdose intervention. Technology and products that enable safe and effective treatment of acute and chronic pain without the use of opioids are encouraged. Funding has also been allocated for a Technology Challenge program that awards prizes based on ideas and demonstrations of product technology solutions.

Pre-Seed Fund Capitalization Program (Pre-Seed Fund) and Seed-Plus Capitalization Program (Seed-Plus Fund) – Loans to increase the availability of professionally managed capital and associated services to accelerate the growth of early-stage Ohio technology companies. The Pre-Seed Fund and Seed-Plus Fund provide loans to capitalize for-profit and nonprofit funds that have attracted the support of other non-state investors. The impacts of these investments will be an increase in the amount of early stage capital being invested in technology-based start-up companies, creation of a risk capital climate that supports the development, retention, and attraction of investable technology companies in Ohio, and building of a pipeline of technology company deal flow that increasingly attracts the resources of venture capital firms both within and outside of Ohio. The Seed-Plus Fund is an extension of the Pre-Seed Fund program and refers to a category of funding between Pre-Seed and Series A investment. Funds capitalized by the programs are expected to target investments to pre-seed stage technology-based businesses.

Research Incentive Program – Performance-based grant program for basic and applied research at state universities. Administered by the Ohio Department of Higher Education, the program matches external research support and will target the Third Frontier areas of focus. Allocation among state universities is made annually on the basis of their success in generating external research support.

Technology Commercialization Center – Grants to support the accelerated commercialization of recently developed technologies or research by providing incubator services that assist in business development (e.g., operations, marketing, etc.).

Technology Validation and Start-up Fund – Grants to foster economic growth and vitality by helping transition technologies from Ohio universities and research institutions into the marketplace through Ohio start-up companies. The fund provides funding in two phases: 1) Grants to Ohio higher education institutions and not-for-profit research institutions to validate the technology being developed by their in-house researchers, and 2) Grants to Ohio start-up companies that license these validated technologies.

All awards are made through a competitive process in the form of grants or loans. Requests for proposals are released to solicit applications for funding. Eligible applicants can include Ohio non-profit and for-profit entities and Ohio higher education institutions. Proposals are reviewed by independent expert evaluators. The evaluator recommendations are provided to the Third Frontier Commission, which makes the award decisions.

OHIO PUBLIC FACILITIES COMMISSION

The Commission is a body politic and corporate, constituting an agency and instrumentality of the State and performing essential functions of the State. It is comprised of six members, being the incumbents in the elective offices of Governor (Mike DeWine), Attorney General (Dave Yost), Auditor of State (Keith Faber), Secretary of State (Frank LaRose), and Treasurer of State (Robert Sprague), and the Director of Budget and Management (Kimberly Murnieks, appointed by the Governor with the consent of the Senate, and serving at the pleasure of the Governor). The Governor serves as the Chair, the Treasurer of State as the Treasurer and the Director of Budget and Management as the Secretary of the Commission. The current elective terms of the Governor, Attorney General, Auditor of State, Secretary of State and Treasurer of State run to January 2023. Commission members may, at Commission meetings, act through appointed designees.

TAX MATTERS FOR TAX-EXEMPT BONDS

In the opinion of Bond Counsel, under existing law: (i) interest on the Tax-Exempt Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the Code), and is not an item of tax preference for purposes of the federal alternative minimum tax; and (ii) interest on, and any profit made on the sale, exchange or other disposition of, the Tax-Exempt Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. Bond Counsel expresses no opinion as to any other tax consequences regarding the Tax-Exempt Bonds.

The opinion on federal tax matters will be based on and will assume the accuracy of certain representations and certifications made by the Commission, the State and others, and continuing compliance with certain covenants of the Commission and the State, contained in the transcript of proceedings and that are intended to evidence and assure the foregoing, including that the Tax-Exempt Bonds are and will remain obligations the interest on which is excluded from gross income for federal income tax purposes. Bond Counsel will not independently verify the accuracy of such certifications and representations or the continuing compliance with the covenants of the Commission and the State.

The opinion of Bond Counsel is based on current legal authority and covers certain matters not directly addressed by such authority. It represents Bond Counsel's legal judgment as to exclusion of interest on the Tax-Exempt Bonds from gross income for federal income tax purposes but is not a guaranty of that conclusion. The opinion is not binding on the Internal Revenue Service ("IRS") or any court. Bond Counsel expresses no opinion about (i) the effect of future changes in the Code and the applicable regulations under the Code or (ii) the interpretation and the enforcement of the Code or those regulations by the IRS.

The Code prescribes a number of qualifications and conditions for the interest on state and local government obligations to be and to remain excluded from gross income for federal income tax purposes, some of which require future or continued compliance after issuance of the obligations. Noncompliance with these requirements by the Commission and the State may cause loss of such status and result in the interest on the Tax-Exempt Bonds being included in gross income for federal income tax purposes retroactively to the date of issuance of the Tax-Exempt Bonds. The Commission and the State have each covenanted to take the actions required of it for the interest on the Tax-Exempt Bonds to be and to remain excluded from gross income for federal income tax purposes, and not to take any actions that would adversely affect that exclusion. After the date of issuance of the Tax-Exempt Bonds, Bond Counsel will not undertake to determine (or to so inform any person) whether any actions taken or not taken, or any events occurring or not occurring, or any other matters coming to Bond Counsel's attention, may adversely affect the exclusion from gross income for federal income tax purposes of interest on the Tax-Exempt Bonds or the market value of the Tax-Exempt Bonds.

Interest on the Tax-Exempt Bonds may be subject to a federal branch profits tax imposed on certain foreign corporations doing business in the United States and to a federal tax imposed on excess net passive income of certain S corporations. Under the Code, the exclusion of interest from gross income for federal income tax purposes may have certain adverse federal income tax consequences on items of income, deduction or credit for certain taxpayers, including financial institutions, certain insurance companies, recipients of Social Security and Railroad Retirement benefits, those that are deemed to incur or continue indebtedness to acquire or carry tax-exempt obligations, and individuals otherwise eligible for the earned income tax credit. The applicability and extent of these and other tax consequences will depend

upon the particular tax status or other tax items of the owner of the Tax-Exempt Bonds. Bond Counsel will express no opinion regarding those consequences.

Payments of interest on tax-exempt obligations, including the Tax-Exempt Bonds, are generally subject to IRS Form 1099-INT information reporting requirements. If a Tax-Exempt Bond owner is subject to backup withholding under those requirements, then payments of interest will also be subject to backup withholding. Those requirements do not affect the exclusion of such interest from gross income for federal income tax purposes.

Bond Counsel's engagement with respect to the Tax-Exempt Bonds ends with the issuance of the Tax-Exempt Bonds, and, unless separately engaged, Bond Counsel is not obligated to defend the Commission, the State or the owners of the Tax-Exempt Bonds regarding the tax status of interest thereon in the event of an audit examination by the IRS. The IRS has a program to audit tax-exempt obligations to determine whether the interest thereon is includible in gross income for federal income tax purposes. If the IRS does audit the Tax-Exempt Bonds, under current IRS procedures, the IRS will treat the State of Ohio as the taxpayer and the beneficial owners of the Tax-Exempt Bonds will have only limited rights, if any, to obtain and participate in judicial review of such audit. Any action of the IRS, including but not limited to selection of the Tax-Exempt Bonds for audit, or the course or result of such audit, or an audit of other obligations presenting similar tax issues, may affect the market value of the Tax-Exempt Bonds.

Prospective purchasers of the Tax-Exempt Bonds upon their original issuance at prices other than the respective prices indicated on the Cover, and prospective purchasers of the Tax-Exempt Bonds at other than their original issuance, should consult their own tax advisers regarding other tax considerations such as the consequences of market discount, as to all of which Bond Counsel expresses no opinion.

Risk of Future Legislative Changes and/or Court Decisions

Legislation affecting tax-exempt obligations is regularly considered by the United States Congress and may also be considered by the State legislature. Court proceedings may also be filed, the outcome of which could modify the tax treatment of obligations such as the Tax-Exempt Bonds. There can be no assurance that legislation enacted or proposed, or actions by a court, after the date of issuance of the Tax-Exempt Bonds will not have an adverse effect on the tax status of interest or other income on the Tax-Exempt Bonds or the market value or marketability of the Tax-Exempt Bonds. These adverse effects could result, for example, from changes to federal or state income tax rates, changes in the structure of federal or state income taxes (including replacement with another type of tax), or repeal (or reduction in the benefit) of the exclusion of interest on the Tax-Exempt Bonds from gross income for federal or state income tax purposes for all or certain taxpayers.

For example, federal tax legislation that was enacted on December 22, 2017 reduced corporate tax rates, modified individual tax rates, eliminated many deductions, repealed the corporate alternative minimum tax, and eliminated the tax-exempt advance refunding of tax-exempt bonds and tax-advantaged bonds, among other things. Additionally, investors in the Tax-Exempt Bonds should be aware that future legislative actions might increase, reduce or otherwise change (including retroactively) the financial benefits and the treatment of all or a portion of the interest on the Tax-Exempt Bonds for federal income tax purposes for all or certain taxpayers. In all such events, the market value of the Tax-Exempt Bonds may be affected and the ability of holders to sell their Tax-Exempt Bonds in the secondary market may be reduced.

Investors should consult their own financial and tax advisors to analyze the importance of these risks.

Original Issue Premium

All of the Tax-Exempt Bonds ("Tax-Exempt Premium Bonds") are being offered and sold to the public at a price in excess of their stated redemption price at maturity (the principal amount). That excess constitutes bond premium. For federal income tax purposes, bond premium is amortized over the period to maturity of a Tax-Exempt Premium Bond, based on the yield to maturity of that Tax-Exempt Premium Bond (or, in the case of a Tax-Exempt Premium Bond callable prior to its stated maturity, 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 that Tax-Exempt Premium Bond), compounded semiannually. No portion of that bond premium is deductible by the owner of a Tax-Exempt Premium Bond. For purposes of determining the owner's gain or loss on the sale, redemption (including redemption at maturity) or other disposition of a Tax-Exempt Premium Bond, the owner's tax basis in the Tax-Exempt Premium Bond is reduced by the amount of bond premium that is amortized during the period of ownership. As a result, an owner may realize taxable gain for federal income tax purposes from the sale or other disposition of a Tax-Exempt Premium Bond for an amount equal to or less than the amount paid by the owner for that Tax-Exempt Premium Bond. A purchaser of a Tax-Exempt Premium Bond in the initial public offering who holds that Tax-Exempt Premium Bond to maturity (or, in the case of a callable Tax-Exempt Premium Bond, to its earlier call date that results in the lowest yield on that Tax-Exempt Premium Bond) will realize no gain or loss upon the retirement of that Tax-Exempt Premium Bond.

Owners of Tax-Exempt Premium Bonds should consult their own tax advisors as to the determination for federal income tax purposes of the existence of bond premium, the determination for federal income tax purposes of the amount of bond premium properly accruable or amortizable in any period with respect to the Tax-Exempt Premium Bonds, other federal tax consequences in respect of bond premium, and the treatment of bond premium for purposes of state and local taxes on, or based on, income.

TAX MATTERS FOR TAXABLE BONDS

In the opinion of Bond Counsel, under existing law interest on, and any profit made on the sale, exchange or other disposition of, the Taxable Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. An opinion to those effects will be included in the legal opinion for the Taxable Bonds. Bond Counsel expresses no opinion as to any other tax consequences regarding the Taxable Bonds. INTEREST ON THE TAXABLE BONDS IS NOT EXCLUDED FROM GROSS INCOME FOR FEDERAL INCOME TAX PURPOSES. THE LEGAL DEFEASANCE OF THE TAXABLE BONDS MAY RESULT IN A DEEMED SALE OR EXCHANGE OF THE TAXABLE BONDS UNDER CERTAIN CIRCUMSTANCES; OWNERS OF THE TAXABLE BONDS SHOULD CONSULT THEIR TAX ADVISORS AS TO THE FEDERAL INCOME TAX CONSEQUENCES OF SUCH AN EVENT. PROSPECTIVE PURCHASERS OF THE TAXABLE BONDS SHOULD CONSULT THEIR TAX ADVISORS AS TO THE FEDERAL, STATE AND LOCAL, AND FOREIGN TAX CONSEQUENCES OF THEIR ACQUISITION, OWNERSHIP AND DISPOSITION OF THE TAXABLE BONDS.

The following discussion is generally limited to “U.S. owners,” meaning beneficial owners of Taxable Bonds that for United States federal income tax purposes are individual citizens or residents of the United States, corporations or other entities taxable as corporations created or organized in or under the laws of the United States or any state thereof (including the District of Columbia), and certain estates or trusts with specific connections to the United States. ***Partnerships holding Taxable Bonds, and partners in such partnerships, should consult their tax advisors regarding the tax consequences of an investment in the Taxable Bonds (including their status as U.S. owners).***

Prospective purchasers of the Taxable Bonds upon their original issuance at prices other than the respective prices indicated on the inside cover of this Official Statement, and prospective purchasers of the Taxable Bonds at other than their original issuance, should consult their own tax advisors regarding other tax considerations such as the consequences of market discount, as to all of which Bond Counsel expresses no opinion.

Payment of Interest

In general, interest paid or accrued on the Taxable Bonds will be treated as ordinary income to U.S. owners. A U.S. owner using the accrual method of accounting for U.S. federal income tax purposes must include interest paid or accrued on the Taxable Bonds in ordinary income as the interest accrues, while a U.S. owner using the cash receipts and disbursements method of accounting for U.S. federal income tax purposes must include interest in ordinary income when payments are received or constructively received by the owner.

Sale, Exchange, Retirement or Other Taxable Disposition of Bonds

Upon the sale, exchange, retirement or other taxable disposition of a Taxable Bond, a U.S. owner will recognize gain or loss equal to the difference between the amount realized from the sale, exchange, retirement or other disposition and the owner’s adjusted basis in the Taxable Bond or applicable portion of the adjusted basis. The owner’s adjusted basis generally will equal the cost of the Taxable Bond to the owner reduced by any principal payments on the Taxable Bond previously received by the owner (including any other payments on the Taxable Bond that are not qualified stated interest payments). Any gain or loss recognized upon a sale, exchange, retirement or other disposition of a Taxable Bond (excluding amounts attributable to accrued interest) will generally be capital gain or loss and will be long-term capital gain or loss if the U.S. owner’s holding period in the Taxable Bond exceeds one year. Long-term capital gains of individuals are currently eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

General information reporting requirements will apply to payments of principal and interest made on Taxable Bonds and the proceeds of the sale of Taxable Bonds to non-corporate holders of the Taxable Bonds, and “backup withholding,” currently at a rate of 24%, will apply to such payments if the owner fails to provide an accurate taxpayer identification number in the manner required or fails to report all interest required to be shown on its federal income tax returns. A beneficial owner of Taxable Bonds that is a U.S. owner generally can obtain complete exemption from backup

withholding by providing a properly completed IRS Form W-9 (Request for Taxpayer Identification Number and Certification).

Medicare Tax Affecting U.S. Owners

A U.S. owner that is an individual or estate, or a trust not included in a special class of trusts that is exempt from such tax, is subject to a 3.8% Medicare tax on the lesser of (1) the U.S. owner's "net investment income" for the taxable year and (2) the excess of the U.S. owner's modified adjusted gross income for the taxable year over a certain threshold (which in the case of individuals is between \$125,000 and \$250,000, depending on the individual's circumstances). A U.S. owner's net investment income generally includes interest income on, and net gains from the disposition of, Taxable Bonds, unless such interest income or net gains are derived in the ordinary course of a trade or business (other than a trade or business that consists of certain passive or trading activities). A U.S. owner that is an individual, estate, or trust, should consult its tax advisor regarding the applicability of the Medicare tax.

Non-U.S. Owners

Under the Code, interest on any Taxable Bond whose beneficial owner is not a U.S. owner is generally not subject to United States income tax or withholding tax (including backup withholding) if the non-U.S. owner provides the payor of interest on the Taxable Bonds with an appropriate statement as to its status as a non-U.S. owner. This statement can be made on IRS Form W-8BEN or a successor form. If, however, the non-U.S. owner conducts a trade or business in the United States and the interest on the Taxable Bonds held by the non-U.S. owner is effectively connected with such trade or business, that interest will be subject to United States income tax but will generally not be subject to United States withholding tax (including backup withholding). The foregoing is a brief summary of certain federal income tax consequences to a non-U.S. owner. *Non-U.S. owners should consult their tax advisors regarding the tax consequences of an investment in the Taxable Bonds.*

Foreign Account Tax Compliance Act

The Foreign Account Tax Compliance Act ("FATCA") generally imposes a 30% withholding tax on interest payments to (i) certain foreign financial institutions (including certain investment funds) that fail to certify their FATCA status and (ii) non-financial foreign entities if certain disclosure requirements related to direct and indirect United States shareholders are not satisfied. Proposed Treasury Regulations, which may be relied upon until final Treasury Regulations are promulgated, suspend the requirement to apply the 30% withholding tax to gross proceeds from the sale or other disposition of Taxable Bonds. This requirement otherwise would have applied to a sale or other disposition of Taxable Bonds made on or after January 1, 2019.

In the case of payments made to a "foreign financial institution" (generally including an investment fund), as a beneficial owner or as an intermediary, the FATCA withholding tax generally will be imposed, subject to certain exceptions, unless such institution (i) enters into (or is otherwise subject to) and complies with an agreement with the U.S. government (a "FATCA Agreement") or (ii) is required by and complies with applicable foreign law enacted in connection with an intergovernmental agreement between the United States and a foreign jurisdiction (an "IGA"), in either case to, among other things, collect and provide to the U.S. or other relevant tax authorities certain information regarding U.S. account holders of such institution. In the case of payments made to a foreign entity that is not a financial institution (as a beneficial owner), the FATCA withholding tax generally will be imposed, subject to certain exceptions, unless such entity either provides the withholding agent with a certification that it does not have any "substantial" U.S. owner (generally, any specified U.S. person that directly or indirectly owns more than a specified percentage of such entity) or identifies its "substantial" U.S. owners.

If Taxable Bonds are held through a foreign financial institution that enters into (or is otherwise subject to) a FATCA Agreement, such foreign financial institution (or, in certain cases, a person paying amounts to such foreign financial institution) generally will be required, subject to certain exceptions, to withhold the 30% FATCA tax on payments of dividends or the items described above made to (i) a person (including an individual) that fails to comply with certain information requests or (ii) a foreign financial institution that has not entered into (and is not otherwise subject to) a FATCA Agreement and that is not required to comply with FATCA pursuant to applicable foreign law enacted in connection with an IGA. Coordinating rules may limit duplicative withholding in cases where the withholding described above in **Non-U.S. Owners** or **Information Reporting and Backup Withholding** also applies.

If any amount of, or in respect of, U.S. withholding tax were to be deducted or withheld from payments on Taxable Bonds as a result of a failure by an investor (or by an institution through which an investor holds the Taxable Bonds) to comply with FATCA, none of the Commission and the State, any paying agent or any other person would, pursuant to the terms of the Taxable Bonds, be required to pay additional amounts with respect to any Taxable Bond as

a result of the deduction or withholding of such tax. *Non-U.S. owners should consult their tax advisors regarding the application of FATCA to the ownership and disposition of Taxable Bonds.*

LITIGATION

There is no litigation pending contesting the validity of the Bonds or the proceedings for their authorization, issuance, sale, execution and delivery. A no-litigation certificate to that effect will be delivered to the Original Purchasers at the time of original delivery of the Bonds.

The State is a party to various legal proceedings seeking damages or injunctive relief and generally incidental to its operations, but unrelated to the Bonds or the security for the Bonds. The ultimate disposition of these proceedings is not presently determinable, but in the opinion of the Ohio Attorney General will not have a material adverse effect on the Bonds or the security for the Bonds.

LEGAL OPINIONS

Legal matters incident to the issuance of the Bonds and with regard to the tax-exempt status of the interest on the Bonds (see **TAX MATTERS FOR TAX-EXEMPT BONDS** and **TAX MATTERS FOR TAXABLE BONDS**) are subject to the legal opinions of Thompson Hine LLP, Bond Counsel. The signed legal opinions dated as of, and premised on the transcript of proceedings examined and law in effect on, the date of original delivery, will be delivered to the Original Purchasers at the time of that original delivery. The text of the opinions for the Bonds will be printed on or appended to the Bonds.

The proposed text of each of Bond Counsel's legal opinions is set forth as **Exhibits A-1** and **A-2**. The legal opinions to be delivered may vary from that text if necessary to reflect facts and law on the date of delivery. The opinions will speak only as of their date, and subsequent distribution by recirculation of the Official Statement or otherwise should not create any implication that Bond Counsel has reviewed or expressed any opinion concerning any of the matters referred to in the opinions subsequent to their date.

Certain legal matters will be passed upon for the Commission by its counsel Squire Patton Boggs (US) LLP, which is also serving as Disclosure Counsel to the Commission.

RATINGS

In response to the Commission's application, the Bonds have been rated AA+ (Stable outlook) by Fitch Ratings (Fitch), Aa1 (Stable outlook) by Moody's Investors Service (Moody's), and AA+ (Stable outlook) by S&P Global Ratings Services (S&P).

The ratings and ratings outlooks in effect from time to time reflect only the views of the particular rating organization. The explanation of its views of the meaning and significance of its rating or outlook may be obtained from the respective rating agency. The Commission furnished to each rating agency certain information and materials, some of which may not be included in this Official Statement, relating to the Bonds and other obligations, the State and the Commission. Generally, rating agencies base their ratings on that information and materials, and on their own investigations, studies and assumptions.

There can be no assurance that the ratings or outlooks assigned will continue for any given time, or that a rating will not be lowered or withdrawn by a rating agency if in its judgment circumstances so warrant. Any downward change in or withdrawal of a rating, or change in rating outlook or other actions of a rating agency, may have an adverse effect on the marketability and market price of the Bonds.

FINANCIAL ADVISER

Acacia Financial Group, Inc. is serving as the financial adviser to the Commission in connection with the issuance and sale of the Bonds. The financial adviser is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness, or fairness of the information contained in the Official Statement. Acacia Financial Group, Inc. is an independent advisory firm and is not engaged in the business of underwriting, trading or distributing municipal securities or other public securities.

TRANSCRIPT AND CLOSING CERTIFICATES

A complete transcript of proceedings and no-litigation certificate (as described above) for the Bonds of each series will be delivered by the Commission to the respective Original Purchaser. At that time, the Director of Budget and Management will also furnish to the Original Purchaser of each series a certificate relating to the accuracy and

completeness of this Official Statement (including matters set forth in or contemplated by it), and to its being a “final official statement” in the Commission’s judgment for purposes of Securities and Exchange Commission (SEC) Rule 15c2-12(b)(3).

CONTINUING DISCLOSURE AGREEMENTS

The Commission has agreed, for the benefit of the holders and Beneficial Owners of the Bonds, in accordance with SEC Rule 15c2-12 (the Rule), to provide or cause to be provided such financial information and operating data (Annual Information), audited financial statements and notices, in such manner, as may be required for purposes of paragraph (b)(5)(i) of the Rule (a Continuing Disclosure Agreement).

Except as described in this paragraph, the Commission has complied in all material respects with its prior continuing disclosure agreements under the Rule during the past five years. The State’s Annual Information Filing for Fiscal Year 2019 filed on September 26, 2019 with the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access (EMMA) system inadvertently omitted information relating to the Portsmouth Bypass Project. Notice of such omission and a supplement to the Annual Information Filing for Fiscal Year 2019 containing the information relating to the Portsmouth Bypass Project was filed with EMMA on November 5, 2019. In addition, the Annual Information Filing for Fiscal Year 2019 was not associated with a CUSIP for the Infrastructure Improvement Refunding Bonds, Series 2002A; the Annual Information Filing for Fiscal Year 2019 and supplemental information was linked to this CUSIP on November 5, 2019. The State has put processes in place to ensure full compliance with its continuing disclosure agreements going forward.

It will provide to the Municipal Securities Rulemaking Board (the MSRB) through its Electronic Municipal Market Access (EMMA) system:

- Annual Information for each State Fiscal Year (beginning with Fiscal Year 2020) not later than the 90th day following the end of the Fiscal Year (or, if that is not a State business day, the next State business day), consisting of annual financial information and operating data of the type included in **Appendix A** of this Official Statement under the captions **FISCAL MATTERS, STATE DEBT, STATE EMPLOYEES AND COLLECTIVE BARGAINING AGREEMENTS, RETIREMENT SYSTEMS, and TAX LEVELS AND TAX BASES**. The Commission expects that Annual Information will be provided directly by the State (specifically, by OBM) and may be provided in part by cross-reference to other documents, such as the State’s Comprehensive Annual Financial Report, and subsequent final official statements.
- When and if available, audited general purpose financial statements of the State for each Fiscal Year. The Commission expects that those financial statements will be prepared, that they will be available separately from the Annual Information, and that the accounting principles to be applied in their preparation will, except as may otherwise then be stated, be as described under and by reference in **Appendix A** under **FISCAL MATTERS - Accounts and Controls; Financial Reports**.

It will provide to the MSRB through the EMMA system, in a timely manner, notice of:

- The occurrence of any of the following events with respect to the Bonds, within the meaning of the Rule, within 10 business days of the occurrence of the event:
 - principal and interest payment delinquencies
 - non-payment related defaults, if material
 - unscheduled draws on any debt service reserves or on credit enhancements reflecting financial difficulties
 - substitution of credit or liquidity providers, or their failure to perform
 - adverse tax opinions, the issuance by the IRS of proposed or final determinations of taxability, Notice of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax-exempt status of the Bonds
 - modifications to rights of registered owners or Beneficial Owners, if material
 - Bond calls, if material, and tender offers
 - defeasances
 - release, substitution, or sale of property securing repayment of the Bonds, if material
 - bankruptcy, insolvency, receivership or similar event of the obligated person
 - consummation of a merger, consolidation or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, or the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material

- appointment of a successor or additional trustee or the change of name of a trustee, if material
 - rating changes
 - incurrence of a financial obligation of the obligated person, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a financial obligation of the issuer or obligated person, any of which affect Series 2019A Bond holders, if material
 - default, event of acceleration, termination event, modification of terms, or other similar events under the terms of the financial obligation of the obligated person, any of which reflect financial difficulties Note: “*financial obligation*” means a (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 an obligation or instrument described in either clause (a) or (b). Financial obligation shall not include municipal securities as to which a final official statement has been provided to the MSRB consistent with the Rule.
- The failure to provide the Annual Information within the specified time.
 - Any change in the accounting principles applied in the preparation of the annual financial statements or in the Fiscal Year, any failure of the General Assembly to appropriate moneys for the purpose of paying costs to be incurred by the State in performing the Continuing Disclosure Agreement for the applicable fiscal period (biennium), and termination of the Continuing Disclosure Agreement.

There are no debt service reserves, or credit enhancements or credit or liquidity providers, for the Bonds, or any property (except the Bond Service Fund) securing their repayment. There is no trustee for the Bonds.

The Commission acknowledges the recent amendments to the Rule that took effect on February 27, 2019. The Continuing Disclosure Agreement has been prepared to comply with the Rule, as amended. The Commission believes the State has processes in place to ensure its future compliance with the Continuing Disclosure Agreement.

The Commission reserves the right to amend each Continuing Disclosure Agreement, and to obtain the waiver of noncompliance with any provision of such Continuing Disclosure Agreement, as may be necessary or appropriate:

- To achieve its compliance with any applicable federal securities law or rule.
- To cure any ambiguity, inconsistency or formal defect or omission.
- To address any change in circumstances arising from a change in legal requirements, change in law, or change in the identity, nature, or status of the Commission.

Any such amendment or waiver will not be effective unless that Continuing Disclosure Agreement (as amended or taking into account the waiver) would have complied with the requirements of the Rule at the time of the primary offering of the Bonds, after taking into account any applicable amendments to or official interpretations of the Rule, as well as any change in circumstances, and until the Commission shall have received either:

- A written opinion of bond, disclosure or other qualified independent special counsel selected by the Commission that the amendment or waiver would not materially impair the interest of holders or Beneficial Owners of the Bonds; or
- The written consent to the amendment, or waiver, by the holders of at least a majority of the aggregate outstanding principal amount of the Bonds.

Each Continuing Disclosure Agreement, by provisions in the bond proceedings, will be solely for the benefit of the holders and Beneficial Owners of the Bonds including holders of book-entry interests in them. The right to enforce the provisions of a Continuing Disclosure Agreement may be limited to a right of the holders or Beneficial Owners to enforce to the extent permitted by law (by mandamus, or other suit, action or proceedings at law or in equity) the obligations and duties under it.

In order to provide certain continuing disclosure with respect to the Bonds in accordance with the Rule, the State has entered into a Disclosure Dissemination Agent Agreement (Disclosure Dissemination Agreement) for the benefit of the holders of the Bonds with Digital Assurance Certification, L.L.C. (DAC), under which the State has designated DAC as Disclosure Dissemination Agent (Disclosure Dissemination Agent).

The Disclosure Dissemination Agent has only the duties specified in the Disclosure Dissemination Agreement. The Disclosure Dissemination Agent’s obligation to deliver the information at the times and with the contents described in the Agreement is limited to the extent the State has provided that information to the Disclosure Dissemination Agent as required by that Agreement. The Disclosure Dissemination Agent has no duty with respect to the content of any disclosures or notice made pursuant to the terms of the Agreement or duty or obligation to review or verify any

information in the Annual Report, Audited Financial Statements, notice of Notice Event or Voluntary Report (each as defined in the Agreement), or any other information, disclosure or notices provided to it by the State, and the Disclosure Dissemination Agent shall not be or be deemed to be acting in any fiduciary capacity for the State, the holders of the Bonds or any other party. The Disclosure Dissemination Agent has no responsibility for any failure to report to the State a Notice Event or a duty to determine the materiality thereof, or to determine or liability for failing to determine whether the State has complied with the Agreement, and the Disclosure Dissemination Agent may conclusively rely upon certification of the State at all times.

The performance by the State, as the only obligated person with respect to the Bonds, of each Continuing Disclosure Agreement will be subject to the biennial appropriation by the General Assembly of moneys for that purpose.

Each Continuing Disclosure Agreement will remain in effect only for such period that the Bonds are outstanding in accordance with their terms and the State remains an obligated person with respect to the Bonds within the meaning of the Rule.

ELIGIBILITY FOR INVESTMENT AND AS PUBLIC MONEYS SECURITY

To the extent that the matter as to a particular investor is governed by Ohio law, and subject to any applicable limitations under other provisions of Ohio law, the Bonds are lawful investments for banks, savings and loan associations, credit union share guaranty corporations, trust companies, trustees, fiduciaries, insurance companies (including domestic for life and domestic not for life), trustees or other officers having charge of sinking and bond retirement or other funds of the State and its political subdivisions and taxing districts, the Commissioners of the Sinking Fund, the Administrator of Workers' Compensation, and State retirement systems (Teachers, Public Employees, Public School Employees, and Police and Fire), notwithstanding any other provisions of the Revised Code or rules adopted pursuant to those provisions by any State agency with respect to investments by them.

The Act also provides that the Bonds are acceptable under Ohio law as security for the repayment of the deposit of public moneys.

Beneficial Owners of the Bonds should make their own determination as to such matters as the legality of investment in or the pledgeability of book-entry interests.

CONCLUDING STATEMENT

All quotations in this Official Statement from, and summaries and explanations of, the Ohio Constitution, the Revised Code, and the bond proceedings do not purport to be complete. Reference is made to the pertinent provisions of the Constitution, Revised Code and those documents for all complete statements of their provisions. Copies of the bond proceedings are available upon request to the Office of Budget and Management, 30 East Broad Street, 34th Floor, Columbus, Ohio 43215-3457 (telephone 614-752-2531).

To the extent that any statements in this Official Statement involve matters of opinion or estimates (whether or not expressly stated to be such) those statements are made as such and not as representations of fact or certainty. No representation is made that any of those statements will be realized. Information in this Official Statement has been derived by the Commission from official and other sources and is believed by the Commission to be accurate and reliable, but information other than that obtained from State official records has not been independently confirmed or verified by the State or Commission and its accuracy is not guaranteed.

This Official Statement is not to be construed as a contract or agreement between the State or the Commission and the Original Purchasers or subsequent holders or Beneficial Owners of any of the Bonds.

This Official Statement has been prepared, approved and delivered by the Commission, and signed for and on its behalf and in his official capacity by the official indicated below.

OHIO PUBLIC FACILITIES COMMISSION

By: /s/ Kimberly Murnieks
Kimberly Murnieks
Director of Budget and Management,
and Secretary of the Commission

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INFORMATION CONCERNING THE STATE OF OHIO

The following discusses certain matters relating to general State finances and debt, and the State's economy and employment, population, agriculture, resources, tax bases and related subjects. This information is from the State's official records, except for information expressly attributed to other sources, and summarizes and describes current and recent historical information. It is not intended to indicate future or continuing trends in the financial or other positions of the State. No representation is made that past experience, as might be shown by this financial and other information, will necessarily continue in the future.

FISCAL MATTERS

General

Consistent with the constitutional provision that no appropriation may be made for a period longer than two years, the State operates on the basis of a fiscal biennium for its appropriations and expenditures. Under current law that biennium for operating purposes runs from July 1 in an odd-numbered year to June 30 in the next odd-numbered year (e.g., the current fiscal biennium began July 1, 2019 and ends June 30, 2021). Within a fiscal biennium, the State operates on the basis of a July 1 to June 30 Fiscal Year. The biennium for general capital appropriations purposes runs from July 1 in an even-numbered year to June 30 in the next even-numbered year. Consistent with the fiscal biennium for operating purposes, the Governor is generally required to submit the Executive Budget to the General Assembly in February of each odd-numbered year. Appropriations legislation reflecting that Executive Budget is then introduced for committee hearings and review first in the House and then in the Senate, with that appropriations legislation as approved by the General Assembly then presented to the Governor for his approval (with possible line item vetoes). See **FISCAL MATTERS – Recent and Current Finances – Current Biennium** for discussion of the enacted budget for the 2020-21 fiscal biennium.

Authority for appropriating State moneys subject to appropriation rests in the bicameral General Assembly, which consists of a 99-member House of Representatives (elected to two-year terms) and a 33-member Senate (elected to overlapping four-year terms). Members of both houses are subject to term limits, with a maximum of eight consecutive years in either. The Governor has veto power, including the power to make line-item vetoes in bills making appropriations. Vetoes may be overridden by a three-fifths vote of each house.

The Constitution requires the General Assembly to “provide for raising revenue, sufficient to defray the expenses of the state, for each year, and also a sufficient sum to pay the principal and interest as they become due on the state debt.” The State is effectively precluded by law from ending a Fiscal Year or a biennium in a “deficit” position. State borrowing to meet casual deficits or failures in revenues or to meet expenses not otherwise provided for is limited by the Constitution to \$750,000.

Most State operations are financed through the General Revenue Fund (GRF). Personal income and sales and use taxes are the major sources of GRF tax revenue. The last complete Fiscal Year ended June 30, 2019 with a GRF fund balance (after year-end transfers) of \$834.0 million. The State has a “rainy day” fund (the Budget Stabilization Fund (BSF)) which by law is intended to carry a balance of up to 8.5% of the GRF revenue for the preceding Fiscal Year (this amount was 5% for Fiscal Year 2016 and prior years). The current BSF balance is \$2.691 billion, which equals 8.0% of Fiscal Year 2019 GRF revenue. Recent Fiscal Year-end BSF balances and their percent of GRF revenue for that Fiscal Year were:

Fiscal Year-Ending	BSF Balance(a)	% of GRF Revenue
2014	\$1,477,934,000	5.1%
2015	2,004,569,000	6.4
2016	2,034,051,000	6.0
2017	2,034,051,000	6.0
2018	2,691,554,000	8.3
2019	2,691,554,000	8.0

(a) Reflects balance after year-end transfer into BSF; actual cash transfers into the BSF occur early in the following Fiscal Year.

The Revised Code provides that if the Governor ascertains that the available revenue receipts and balances for the GRF or other funds for the then current Fiscal Year will in all probability be less than the appropriations for that Fiscal Year, the Governor shall issue such orders to State agencies as will prevent their expenditures and incurred obligations from exceeding those revenue receipts and balances. The Governor last implemented this directive in the 2008-09 biennium and also several times in prior fiscal biennia.

Listed in the tables below under **Recent Receipts and Disbursements** are the major categories of State revenue sources, including taxes and excises, and the amounts received from those categories. There is no present constitutional limit on the rates of those State levied taxes and excises (except for taxes on intangible property which the State does not currently levy).

At present the State itself does not levy ad valorem taxes on real or tangible personal property. Ad valorem taxes on tangible personal property of public utilities and on real property are levied by political subdivisions and local taxing districts, and State law does not currently allow the imposition of a general ad valorem tax on tangible personal property other than that of public utilities. The Constitution has since 1934 limited the amount of the aggregate levy of ad valorem property taxes on particular property, without a vote of the electors or municipal charter provision, to 1% of true value in money, and statutes limit the amount of that aggregate levy without a vote or charter provision to 10 mills per \$1 of assessed valuation -- commonly referred to in the context of Ohio local government finance as the "ten-mill limitation." See **TAX LEVELS AND TAX BASES** for a discussion of the phase-out of local tangible personal property taxes in 2006 through 2009.

The Constitution directs or restricts the use of certain revenues. Highway fees and excises, including gasoline taxes, are limited in use to highway-related purposes. Not less than 50% of the receipts from State income taxes must be returned to the originating political subdivisions and school districts. State net lottery profits are allocated to elementary, secondary, vocational and special education program purposes, including application to debt service on obligations issued to finance capital facilities for a system of common schools.

Constitutional amendments relating to taxation, revenues, expenditures, debt or other subjects may be proposed by action of three-fifths of the members elected to each house of the General Assembly or by initiative petition signed by electors numbering at least 10% of the total number of votes last cast for the office of Governor. Adoption of a proposed amendment requires approval by a majority of electors voting on it at a statewide election. The Ohio Constitution expressly provides that the General Assembly has no power to pass laws impairing the obligation of contracts.

Accounts and Controls; Financial Reports

With each office performing specific functions relating to State expenditures, the Office of Budget and Management (OBM) and the Treasurer of State account for and report on the State's fiscal affairs.

OBM maintains records of the appropriations made by the General Assembly, and its Director, appointed by the Governor, certifies the availability of unencumbered appropriations as a condition of contract validity. OBM fiscal functions include the development and oversight of operating and capital budgets as well as the review, processing, and reporting of financial transactions for most State departments and agencies (excluding, among others, higher education institutions). The OBM Director's certification is required for all expenditure vouchers before OBM may issue State warrants. Upon certification, OBM updates its accounting records to reflect the level of vouchered expenditures. The Treasurer of State maintains the cash and investments that comprise the State treasury and invests State funds. The Treasurer redeems the warrants issued by OBM when presented for payment by financial institutions and monitors the timing and amount of payments to determine the State's cash flow position for investment purposes.

State financial reporting practices have been and are in accordance with generally accepted accounting principles (GAAP basis). Each Comprehensive Annual Financial Report (CAFR) includes the State's Basic Financial Statements (BFS) for that Fiscal Year as examined by the Auditor of State. The most recent CAFRs are accessible via OBM's web page at <http://obm.ohio.gov/stateaccounting/financialreporting/cafr.aspx>, and copies may be obtained by contacting OBM, 30 E. Broad Street, 34th Floor, Columbus, Ohio 43215, phone (614) 466-4034. The Fiscal Year 2018 CAFR received the Government Finance Officers Association certificate of achievement for excellence in financial reporting.

The BFS are presented in accordance with a fund classification system prescribed by the Governmental Accounting Standards Board. The GAAP basis financial statement presentation is comprehensive in scope and includes organizations and activities defined within Ohio's reporting entity that are not subject to the State's

appropriation process. The “General Fund” as reported in the BFS includes more than just the GRF; it also encompasses the Budget Stabilization Fund and those reimbursement-supported funds that account for activities administered by State agencies and departments and for which special revenue or proprietary fund classifications are considered inappropriate.

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Recent Receipts and Disbursements

The following summary statements, prepared by OBM based on its accounting records, include (i) governmental and proprietary appropriated funds, cash receipts and cash disbursements, and (ii) GRF cash basis activity. The governmental and proprietary appropriated funds encompass the General Fund (which includes the GRF and BSF) as well as special revenue, debt service, capital projects, and enterprise fund types.

SUMMARY STATEMENT GOVERNMENTAL AND PROPRIETARY APPROPRIATED FUNDS (\$ in Millions) Cash Receipts

SOURCE OF RECEIPTS	Fiscal Year				
	2015	2016	2017	2018	2019
Taxes:					
Personal Income(a)	\$8,883.2	\$8,169.4	\$7,981.1	\$8,796.1	\$9,313.5
Sales and Use(b)	10,417.8	10,807.7	11,070.5	10,616.2	11,053.3
Financial Institutions Tax(c)	182.1	213.5	187.3	201.1	202.4
Commercial Activity Tax	1,752.6	1,689.1	1,750.8	1,805.5	1,932.0
Gasoline.....	1,800.6	1,740.4	1,817.4	1,802.8	1,846.0
Public Utilities and Kilowatt Hour	809.8	796.0	796.9	826.5	889.5
Cigarette(d)	808.2	1,007.6	980.5	939.8	918.2
Foreign Insurance	287.3	316.4	321.4	299.4	325.8
Highway Use	35.2	36.2	39.1	34.8	37.4
Estate(e)	3.1	2.2	0.8	0.2	0.2
Alcoholic Beverages.....	57.7	55.6	58.4	56.8	57.5
Liquor Gallonage.....	43.4	45.1	46.5	48.1	50.3
Domestic Insurance Franchise	257.2	263.5	273.9	283.4	281.3
Other(f).....	<u>62.6</u>	<u>108.9</u>	<u>82.5</u>	<u>106.8</u>	<u>110.7</u>
Total Taxes	25,400.7	25,251.6	25,407.1	25,817.5	27,018.0
Licenses, Permits and Fees	3,072.0	3,641.3	3,284.5	3,946.6	4,065.1
Sales, Services and Charges	1,392.1	1,749.2	1,512.1	1,636.9	1,665.3
Federal Government	22,692.1	22,953.9	22,911.5	23,014.9	23,663.7
Other(g)	4,702.8	5,655.3	5,889.9	6,113.3	6,513.2
Proceeds from Sale of Bonds and Notes	<u>1,103.8</u>	<u>1,214.9</u>	<u>1,507.8</u>	<u>2,202.7</u>	<u>1,042.0</u>
Total Cash Receipts	\$58,363.4	\$60,466.2	\$60,512.9	\$62,731.9	\$63,967.4

- (a) The personal income tax rate was reduced by 8.5% in calendar year 2013, 1.5% in calendar year 2014 and 6.3% in calendar year 2015, and a deduction commenced in tax year 2013 for small businesses of 50%, increasing to 75% in tax years 2014 and 2015, and to 100% for tax years 2016 and beyond, of annual business net income up to \$250,000 (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2014-15 and 2016-17**).
- (b) Fiscal Year 2018 decline was due to replacing the sales tax on Medicaid managed care organizations with a new health insuring corporation provider assessment (See **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2018-19**).
- (c) Beginning in tax year 2014, replaced the former financial institutions component of the corporate franchise tax.
- (d) Beginning July 1, 2015, the cigarette tax was increased from \$1.25 per pack (of 20 cigarettes) to \$1.60 per pack (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2014-15**).
- (e) Eliminated effective January 1, 2013; receipts in all years reflect delayed filings or payments.
- (f) Includes residual payments under the corporate franchise tax which was phased out in even annual increments from calendar year 2006-2010.
- (g) Largest components consist of various reimbursements, loan repayments, unclaimed funds, and investment income.

Cash Disbursements

FUND TYPE	Fiscal Year				
	2015	2016	2017	2018	2019
General Fund:					
General Revenue Fund	\$30,831.6	\$33,593.1	\$34,503.5	\$31,727.3	\$32,677.6
General Services Fund.....	4,758.6	4,712.1	4,809.3	5,884.3	5,564.1
Special Revenue Fund(h)	20,644.3	19,356.1	19,005.7	21,947.0	22,088.3
Capital Projects Fund(i)	412.0	607.0	601.2	671.7	794.8
Debt Service Fund(j)	1,116.7	1,136.0	1,168.2	1,155.0	1,243.1
Enterprise Fund(k).....	<u>825.0</u>	<u>844.4</u>	<u>775.1</u>	<u>812.9</u>	<u>735.3</u>
Total Cash Disbursements	\$58,588.3	\$60,248.8	\$60,863.0	\$62,198.1	\$63,103.2

- (h) Includes local government support disbursements.
- (i) Includes amounts disbursed from proceeds of special obligation bonds and highway general obligation bonds.
- (j) Includes the several bond retirement funds for general obligation bonds secured by a pledge of taxes and excises.
- (k) Includes workers' compensation, industrial commission, and lottery including deferred prizes, among others.

**SUMMARY STATEMENT
GENERAL REVENUE FUND CASH BASIS ACTIVITY
(\$ in Millions)**

	Fiscal Year				
	2015	2016	2017	2018	2019
Beginning Cash Balance	\$1,700.1	\$1,711.7	\$1,193.3	\$557.1	\$1,221.0
Cash Receipts:					
Taxes:					
Personal Income(a)	8,506.7	7,799.3	7,606.5	8,411.0	8,910.2
Sales and Use(b)	9,960.2	10,348.0	10,614.6	10,148.2	10,573.4
Financial Institutions Tax(c).....	182.1	213.5	187.3	201.1	202.4
Commercial Activity Tax(d).....	854.0	1,255.3	1,301.5	1,522.8	1,629.5
Public Utilities and Kilowatt Hour	464.5	502.0	516.1	531.1	562.7
Cigarette(e).....	808.2	1,007.6	980.5	939.8	918.2
Domestic Insurance	251.6	258.3	268.6	278.4	276.0
Foreign Insurance	266.6	293.5	301.5	276.5	296.3
Other(f).....	<u>111.8</u>	<u>144.0</u>	<u>109.2</u>	<u>114.3</u>	<u>120.8</u>
Total Taxes	21,405.8	21,821.6	21,885.8	22,423.2	23,489.6
Federal Government	9,301.3	11,645.7	11,761.2	9,469.9	9,763.9
Licenses, Permits and Fees	57.5	56.0	57.4	59.2	64.2
Investment Income	23.1	35.1	48.7	64.2	114.4
Other	<u>43.7</u>	<u>49.8</u>	<u>69.1</u>	<u>266.1</u>	<u>87.6</u>
Total Cash Receipts.....	30,831.4	33,608.3	33,822.1	32,282.6	33,519.7
Cash Disbursements:					
Primary, Secondary and Other Education(g)	7,299.5	7,624.1	7,945.9	8,063.6	8,214.4
Higher Education.....	2,139.6	2,222.8	2,294.8	2,304.8	2,292.6
Public Assistance and Medicaid	14,863.2	16,995.9	17,437.4	14,482.5	15,052.8
Health and Human Services.....	1,249.8	1,283.6	1,289.6	1,251.8	1,272.0
Justice and Public Protection	1,850.3	1,983.8	2,052.8	2,130.4	2,222.5
General Government(h).....	235.1	249.1	247.8	244.4	391.3
Property Tax Reimbursements(i)	1,801.5	1,786.7	1,790.3	1,802.4	1,801.2
Debt Service	<u>1,287.7</u>	<u>1,333.9</u>	<u>1,322.7</u>	<u>1,343.9</u>	<u>1,430.8</u>
Total Cash Disbursements.....	30,831.6	33,593.1	34,503.5	31,727.3	32,677.6
Cash Transfers:					
Transfers-in(j)	641.6	322.2	355.9	188.6	247.9
Transfers-out(k)	<u>(629.9)</u>	<u>(855.8)</u>	<u>(310.8)</u>	<u>(80.0)</u>	<u>(773.0)</u>
Ending Cash Balance	\$1,711.7	\$1,193.3	\$557.1	\$1,221.0	\$1,538.0

- (a) The personal income tax rate was reduced by 8.5% in calendar year 2013, 1.5% in calendar year 2014 and 6.3% in calendar year 2015, and a deduction commenced in tax year 2013 for small businesses of 50%, increasing to 75% in tax years 2014 and 2015, and to 100% for tax years 2016 and beyond, of annual business net income up to \$250,000 (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2014-15, 2016-17**).
- (b) Fiscal Year 2018 decline due to the replacement of the sales tax on Medicaid managed care organizations with a new health insuring corporation provider assessment (See **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2018-19**).
- (c) Beginning in tax year 2014, replaced the former financial institutions component of the corporate franchise tax.
- (d) See **TAX LEVELS AND TAX BASES – Commercial Activity Tax** for discussion of the increasing share of CAT receipts deposited into the GRF.
- (e) Beginning July 1, 2015, the cigarette tax was increased from \$1.25 to \$1.60 per pack (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2014-15**).
- (f) Includes residual payments under the corporate franchise tax which was phased out in even annual increments from calendar year 2006-2010.
- (g) Mainly subsidies to school districts for primary and secondary education.
- (h) Includes amounts for non-highway transportation purposes, including mass transit, rail, and aviation.
- (i) State reimbursements to taxing subdivisions for the 12.5% property tax rollback granted to homeowners of real property, for partial real property homestead tax exemptions for the elderly and handicapped (expanded commencing in July 2007), and for revenue reductions resulting from phase-out of local taxes on tangible personal property (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2014-15**).
- (j) Fiscal Years 2015-2019 include transfers of \$81.0 million, \$53.2 million, \$10.0 million, \$46.2 million and \$66.0 million, respectively, from the Petroleum Activity Tax Public Highways Fund; Fiscal Years 2015, 2017 and 2019 include transfers of \$250.4 million, \$163.3 million and \$119.7 million from School District and Local Government Property Tax Replacement Funds, respectively; Fiscal Year 2015 includes a transfer of \$221.0 million from the Small Business Augmentation Fund, and Fiscal Year 2016 includes a transfer of \$158.0 million from the Medicaid reserve fund.
- (k) Fiscal Years 2016, 2017 and 2019 include transfers of \$425.5 million, \$29.5 million and \$657.5 million to the BSF, respectively; Fiscal Year 2015 includes a transfer of \$330.0 million to the Medicaid reserve fund and \$229 million to the Small Business Augmentation Fund; Fiscal Year 2016 includes a transfer of \$40.0 million to the Unemployment Compensation Contingency Fund; Fiscal Years 2016 to 2019 include transfers of \$50.0 million, \$150.0 million, \$41.8 million and \$49.3 million to the Health and Human Services Fund, respectively; and Fiscal Year 2019 includes a transfer of \$30.0 million to the Medicaid Local Sales Tax Transition Fund.

Recent and Current Finances

Introductory Information

The summary statements above identify receipts from specific taxes and excises that are sources of significant amounts of revenue to the State, and particularly to the GRF. As noted, there are constitutional limitations on the use of some taxes and excises, and mandated allocations of portions of some others. As the statements portray, a substantial amount of total State-level revenue is distributed to local governments and school districts under ongoing programs, including local property tax relief.

Economic activity in Ohio, as in other industrially-developed states, tends to be somewhat more cyclical than in some other states and in the nation as a whole. The GRF ending fund balance tends to be reduced during less favorable national economic periods and increased during more favorable economic periods. The GRF ending cash and fund balances for Fiscal Year 2019 were \$1.54 billion and \$1.15 billion, respectively, with \$312.4 million of that ending fund balance transferred pursuant to statutory designations leaving a balance of \$834.0 million. Recent biennium-ending GRF balances were:

Biennium	Cash Balance	Fund Balance(a)	Fund Balance less Designated Transfers(b)
2010-11	\$844,467,000	\$430,707,000	\$138,816,000
2012-13	2,639,249,000	2,278,202,000	1,110,942,000
2014-15	1,711,679,000	1,286,469,000	550,366,000
2016-17	557,089,900	170,872,600	170,872,600
2018-19	1,538,011,800	1,146,385,400	833,985,400

(a) Reflects the ending cash balance less amounts encumbered to cover financial commitments made prior to the end of the Fiscal Year.

(b) Reflects the ending fund balance less any amounts designated for transfer to other funds, including the BSF.

Actions have been and may be taken by the State during less favorable economic periods to ensure revenue/expenditure balance (particularly in the GRF), some of which are described below. None of those actions have been applied to appropriations or expenditures needed for debt service or lease payments relating to any State obligations.

The appropriations acts for the 2020-21 biennium included all necessary appropriations for debt service on State obligations and for lease payments relating to lease rental obligations issued by the Treasurer of State and for certificates of participation (see **FISCAL MATTERS – Recent and Current Finances – Current Biennium and State Debt – General**).

The Revised Code imposes a limitation on most GRF appropriations commencing with the 2008-09 fiscal biennium. This statutory limitation initially used Fiscal Year 2007 GRF appropriations as a baseline (excluding appropriations for debt service, tax relief and refunds, and certain appropriations reflecting moneys received from the federal government) and then applies an annual growth factor equal to the greater of 3.5% or the sum of the inflation rates and rate of State population change. Every fourth Fiscal Year thereafter becomes a new base year. All GRF appropriations since Fiscal Year 2007 have complied with this limitation.

The following is a selective general discussion of State finances, particularly GRF receipts and expenditures, for recent and the current biennia. As evidenced by the actions discussed, the State administrations and both houses of the General Assembly have been and are committed to, and have taken and are taking, actions that ensure a balance of GRF resources and expenditures.

Recent Biennia

2012-13

2012-13 Biennial Budget and Appropriations. Consistent with State law, the Governor's Executive Budget for the 2012-13 biennium was released in March 2011 and introduced in the General Assembly. After extended hearings and review, the 2012-13 biennial appropriations Act was passed by the General Assembly and signed (with selective vetoes) by the Governor on June 30, 2011. To address the use of non-recurring funding sources in the prior 2010-11 fiscal biennium including federal stimulus amounts received under ARRA, the Act included targeted spending cuts across most State agencies and major new Medicaid reform and cost containment measures.

Reflecting the tax law changes described below and a conservative underlying economic forecast, that Act provided for total GRF biennial appropriations of approximately \$55.8 billion. This reflected a 10.5% increase over the 2010-11 GRF biennial appropriations, based on total expected GRF biennial revenue of approximately \$56.07 billion (a 6% increase from 2010-11 GRF biennial revenues). GRF appropriations for major program categories (including debt service) compared to 2010-11 actual GRF biennial spending reflected increases of 30.2% for Medicaid (due in large part to the absence of ARRA funding in the 2012-13 biennium and the redirection of 2012-13 biennial spending from non-GRF to GRF sources); decreases of 3% for elementary and secondary education, 9.1% for higher education, and 8.1% for mental health and developmental disabilities (due to the transfer of community mental health Medicaid services to the Department of Job and Family Services); and flat funding for corrections and youth services. That Act also reflected the restructuring of \$440 million of Fiscal Year 2012 GRF debt service into Fiscal Years 2013 through 2025, approximately three-quarters of which was accomplished by the July 2011 issuance by the Ohio Public Facilities Commission of \$488.8 million in refunding bonds, with the remainder accomplished by the September 2011 issuance by the Ohio Building Authority of \$149.3 million in refunding bonds.

The Executive Budget, the GRF appropriations Act and the separate appropriations acts for the biennium included all necessary debt service and lease rental payments related to State obligations (after the restructuring of Fiscal Year 2012 GRF debt service payments).

Major new sources of revenues or expenditure savings reflected in the 2012-13 appropriations Act included:

- Transfer of the State's spirituous liquor system to JobsOhio. On February 1, 2013, the State granted a 25-year franchise on its spirituous liquor system to JobsOhio Beverage System, a nonprofit corporation the sole member of which is JobsOhio, itself a nonprofit corporation created to promote economic development, job creation and retention, job training and the recruitment of business to the State. In exchange for the franchise, the State received a payment of \$1.464 billion, \$500 million of which was deposited in the GRF, \$863.5 million of which was used to make provision for payment of all debt service on \$725.0 million of then outstanding State bonds and notes secured by a pledge of the State's profits from the sale of spirituous liquor, and \$100 million of which was for funding certain revitalization projects. With granting of that franchise to JobsOhio Beverage System, the State stopped receiving annual deposits to the GRF from net liquor profits (those deposits totaled \$153.0 million in Fiscal Year 2011, \$92.5 million in Fiscal Year 2012 and \$167.0 million in Fiscal Year 2013, \$88 million of which was generated through the February 1 granting of the franchise to JobsOhio Beverage System). Litigation commenced in April 2011 and August 2014 that challenged, under various provisions of the Ohio Constitution, certain aspects of both JobsOhio and the General Assembly's February 2011 law that authorized its creation and the 2012-13 appropriations Act that amended various statutes applying to JobsOhio. In August 2011, the Ohio Supreme Court dismissed the first case, and in June 2014, the Ohio Supreme Court affirmed prior judgments of the lower courts in the second case after concluding that the plaintiffs lacked standing to bring this suit. Plaintiffs in the second case subsequently filed additional actions and appeals with the Court of Appeals and the Ohio Supreme Court in an attempt to revive these challenges to JobsOhio and the laws authorizing its creation and the transfer of the State's spirituous liquor system. The Supreme Court ultimately denied plaintiffs' motion for reconsideration in November 2016.
- Sale of five State-owned prison facilities to private operators expected to result in a net payment to the GRF of \$75 million. (Based on the proposals it received for the five prisons, the State opted to sell only one of those facilities that accomplished most of the desired financial result for the 2012-13 biennium.) Litigation commenced in August 2011, and then again in July 2012, challenging the authorization in the 2012-13 appropriations Act to sell these prison facilities. Specifically, this litigation alleged that the provisions in that Act authorizing the sale of these prisons, as well as that entire Act, were enacted in violation of the "one subject rule" of the Ohio Constitution and violated the constitutional right to referendum, and that the sale of the prisons would create a joinder of private and public property interests violating the constitutional prohibition against the State entering into a joint venture. In February 2016, the Supreme Court upheld the prison sale provisions of the Act, finding their enactment did not violate the "one subject rule" of the Ohio Constitution or its prohibition against the State entering into a joint venture with private enterprise.

- Reduction of local government fund allocations by \$111 million in Fiscal Year 2012 and \$340 million in Fiscal Year 2013. Beginning in Fiscal Year 2014, allocations are made by committing to the local government fund a set percentage of annual tax revenues deposited into the GRF (beginning with Fiscal Year 2013 GRF tax revenues).
- Reduction of public library fund allocations to 95% of Fiscal Year 2011 levels resulting in expenditure reductions of \$52.3 million in Fiscal Year 2012 and \$102.8 million in Fiscal Year 2013. Beginning in Fiscal Year 2014, allocations to public libraries are made by committing to the public library fund a set percentage of annual tax revenues deposited into the GRF (beginning with Fiscal Year 2013 GRF tax revenues).
- Accelerated phase-out of reimbursement payments to local governments and school districts in connection with the elimination of the tangible personal property tax resulting in an increased share (estimated at \$293.5 million in Fiscal Year 2012 and \$597.7 million in Fiscal Year 2013) of the commercial activity tax being deposited into the GRF (see **TAX LEVELS AND TAX BASES – Property Tax**).
- Accelerated phase-out of reimbursement payments to local governments and school districts for electric power generation deregulation and natural gas deregulation resulting in a larger share (estimated at \$141.6 million in Fiscal Year 2012 and \$147.4 million in Fiscal Year 2013) of the kilowatt-hour tax and the entire (approximately \$66.0 million in Fiscal Year 2012 and \$66.0 million in Fiscal Year 2013) natural gas consumption tax being reallocated to the GRF.
- \$235 million from transfers to the GRF of unclaimed funds and from other non-GRF funds, and \$12 million from a tax amnesty program.

The 2012-13 appropriations Act also reflected the following tax law changes:

- Implementation of the final 4.2% annual decrease in State personal income tax rates resulting in an aggregate 21% decrease (previously, personal income tax rates were reduced 4.2% annually in each of the tax years 2005 through 2008, with this final reduction delayed from tax year 2009 to tax year 2011).
- Elimination of the estate tax beginning January 1, 2013, previously levied at a rate of 6% on estates over \$338,333 and 7% on estates over \$500,000. In Fiscal Year 2010, estate tax collections totaled \$285.8 million of which \$230.8 million was distributed to the local government jurisdictions from which it was collected and with \$55.0 million retained by the State and deposited into the GRF.
- Establishment of the InvestOhio income tax credit program under which investors in small businesses based in Ohio who hold their investments for at least two years may receive 10% income tax credits limited to a maximum of \$10 million per investor per biennium with no more than \$100 million of those credits to be issued over two years.

The 2012-13 biennial appropriations Act created a Medicaid reserve fund and authorized the OBM Director to transfer up to \$130 million from the GRF, if necessary, to provide for the payment of Medicaid costs above the enacted level of appropriations. That Act also created a \$104 million Unemployment Compensation Contingency Fund to pay interest on federal advances to the State Unemployment Compensation Fund, \$70.7 million of which was used to make the interest payment due in September 2011, with the remaining amount applied to the September 2012 interest payment of \$65.8 million. The September 2012 interest payment was also funded by a \$25 million GRF supplemental appropriation and a contribution from the State's Unemployment Compensation Administration Fund.

2012 Mid-Biennium Review. On March 14, 2012, the Governor announced a series of policy proposals resulting from a "mid-biennium review" (2012 MBR), with a stated focus on job creation as a priority. The Governor's 2012 MBR included proposals for General Assembly consideration in the areas of: *energy* (including shale oil and gas production opportunities in the Marcellus and Utica fields in the State, and modernizing the State's oil and gas severance tax; electric generation and transmission; coal; cogeneration, alternative fuels and renewables; energy efficiency; and regulatory reform); *personal income tax reduction* (proposing that any new revenue from shale oil and gas production and the 2012 MBR proposal to modernize the State's oil and gas severance tax system be used to reduce personal income tax rates by a commensurate amount); *bank and financial institutions tax reform* (including a modernization, intended to be revenue-neutral, of Ohio's taxes on banks and financial institutions replacing the corporate franchise and dealers in intangibles tax with a new financial

institutions tax more accurately reflecting modern banking practices, closing loopholes and reducing the overall tax burden on most banks); *education* (including proposals for strengthening Ohio’s “third grade reading guarantee”, career education, a new school performance measuring system, expansion of digital and online learning, flexibility for teacher evaluations, new standards for dropout recovery schools, assessments of all publicly funded early childhood programs, and supporting adoption of a school reform plan for the City of Cleveland schools); *workforce development* (creating job opportunities for the developmentally disabled; an improved workforce development program; allowing those undergoing training with an employer to continue collecting unemployment benefits; linking energy companies with trained workers; and matching skilled veterans to in demand jobs); and achieving more *management efficiency* with associated State and local government budgetary savings (including combining the separate Offices of the State Architect and Engineer and the Office of Energy Services into an Ohio Facilities Construction Commission (OFCC) to administer the design and construction of state public facilities, with the Ohio School Facilities Commission retained as an independent agency within the OFCC but sharing employees and facilities). Those 2012 MBR proposals were considered by the General Assembly commencing in March in twelve separate pieces of legislation, and the General Assembly in May and June passed seven pieces of legislation addressing the subjects of energy (not including the 2012 MBR proposed changes to the State’s oil and gas severance tax), tax reform (not including the 2012 MBR personal income tax reduction proposal), education, workforce development, and management efficiency for both state and local governments.

As further implementation of the 2012 MBR, the General Assembly enacted and the Governor signed into law on December 20, 2012, a new financial institutions tax that first applied to tax year 2014. This new tax applies to many companies that were previously subject to Ohio’s corporate franchise tax (primarily banks and other corporations classified as financial institutions) and also generally subjects “dealers in intangibles” (e.g., mortgage brokers, stockbrokers, finance and loan companies not classified as financial institutions) to the commercial activity tax. This new financial institutions tax replaced the prior corporate franchise tax on financial institutions and the prior dealers in intangibles tax. The proceeds from the new financial institutions tax are deposited in the GRF like the proceeds from the taxes it replaced. Based on revenue targets and mechanisms established in the legislation, OBM projected the effect of these tax changes to be revenue neutral to the GRF.

Fiscal Year 2013 Results. The State ended Fiscal Year 2013 with GRF cash and fund balances of \$2.64 billion and \$2.28 billion, respectively. These ending balances reflect approximately \$1.15 billion in Fiscal Year 2013 underspending due largely to actual Medicaid expenditures \$883.0 million below the original Fiscal Year 2013 spending estimate. Of that ending GRF fund balance, the State deposited \$995.9 million into the BSF increasing its balance to \$1.48 billion which was the then statutorily designated five percent of Fiscal Year 2013 GRF revenues; carried-forward \$963.2 million to offset the one-time cost of accelerating the phase-in of reductions in State personal income tax withholding rates (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2014-15**), and transferred \$120 million into the Unemployment Compensation Contingency Fund to pay interest on federal advances to the State Unemployment Compensation Fund and \$51.3 million into disaster services/emergency funds. The remaining \$147.8 million was reserved in the GRF to maintain the statutory target of one-half of one percent of Fiscal Year 2013 GRF revenues as an ending fund balance.

2014-15

2014-15 Biennial Budget and Appropriations. Consistent with State law, the Governor’s Executive Budget for the 2014-15 biennium was released in February 2013 and introduced in the General Assembly. After extended hearings and review, the 2014-15 biennial appropriations Act was passed by the General Assembly and signed (with selective vetoes) by the Governor on June 30, 2013. With a stated focus on job creation and continued spending restraint, and based on a conservative economic forecast, that Act provided for total GRF biennial appropriations of approximately \$62.0 billion. This reflected an 11.1% increase over 2012-13 GRF biennial appropriations, and was based on expected total GRF biennial revenue (not including the \$963.2 million carried-forward from the 2012-13 biennium) of approximately \$61.1 billion (a 7.7% increase from 2012-13 GRF biennial revenues).

GRF major program categories (including debt service) reflected the following changes in spending: for Medicaid, increases of 16.8% in Fiscal Year 2014 appropriations over Fiscal Year 2013 expenditures (attributable in part to federal Affordable Care Act induced enrollment of previously eligible individuals and federally mandated physician rate increases) and 6.2% for Fiscal Year 2015 appropriations over Fiscal Year 2014 appropriations; for elementary and secondary education, increases of 5.0% for Fiscal Year 2014 appropriations

over Fiscal Year 2013 expenditures and 5.8% for Fiscal Year 2015 appropriations over Fiscal Year 2014 appropriations (due largely to enhancements in the K-12 school funding formula); for higher education, increases of 1.8% for Fiscal Year 2014 appropriations over Fiscal Year 2013 expenditures and 2.1% for Fiscal Year 2015 appropriations over Fiscal Year 2014 appropriations; for corrections and youth services, increases of 0.1% for Fiscal Year 2014 appropriations over Fiscal Year 2013 expenditures and 0.2% for Fiscal Year 2015 appropriations over Fiscal Year 2014 appropriations; and for mental health and developmental disabilities, an increase of 5.0% for Fiscal Year 2014 appropriations over Fiscal Year 2013 expenditures and an increase of 4.0% for Fiscal Year 2015 appropriations over Fiscal Year 2014 appropriations.

The Act also implemented a new school funding formula (see **SCHOOLS AND MUNICIPALITIES – Schools**), allocated a portion of State public higher education funding to institutions based on their graduation rates, and eliminated the Ohio Cultural Facilities Commission by moving the administration of cultural facilities projects to the Ohio Facilities Construction Commission to achieve efficiencies and budgetary savings.

The Executive Budget, the 2014-15 appropriations Act and separate appropriations acts for the biennium included all necessary debt service and lease rental payments related to State debt obligations.

The 2014-15 biennial appropriations Act reflected the following reductions and related adjustments of major State taxes (primarily the personal income and sales and use taxes), resulting in an estimated net reduction in GRF revenues of \$1.16 billion in Fiscal Year 2014 and \$771 million in Fiscal Year 2015, including:

- A 10% reduction in State personal income tax rates phased-in over three years (8.5% in calendar year 2013, 0.5% in calendar year 2014, and 1.0% in calendar year 2015), coupled with a freeze on the indexing of the State income tax brackets and the personal exemption for tax years 2013 through 2015 until these rate reductions are fully implemented.
- Creation of a non-refundable earned income tax credit equal to 5% of the federal earned income credit that is limited to 50% of liability for gross income that exceeds \$20,000.
- A new deduction for small businesses of 50% of annual adjusted business net income up to \$250,000.
- Elimination of the \$20 personal income tax exemption for filers with a gross income greater than \$30,000 and of the gambling loss deduction.
- An increase in the State sales and use tax by one-quarter percent (from 5.5% to 5.75%) beginning September 1, 2013.
- Authorization of full membership for the State in the streamlined sales tax project for the collection of State sales taxes on out-of-state companies for catalog and internet purchases.
- Expansion of the State sales tax base to include digital goods such as e-books, music and video downloads and repeal of the exemption for magazine purchases.
- Elimination of the corporate franchise tax (and dealers in intangibles tax) and the initial implementation and collection of the new financial institutions tax in tax year 2014.
- Elimination of the 12.5% property tax roll back for owner-occupied residential property for new voter-approved local property tax levies.
- Reinstating income requirements for eligibility for new applicants for the State's homestead tax exemption (this exemption was expanded in 2007 to include all senior citizens and disabled Ohioans regardless of income).
- Establishing a variable minimum for the commercial activity tax for businesses with gross receipts greater than \$1 million and an exemption from the CAT for grain handlers.

Medicaid Expansion. Subsequent to the passage of the GRF appropriations Act, the seven member State Controlling Board on October 21, 2013 voted 5 to 2 to increase federal Medicaid appropriations by approximately \$562 million in Fiscal Year 2014 and approximately \$2.0 billion in Fiscal Year 2015. These additional federal appropriations were to support the federally-authorized expansion of the Medicaid program to cover those with incomes up to 138% of the federal poverty level using 100% federal funds in fiscal years 2014 and 2015. On October 22, 2013, six State Representatives and two local right to life organizations filed an action in the Ohio Supreme Court against the Controlling Board and the Ohio Department of Medicaid requesting that Court vacate the Controlling Board's October 21 action. The Controlling Board and State Department of Medicaid filed their initial answer to the complaint on November 5 and, after all evidence and briefs of the parties were submitted on

the expedited schedule set for this case, the Court on December 20, 2013 issued its decision upholding the Controlling Board's action.

2014 Mid-Biennium Review. On March 12, 2014, the Governor announced a series of initiatives across a range of topics resulting from a "mid-biennium review" for 2014-15 (2014 MBR). The Governor's 2014 MBR included a range of proposals in the areas of: *elementary and secondary education* (including proposals for dropout prevention and recovery and making technical and vocational education accessible by more students as early as the seventh grade); *higher education* (including proposals for reforming Ohio's dual credit programming to encourage more students to earn college credit while in high school; extending to two-year community colleges a funding formula tied to successful student outcomes; tying state funding for technical centers to the percentage of their students that find a job and other outcome-based benchmarks; increased use of technology and distance learning; increasing enrollment of international students and their retention in Ohio post-graduation; providing community colleges the option to offer a guaranteed tuition rate; and providing veterans college credit for their military training and experience); *income tax reductions and other tax adjustments* (including proposals to lower income tax rates across all income levels by 8.5% over the next three years; increasing the state's earned income tax credit for low-income Ohioans from 5% to 15% of the federal earned income tax credit; increasing the state income tax personal exemptions for those with annual incomes up to \$80,000; raising the tax on cigarettes by 60 cents to \$1.85 per pack with equivalent taxes on other tobacco products including e-cigarettes; increasing the oil and gas severance tax to 2.75% of producer gross receipts while eliminating that tax for small conventional gas producers and exempting from that tax up to \$8 million of gross receipts per well during the first three years to help producers recoup their start-up drilling costs, with approximately 20% of severance tax revenue directed to local governments in shale oil and gas producing regions of the state; and updating the commercial activity tax rate from its initial 0.26% rate established in 2005 to 0.30%); *workforce* (aligning the three main federal workforce programs through a single, integrated plan to provide faster and improved training; and expediting professional licensing and certification for veterans and their spouses); and *human services* (including increased access to crisis intervention and safe places for those with mental illness and addictions; allocating \$26.9 million of non-GRF funds to support tobacco prevention and cessation programs; and expanding drug and substance abuse prevention in schools and prioritizing statewide funding for prevention initiatives). The 2014 MBR also proposed increasing appropriations to the Department of Rehabilitation and Correction by \$53.5 million to address a rise in the prison population, and reducing local property tax reimbursement and debt service appropriations for the biennium by \$35 million and \$92 million, respectively, due to lower than expected payments, while continuing all necessary appropriations for debt service and lease rental payments for State obligations.

Those 2014 MBR proposals were introduced in the General Assembly in March as fourteen separate pieces of legislation, seven of which were enacted by the General Assembly in May and June addressing the subjects of elementary and secondary education (including \$5 million for alternative education programs), higher education (including \$3.1 million for the State share of instruction), workforce and human services (including \$16 million for early education and child care, \$16.8 million for adult and child protection services, and \$3.2 million for Family and Children Services). As further implementation of the biennial appropriations Act and due to positive Fiscal Year 2014 financial results, the 2014 MBR legislation passed by the General Assembly also included the following additional reductions and adjustments to the State personal income tax resulting in an estimated net reduction in GRF revenues of \$402 million in Fiscal Year 2015:

- Acceleration into calendar year 2014 of the remaining 1% reduction in State personal income tax rates previously scheduled to be effective in calendar year 2015.
- An increase in the non-refundable earned income tax credit from 5% to 10% of the federal earned income credit that is limited to 50% of liability for gross income that exceeds \$20,000.
- A temporary increase in the deduction for small businesses from 50% up to 75% of annual business net income up to \$250,000 for tax year 2014.
- An increase in the State income tax personal exemption from \$1,700 to \$2,200 for gross income less than \$40,000, and from \$1,700 to \$1,950 for gross income between \$40,000 and \$80,000.

The 2014 MBR legislation passed by the General Assembly also authorized the OBM Director to transfer to a Medicaid reserve fund up to \$300 million from the GRF, if necessary, to provide for the payment of Medicaid costs above the enacted level of appropriations. The full amount of this transfer was made at the end of Fiscal Year 2014 (see next paragraph for further transfers out of the Medicaid reserve fund at the end of Fiscal Year 2015).

Fiscal Year 2015 Financial Results. The State ended Fiscal Year 2015 with GRF cash and fund balances of \$1.71 billion and \$1.29 billion, respectively. Of that ending GRF fund balance, the State reserved \$157.4 million to maintain the statutory target of one-half of one percent of State Fiscal Year 2015 GRF revenues as an ending fund balance, carried-forward \$393.0 million to cover the planned for and modest variance of Fiscal Year 2016 GRF appropriations over estimated revenue, transferred \$425.5 million to the BSF, \$50 million to the health and human services fund (see **2016-17** below for discussion on the creation of this fund), \$42 million to the Straight A fund, \$40 million to pay unemployment compensation loan interest and \$20 million for disaster services. The State also made 14 other smaller transfers totaling \$149.3 million with the remaining \$9.1 million transferred to the income tax reduction fund. Of the \$331.1 million Fiscal Year 2015 ending balance in the Medicaid reserve fund, the State transferred \$72.0 million to a school district tangible personal property tax supplement fund, \$101.1 million to the BSF (bringing its balance to \$2.005 billion), and \$158.0 million to the GRF.

2016-17

2016-17 Biennial Budget and Appropriations. Consistent with State law, the Governor's Executive Budget for the 2016-17 biennium was released on February 2, 2015 and introduced in the General Assembly. After extended hearings and review, the 2016-17 biennial appropriations Act was passed by the General Assembly and signed (with selective vetoes) by the Governor on June 30, 2015. Reflecting a stated continuing focus on job creation, and based on a conservative economic forecast, that Act provided for total GRF biennial appropriations of approximately \$71.2 billion reflecting a 14.9% increase over the 2014-15 GRF biennial appropriations. Those appropriations were based upon then estimated total expected GRF revenue of \$34.9 billion in Fiscal Year 2016, which excluded the \$393.0 million carried-forward from Fiscal Year 2015 (reflecting a 10.8% increase over Fiscal Year 2015 revenue), and \$36.5 billion in Fiscal Year 2017 (reflecting a 4.6% increase over expected Fiscal Year 2016 revenues) (see discussion below of Fiscal Year 2017 GRF revenue revisions in July 2016 and January 2017). Total estimated GRF revenues across the 2016-17 biennium reflected a 17.5% increase from 2014-15 GRF biennial revenues.

GRF major program categories (excluding debt service) reflected the following increases: for Medicaid, 21.8% in Fiscal Year 2016 appropriations over Fiscal Year 2015 expenditures (driven in large part to the shift in funding to the GRF from non-GRF sources beginning in Fiscal Year 2016 for the Medicaid expansion population), and 5.1% for Fiscal Year 2017 appropriations over Fiscal Year 2016 appropriations; for elementary and secondary education, 5.0% for Fiscal Year 2016 appropriations over Fiscal Year 2015 expenditures, and 4.2% for Fiscal Year 2017 appropriations over Fiscal Year 2016 appropriations; for higher education, 4.5% for Fiscal Year 2016 appropriations over Fiscal Year 2015 expenditures, and 3.3% for Fiscal Year 2017 appropriations over Fiscal Year 2016 appropriations; for mental health and developmental disabilities, 9.1% for Fiscal Year 2016 appropriations over Fiscal Year 2015 expenditures, and 7.3% for Fiscal Year 2017 appropriations over Fiscal Year 2016 appropriations; for corrections and youth services, 4.8% for Fiscal Year 2016 appropriations over Fiscal Year 2015 expenditures, and 3.0% for Fiscal Year 2017 appropriations over Fiscal Year 2016 appropriations. The Act also modified the school funding formula to distribute new resources to districts with less capacity to raise revenues locally (see **SCHOOLS AND MUNICIPALITIES – Schools**) and froze tuition and fees for two- and four-year higher education institutions.

The Executive Budget, the 2016-17 biennial appropriations Act and separate appropriations acts for the biennium included all necessary debt service and lease rental payment appropriation authority related to State debt obligations.

The 2016-17 biennial appropriations Act reflected the following tax reductions and related adjustments, resulting in an estimated net reduction in GRF revenues relative to prior law of \$869.0 million in Fiscal Year 2016 and \$952.0 million in Fiscal Year 2017, including:

- An across-the-board 6.3% reduction in State personal income tax rates in calendar year 2015.
- Continuation of the 75% exemption on the first \$250,000 of business net income for small businesses in tax year 2015 (previously increased on a temporary basis for tax year 2014 (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2014-15**)) and completely exempting the first \$250,000 of business net income in tax year 2016 and beyond.
- Beginning in tax year 2015, replaced the multi-bracket tax system for small businesses with a low flat rate of 3% on the amount of business net income. Legislation subsequently passed by the General Assembly clarifying this provision was estimated by OBM to reduce GRF revenues in Fiscal Year 2016 by up to \$81 million.

- Beginning in tax year 2015, limited certain retirement income credits to taxpayers whose individual or joint adjusted gross income is less than \$100,000 (this exemption was previously available to all taxpayers aged 65 years and older).
- Increased the cigarette tax from \$1.25 per pack (of 20 cigarettes) to \$1.60 per pack, effective July 1, 2015.

The 2016-17 biennial appropriations Act also reflected:

- The resumption of the phase-out of reimbursements to local governments and school districts in connection with the elimination of the tangible personal property tax, resulting in an increased share (estimated at \$428.7 million in Fiscal Year 2016 and \$445.3 million in Fiscal Year 2017) of the commercial activity tax being deposited into the GRF (see **TAX LEVELS AND TAX BASES – Property Tax**).
- The continuing phase-out of reimbursements to local governments and school districts for electric power generation deregulation and natural gas deregulation resulting in an increased share (estimated at \$56.3 million in Fiscal Year 2016 and \$56.0 million in Fiscal Year 2017) of the kilowatt-hour tax being reallocated to the GRF.

The 2016-17 biennial appropriations Act also created a health and human services fund to pay for public health programs or services and authorized the OBM Director to transfer from the GRF \$150 million in Fiscal Year 2017 into the fund, which amount is in addition to the \$50 million transferred from the GRF at the end of Fiscal Year 2015 into the fund.

As is customary at the beginning of the second year of a fiscal biennium, OBM in July 2016 revised its Fiscal Year 2017 GRF revenue forecast to reflect updated economic assumptions, actual Fiscal Year 2016 revenue performance, and tax law adjustments enacted by General Assembly after adoption of the 2016-17 biennial appropriations Act. As part of this revision, OBM reduced its estimated Fiscal Year 2017 GRF tax revenue forecast by \$282.0 million, a 1.2% reduction compared to the original Fiscal Year 2017 tax revenue forecast. This reduction in forecasted tax revenues was largely within the personal income and commercial activity taxes. As part of the Governor’s Executive Budget proposal for the 2018-19 fiscal biennium (see **2018-19** below), and based on tax revenue underperformance, in January 2017 OBM further reduced its estimated Fiscal Year 2017 GRF tax revenue forecast by \$592.2 million, a 2.7% reduction compared to the July 2016 revision. The largest variances (compared to the July 2016 revision) were in the personal income tax (reduced by \$333.9 million or 4.0%), the sales and use tax (reduced by \$259.3 million or 2.4%), and the commercial activity tax (reduced by \$32.0 million or 2.5%).

Fiscal Year 2017 Financial Results. The State ended Fiscal Year 2017 with a GRF cash balance of \$557.1 million and an ending fund balance of \$170.9 million that was reserved to maintain the statutory target of one-half of one percent of State Fiscal Year 2017 GRF revenues as an ending fund balance.

2018-19

Consistent with State law, the Governor’s Executive Budget for the 2018-19 fiscal biennium was released on January 30, 2017, and introduced in the General Assembly. After extended hearings and review, the 2018-19 biennial appropriations Act was passed by the General Assembly and signed by the Governor (with selective vetoes) on June 30, 2017.

To address lower GRF revenue estimates for the 2018-19 fiscal biennium, the Act included both across-the-board and targeted spending cuts across most State agencies and programs. Reflecting a stated continuing focus on job creation, and based on a conservative economic forecast, that Act provided for the following GRF appropriations:

GRF Appropriations 2018-19 Biennium (\$ in billions)

Fiscal Year 2017 Expenditures	Fiscal Year 2018 Appropriations	% Change Over Fiscal Year 2017 Expenditures	Fiscal Year 2019 Appropriations	% Change Over Fiscal Year 2018 Appropriations	2018-19 Biennium Total Appropriations
\$34.5	\$32.2	-6.7%	\$33.3	3.5%	\$65.5

Major program categories reflect the following GRF appropriation changes (excluding debt service appropriations):

- *Medicaid* - Fiscal Year 2018 appropriations decreased 15.0% over Fiscal Year 2017 expenditures (as discussed below, driven largely by the replacement of the Medicaid managed care organization sales tax, the receipts of which were being deposited into the GRF, by a new health insuring corporation provider assessment, the receipts of which are now deposited into a dedicated non-GRF fund), and Fiscal Year 2019 appropriations increased 5.7% over Fiscal Year 2018 appropriations.
- *Elementary and Secondary Education* - Fiscal Year 2018 appropriations increased 1.5% over Fiscal Year 2017 expenditures, and Fiscal Year 2019 appropriations increased 1.6% over Fiscal Year 2018 appropriations.
- *Higher Education* – Fiscal Year 2018 appropriations increased 0.5% over Fiscal Year 2017 expenditures, and Fiscal Year 2019 appropriations decreased 0.3% over Fiscal Year 2018 appropriations.
- *Mental Health and Developmental Disabilities* – Fiscal Year 2018 appropriations decreased 0.9% over Fiscal Year 2017 expenditures (driven by the shift in funding of certain Medicaid expenditures to the Medicaid program category), and Fiscal Year 2019 appropriations increased 2.1% over Fiscal Year 2018 appropriations.
- *Corrections and Youth Services* – Fiscal Year 2018 appropriations increased 4.2% over Fiscal Year 2017 expenditures, and Fiscal Year 2019 appropriations increased 1.6% over Fiscal Year 2018 appropriations.

The Act also modified certain components of the school funding formula to better distribute resources to districts with less capacity to raise revenues locally (see **SCHOOLS AND MUNICIPALITIES – Schools**) and limited increases in tuition and fees for two- and four-year higher education institutions.

The Executive Budget, the 2018-19 biennial appropriations Act and separate appropriations acts for the biennium included all necessary debt service and lease rental payment appropriation authority related to State debt obligations.

The foregoing appropriations were based upon available balances and estimated GRF revenue for the biennium as follows:

Estimated GRF Revenue 2018-19 Biennium (\$ in billions)

Fiscal Year 2017 Actual Revenue	Fiscal Year 2018 Est. Revenue	% Change Over Fiscal Year 2017 Actual Revenue	Fiscal Year 2019 Est. Revenue	% Change Over Fiscal Year 2018 Est. Revenue	2018-19 Biennium Total Revenue
\$34.2	\$32.3	-5.5%	\$33.3	3.2%	\$65.6

Potentially non-recurring sources of revenues reflected in the 2018-19 biennial appropriations Act included \$84.5 million in transfers to the GRF from non-GRF funds, \$200 million from unclaimed funds, \$31 million from the sale of prison farmland, and \$20 million from a tax amnesty program.

The 2018-19 biennial appropriations Act reflected certain tax law changes, resulting in an estimated net GRF revenue increase of \$12.8 million in Fiscal Year 2018 and an estimated net GRF revenue decrease of \$30.8 million in Fiscal Year 2019, including, among others:

- Reduced the number of personal income tax brackets from nine to seven in tax year 2017 and for certain low income taxpayers completely exempted the first \$10,500 of taxable income, with increasing bracketed base rates and percentages up to a maximum on incomes over \$210,600 of \$8,073 plus 4.997% on the amount over \$210,600. (See **TAX LEVELS AND TAX BASES – Personal Income Tax.**)
- Increased on a temporary basis the percent of GRF tax revenues deposited into the public library fund to 1.68% from 1.66% in each of Fiscal Years 2018 and 2019.
- Increased the State personal income tax deduction from \$2,000 to \$4,000 for contributions to accounts for college savings and care for disabled individuals.
- Authorized a one-time sales tax holiday on the purchase of clothing and school supplies in August 2018 (separate legislation enacted by the General Assembly authorized a sales tax holiday in August 2017).

The 2018-19 biennial appropriations Act also reflected:

- The creation of a new health insuring corporation provider assessment, the revenues of which are being deposited into a non-GRF dedicated purpose fund, to fully replace the forgone GRF sales tax revenue resulting from the federal policy ruling by the Centers for Medicare and Medicaid Services (CMS) that

Ohio’s sales tax on Medicaid managed care organizations was impermissible as a means of generating revenues to draw federal matching dollars. The GRF revenue loss was estimated to be approximately \$600 million in each of Fiscal Years 2018 and 2019.

- Increased the portion of the commercial activity tax deposited into the GRF (estimated at \$175 million in Fiscal Year 2018 and \$179 million in Fiscal Year 2019) from 75% to 85% to more closely match the amounts needed to make compensating payments to school districts and local governments in connection with the prior phase-out of the tangible personal property tax. The requirement to transfer funds in excess of the compensating payments formula to the GRF at the end of each Fiscal Year remained unchanged. (See **TAX LEVELS AND TAX BASES – Property Tax.**)

As is customary at the beginning of the second year of a fiscal biennium, OBM in July 2018 revised its Fiscal Year 2019 GRF revenue forecast to reflect updated economic assumptions, actual Fiscal Year 2018 revenue performance, and certain minor tax law adjustments enacted by the General Assembly after adoption of the 2018-19 biennial appropriations Act. As part of this revision, OBM increased its estimated Fiscal Year 2019 GRF tax revenue forecast by \$531.1 million, a 2.4% increase compared to the original Fiscal Year 2019 tax revenue forecast. This increase in forecasted tax revenues was largely within the personal income tax (increased by \$379.5 million or 4.5%) and the sales and use tax (increased by \$129.0 million or 1.3%). Effective January 1, 2019, personal income tax employer withholding rates were reduced by 3.3% in order to fully reflect the income tax rate reductions enacted in the 2016-17 biennial budget. This was estimated to result in a one-time \$148.5 million reduction to personal income tax revenue in Fiscal Year 2019. Fiscal Year 2020 personal income tax revenue was not affected as the reduction in withholding was offset by reduced income tax refunds as final returns were filed for tax year 2019.

Fiscal Year 2019 Financial Results. The State ended Fiscal Year 2019 with GRF cash and fund balances of \$1.54 billion and \$1.15 billion, respectively. Of that ending GRF fund balance, the State carried forward \$834.0 million, including \$168.8 million reserved to maintain the statutory target of one-half of one percent of Fiscal Year 2019 GRF revenues as an ending fund balance, and transferred \$172.0 million to the H2Ohio fund (see **Current Biennium** below for discussion of this fund), \$31.0 million to the statewide treatment and prevention fund, \$39.0 million to the emergency purposes and disaster services funds, \$20.0 million to the school bus purchase fund, \$19 million to the tobacco use prevention fund, and \$31.4 million across six other smaller purposes.

Current Biennium

Consistent with State law, the Governor’s Executive Budget for the 2020-21 fiscal biennium was released on March 15, 2019 and introduced in the General Assembly. After extended hearings and review, the 2020-21 biennial appropriations Act, which was preceded by a 17-day interim appropriations act, was passed by the General Assembly and signed by the Governor (with selective vetoes) on July 18, 2019. Reflecting the tax law changes described below and a conservative underlying economic forecast, that Act provides for the following GRF appropriations:

GRF Appropriations 2020-21 Biennium (\$ in billions)

Fiscal Year 2019 Expenditures	Fiscal Year 2020 Appropriations	% Change Over Fiscal Year 2019 Expenditures	Fiscal Year 2021 Appropriations	% Change Over Fiscal Year 2020 Appropriations	2020-21 Biennium Total Appropriations
\$32.7	\$34.0	4.0%	\$36.0	6.0%	\$70.0

Major program categories reflect the following GRF appropriation changes (excluding GRF debt service appropriations):

- *Medicaid* - Fiscal Year 2020 appropriations increase 3.3% over Fiscal Year 2019 expenditures, and Fiscal Year 2021 appropriations increase 11.8% over Fiscal Year 2020 appropriations.
- *Elementary and Secondary Education* – including transfers from the GRF in support of student wellness and success, Fiscal Year 2020 appropriations increase 3.9% over Fiscal Year 2019 expenditures, and Fiscal Year 2021 appropriations increase 0.2% over Fiscal Year 2020 appropriations.
- *Higher Education* – Fiscal Year 2020 appropriations increase 4.6% over Fiscal Year 2019 expenditures, and Fiscal Year 2021 appropriations increase 2.6% over Fiscal Year 2020 appropriations.

- *Mental Health and Developmental Disabilities* – excluding Medicaid program services, Fiscal Year 2020 appropriations decrease 1.4% over Fiscal Year 2019 expenditures, and Fiscal Year 2021 appropriations increase 2.8% over Fiscal Year 2020 appropriations.
- *Corrections and Youth Services* – Fiscal Year 2020 appropriations increase 4.0% over Fiscal Year 2019 expenditures, and Fiscal Year 2021 appropriations increase 3.5% over Fiscal Year 2020 appropriations.

The 2020-21 biennial appropriations Act also created the H2Ohio fund to pay for water quality projects in Lake Erie and across Ohio’s rivers, lakes and waterways. The H2Ohio fund was initially funded by a \$172 million transfer from the Fiscal Year 2019 GRF ending fund balance. The Act also requires that 50 percent of the Fiscal Year 2021 GRF surplus, if any, be transferred to the H2Ohio fund with the other 50 percent transferred to the Budget Stabilization Fund.

The Executive Budget, 17-day interim appropriations act, the 2020-21 biennial appropriations Act and separate appropriations acts for the biennium all included necessary debt service and lease rental payment appropriation authority related to State debt obligations for the entire biennium.

The foregoing appropriations were based upon available balances and estimated GRF revenue for the biennium as follows:

Estimated GRF Revenue 2020-21 Biennium (\$ in billions)

Fiscal Year 2019 Actual Revenue	Fiscal Year 2020 Est. Revenue	% Change Over Fiscal Year 2019 Actual Revenue	Fiscal Year 2021 Est. Revenue	% Change Over Fiscal Year 2020 Est. Revenue	2020-21 Biennium Total Revenue
\$33.8	\$34.2	1.2%	\$36.2	5.9%	\$70.4

The 2020-21 biennial appropriations Act reflects the following tax policy and allocation changes, among others, that are estimated to result in a net GRF revenue decrease of \$410 million in Fiscal Year 2020 and \$177 million in Fiscal Year 2021:

- An across-the-board 4.0% reduction in State personal income tax rates and elimination of the bottom two income tax brackets (effective in tax year 2019), coupled with a freeze on the indexing of the income tax brackets (through tax year 2020). The tax bracket changes eliminate any tax liability for individuals with taxable income less than \$21,750.
- Excludes lawyers’ and lobbyists’ services from the definition of business income eligible to claim the \$250,000 small business income tax deduction and the 3% flat tax rate on business income above the deduction threshold (effective tax year 2020).
- Modifies eligibility for various means-tested State personal income tax credits such that high-income taxpayers with little non-business income are not eligible for the tax credits (effective tax year 2019).
- Creates two new non-refundable tax credits, one for lead abatement expenses capped at \$5 million annually (effective in tax year 2020) and one for Qualified Opportunity Zone investments that is limited to no more than \$50 million per fiscal biennium (effective in tax year 2019).
- Increases the legal age to purchase tobacco products from 18 to 21 years old and creates a tax on the volume of nicotine-containing vapor products (effective October 2019).
- Modifies the definition of substantial nexus with Ohio in accordance with *South Dakota v. Wayfair, Inc.* for purposes of collecting the sales and use tax on retail sales through “marketplace facilitators” (effective October 2019).
- Increases on a temporary basis the percent of GRF tax revenues deposited into the local government fund to 1.68% from 1.66% in each of Fiscal Years 2020 and 2021.
- Increases on a temporary basis the percent of GRF tax revenues deposited into the public library fund to 1.70% from 1.66% in each of Fiscal Years 2020 and 2021.

OBM is currently projecting a positive GRF fund balance at the end of Fiscal Year 2020 and Fiscal Year 2021. As noted above, the State is effectively precluded by its Constitution from ending a Fiscal Year or a biennium in a “deficit” position. OBM continually monitors and analyzes revenues and expenditures and related developments (including pending litigation) and prepares a Monthly Financial Report, the most recent of which is accessible at <https://www.obm.ohio.gov/Budget/monthlyfinancial/> with copies also available upon request to OBM.

Cash Flow

Because GRF cash receipts and disbursements do not precisely coincide, temporary GRF cash flow deficiencies often occur in some months, particularly the middle months, of a Fiscal Year. Statutory provisions provide for effective management of cash flow by permitting the adjustment of payment schedules (as was done during some prior Fiscal Years) and the use of the Total Operating Fund (TOF). The State has not done and does not do external revenue anticipation borrowing.

The TOF includes the total consolidated cash balances, revenues, disbursements and transfers of the GRF and several other specified funds (including the BSF). The TOF cash balances are consolidated only for the purpose of meeting cash flow requirements, and, except for the GRF, a positive cash balance must be maintained for each discrete fund included in the TOF. The GRF is permitted to incur a temporary cash deficiency by drawing upon the available consolidated cash balance in the TOF. The amount of that permitted GRF cash deficiency at any time is limited by statute to 10% of GRF revenues for the then preceding Fiscal Year. The State plans for and manages monthly GRF cash flow deficiencies within each Fiscal Year and those deficiencies have been within the TOF limitations discussed above.

STATE DEBT

General

The incurrence or assumption of debt by the State without a popular vote is, with limited exceptions, prohibited by the State Constitution. The State is authorized to incur debt limited in amount to \$750,000 to cover casual deficits or to address failures in revenues or to meet expenses not otherwise provided for. The Constitution expressly precludes the State from assuming the debts of any county, city, town or township, or of any corporation. (An exception in both cases is for debts incurred to repel invasion, suppress insurrection, or defend the State in war.) The Constitution provides that “Except the debts above specified . . . no debt whatever shall hereafter be created by, or on behalf of the state.”

By 20 constitutional amendments approved from 1921 to present, Ohio voters have authorized the incurrence of State general obligation debt and the pledge of taxes or excises to its payment, all related to the financing of capital facilities, except for three that funded bonuses for veterans, one to fund coal technology research and development, and one to fund specified research and development activities. Currently, tax supported general obligation debt of the State is authorized to be incurred for the following purposes: highways, local infrastructure, coal development, natural resources and parks, higher education, common schools, conservation, and research and development. Authorizations for site development and veterans compensation purposes have been fully exhausted or expired. Although supported by the general obligation pledge, highway debt is also backed by a pledge of and has always been paid from the State’s motor fuel taxes and other highway user receipts that are constitutionally restricted in use to highway related purposes.

State special obligation debt, the owners or holders of which are not given the right to have excises or taxes levied by the General Assembly to pay principal and interest, is authorized for purposes specified by Section 2i of Article VIII of the Constitution. The Treasurer of State currently issues the special obligations authorized under that Section 2i for parks and recreation and mental health facilities, and for facilities to house branches and agencies of State government and their functions, including: State office buildings and facilities for the Department of Administrative Services (DAS) and others, the Ohio Department of Transportation (ODOT), correctional and juvenile detention facilities for the Departments of Rehabilitation and Correction (DRC) and Youth Services (DYS), various cultural facilities, and formerly for the Department of Public Safety (DPS). Debt service on all these special obligations is paid from GRF appropriations, with the exception of debt issued for ODOT and DPS facilities which is paid from highway user receipts. All of those debt service payments are subject to biennial appropriations by the General Assembly pursuant to leases or other agreements entered into by the State.

Certificates of Participation (COPs). State agencies also have participated in buildings and equipment, information systems and non-highway transportation projects that have local as well as State use and benefit, in connection with which the State has entered into lease-purchase agreements with terms ranging from 8 to 20 years. Certificates of Participation (COPs) have been issued in connection with those agreements that represent fractionalized interests in and are payable from the State’s anticipated lease payments. The maximum annual payment from GRF appropriations under those existing agreements is \$41.3 million in Fiscal Year 2020 and the total GRF-supported principal amount outstanding is \$252.7 million. Payments by the State are subject to biennial appropriations by the General Assembly with the lease terms subject to automatic renewal for each biennium for

which those appropriations are made. The approval of the OBM Director and either the General Assembly or the State Controlling Board is required if COPs are to be publicly offered in connection with those agreements.

Revenue Bonds. Certain State agencies issue revenue bonds that are payable from revenues from or relating to revenue producing facilities, such as those issued by the Ohio Turnpike and Infrastructure Commission. As confirmed by judicial interpretation, such revenue bonds do not constitute “debt” under the constitutional provisions described above. The Constitution authorizes State bonds for certain economic development and housing purposes (the latter issued by the Ohio Housing Finance Agency) to which tax moneys may not be obligated or pledged. See the discussion of expanded housing finance authority, and permitted pledges to it, below under **Additional Authorizations**.

Tax Credits in Support of Other Long-Term Obligations. The State has authorized the issuance of fully refundable tax credits in support of “credit-collateralized bonds” issued from time to time by the Columbus-Franklin County Finance Authority to provide funding for the Ohio Capital Fund (OCF) to promote venture capital investment in Ohio and any additional bonds that may be issued to refinance those outstanding bonds or provide additional funding for that purpose. Those tax credits may be claimed by the bond trustee for the purpose of restoring the bond reserve fund for those credit-collateralized bonds in the event it is drawn upon and its required balance is not restored from other sources. Those credits may not be claimed after June 30, 2036, and the maximum amount of tax credits that may be claimed is \$20 million in any fiscal year and \$380 million in total. The bond trustee has made claims for tax credits totaling \$7.5 million in Fiscal Year 2017, \$15.4 million in Fiscal Year 2018, \$13.5 million in Fiscal Year 2019 and \$7.5 million in Fiscal Year 2020. The highest annual payment for outstanding credit-collateralized bonds is \$19.2 million in Fiscal Year 2020 and the total principal amount outstanding for those bonds is \$125.8 million. Proceeds of the OCF bonds fund investments in venture capital funds to promote investment in seed and early-stage Ohio-based business enterprises.

Prior Economic Development and Revitalization Obligations. Prior to the February 1, 2013 granting of a 25-year franchise on the State’s spirituous liquor system to JobsOhio, there were outstanding \$725.0 million of State bonds and notes secured by a pledge of the State’s profits from the sale of spirituous liquor. In connection with the granting of that franchise, provision was made for the payment of all the debt service on those bonds and notes which are defeased and no longer outstanding obligations of the State (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2012-13**). Those bonds and notes were originally issued to fund a statewide economic development program that assisted in the financing of facilities and equipment for industry, commerce, research and distribution, including technology innovation, by providing loans and loan guarantees. Under its franchise agreement with JobsOhio, the State may not issue additional obligations secured by a pledge of profits from the sale of spirituous liquor during the 25-year term of that franchise.

Obligations and Funding Commitments for Highway Projects Payable from Highway-Related Non-GRF Funds. As described above, the State issues general obligations for highway infrastructure and special obligations for ODOT and DPS transportation facilities that are paid from the State’s motor fuel tax and other highway user receipts that are constitutionally restricted in use to highway related purposes. In addition, the State has and expects to continue financing selected highway infrastructure projects by issuing federal highway grant anticipation revenue (GARVEE) bonds and entering into agreements that call for debt service payments to be made from federal Title 23 transportation funds allocated to the State, subject to biennial appropriations by the General Assembly. The highest annual State payment under those agreements in the current or any future fiscal year is \$182.8 million in Fiscal Year 2020. In the event of any insufficiency in the anticipated federal allocations to make payments on GARVEE bonds, the payments are to be made from any lawfully available moneys appropriated to ODOT for the purpose.

In December 2014, ODOT also entered into its first public-private agreement to provide “availability payments” in support of the development and operation of a State highway improvement project. Those availability payments commenced in December 2018 and are paid from non-GRF funds available to ODOT remaining after the payment of debt service on highway general obligations, ODOT special obligations and GARVEE bonds. The partial year availability payment in Fiscal Year 2019 was \$14.3 million, with availability payments estimated to increase modestly each year from \$25.7 million in Fiscal Year 2020 to a maximum payment of \$39.4 million in Fiscal Year 2053. Availability payments are subject to biennial appropriation by the General Assembly with the public-private agreement subject to automatic renewal for each biennium if and when those availability payments are appropriated for that biennium.

Variable Rate Debt

The State currently has \$383,745,000 in outstanding variable rate debt as follows with liquidity provided by the State for all of these issues:

<u>Dated Date</u>	<u>Outstanding</u>	<u>Purpose/Series</u>	<u>Rate Period</u>	<u>Final Maturity</u>
11/29/2001	\$18,200,000	Infrastructure, 2001B	Weekly	8/1/2021
12/15/2003	67,000,000	Common Schools, 2003D	Weekly	3/15/2024
3/3/2004	32,375,000	Infrastructure Refunding, 2004A	Weekly	2/1/2023
4/1/2005	71,730,000	Common Schools, 2005A/B	Weekly	3/15/2025
6/7/2006	84,820,000	Common Schools, 2006B/C	Weekly	6/15/2026
10/26/2016	64,620,000	DRC Prison Facilities, 2016B/C	Weekly	10/1/2036
8/7/2019	45,000,000	DRC Prison Facilities, 2019C	Weekly	10/1/2039

Interest Rate Swaps

As part of its debt management, the State is also party to the following floating-to-fixed interest rate swap agreements with a total notional amount currently outstanding of \$274,125,000:

<u>Outstanding Notional Amount</u>	<u>Related Bond Series</u>	<u>State Pays</u>	<u>State Receives</u>	<u>Counterparty</u>	<u>Effective Date</u>	<u>Termination Date</u>
\$18,200,000	Infrastructure 2001B	4.630%	SIFMA ¹	JP Morgan/Wells Fargo	11/29/2001	8/1/2021
67,000,000	Common Schools 2003D	3.414%	LIBOR ²	JP Morgan/Wells Fargo	9/14/2007	3/15/2024
32,375,000	Infrastructure 2004A Refunding	3.510%	LIBOR ²	Wells Fargo	3/3/2004	2/1/2023
71,730,000	Common Schools 2005A/B	3.750%	LIBOR ^{2,3}	JP Morgan	3/15/2007	3/15/2025
84,820,000	Common Schools 2006B/C	3.202%	LIBOR ²	US Bank/RBC	6/15/2006	6/15/2026

¹ Securities Industry and Financial Markets Association (SIFMA) weekly variable rate index.

² Variable interest rate based on a percentage of one-month London Inter-Bank Offered Rate (LIBOR) plus a fixed increment.

³ Variable interest rate based on 62% of 10-year LIBOR beginning September 15, 2014.

For all its swap agreements, the State has established minimum uncollateralized counterparty rating thresholds of AA-/Aa3. Under each of these agreements, the counterparty is required to progressively post collateral securing the State's position if the counterparty's credit ratings fall below these minimum thresholds.

Constitutional Limitation on Annual Debt Service

A 1999 constitutional amendment provides an annual debt service "cap" applicable to most future issuances of State general obligations and other State direct obligations payable from the GRF or net State lottery proceeds. Generally, new obligations may not be issued if debt service for any future Fiscal Year on those new and the then outstanding obligations of those categories would exceed 5% of the total of estimated GRF revenues (excluding GRF receipts from the American Recovery and Reinvestment Act of 2009) plus net State lottery proceeds for the Fiscal Year of issuance. Those direct obligations of the State include general obligations and special obligations that are paid from the State's GRF, but exclude (i) general obligation debt for third frontier research and development, development of sites and facilities, and veterans compensation, and (ii) general obligation debt payable from non-GRF funds (such as highway bonds that are paid from highway user receipts). Pursuant to the implementing legislation, the Governor has designated the OBM Director as the State official responsible for making the 5% determinations and certifications. Application of the 5% cap may be waived in a particular instance by a three-fifths vote of each house of the Ohio General Assembly and may be changed by future constitutional amendments.

The following table presents a current summary of State debt authorizations and the principal that has been issued and is outstanding against those authorizations, including the Bonds. The General Assembly has appropriated sufficient moneys to meet debt service requirements for the current biennium (ending June 30, 2021) on all of the obligations included in this and the accompanying tables.

	Authorized by General Assembly	Issued(a)	Outstanding(b)
<i>Obligations Payable from the GRF</i>			
<u>General Obligations</u>			
Coal Development(c)	\$260,000,000	\$246,000,000	\$31,195,000
Infrastructure(d,e)	4,425,000,000	4,231,986,136	1,825,535,000
Natural Resources(f)	492,000,000	453,130,000	124,760,000
Common School Facilities(e)	5,645,000,000	5,370,000,000	2,690,270,000
Higher Education Facilities	4,453,000,000	4,130,000,000	2,306,580,000
Conservation(g)	700,000,000	550,000,000	275,565,000
Research & Development(h)	1,200,000,000	971,000,000	389,755,000
Site Development	150,000,000	150,000,000	22,975,000
Veterans Compensation(i)	200,000,000	83,910,000	<u>28,765,000</u>
		Total:	\$7,695,400,000
<u>Special Obligations</u>			
DAS Facilities	\$2,069,700,000	\$1,916,000,000	\$492,960,000
DRC Prison Facilities(e)	2,462,000,000	2,232,500,000	541,260,000
DYS Facilities	400,000,000	400,000,000	123,375,000
Cultural & Sports Facilities	725,000,000	639,690,000	128,940,000
Mental Health Facilities	1,850,000,000	1,617,085,000	161,730,000
Parks & Recreation Facilities	1,022,400,000	828,000,000	<u>408,725,000</u>
		Total:	\$1,856,990,000
<i>Obligations Payable from Non-GRF Sources(j)</i>			
<u>Highway User Receipts</u>			
G.O. Highway(k)	\$3,740,000,000	\$3,312,955,000	\$1,024,000,000
ODOT Facilities	385,000,000	326,590,000	150,570,000
DPS Facilities	140,285,000	140,285,000	<u>1,530,000</u>
		Total:	\$1,176,100,000
<u>Federal Transportation Grants</u>			
ODOT GARVEE Highway(l)	n.a.	\$2,575,710,000	\$852,060,000

(a) Excludes refunding bonds; includes bonds refunded; as of November 8, 2019.

(b) Excludes bonds refunded; includes refunding bonds; as of November 8, 2019.

(c) Not more than \$100,000,000 may be outstanding at any time.

(d) Not more than \$5,625,000,000 may be issued with the annual issuance currently limited to no more than \$175,000,000 in each Fiscal Year beginning in Fiscal Year 2018 through Fiscal Year 2022 and \$200,000,000 in each Fiscal Year beginning in Fiscal Year 2023 through Fiscal Year 2027, plus any obligations unissued from previous Fiscal Years.

(e) Includes adjustable rate bonds.

(f) Not more than \$50,000,000 may be issued in any Fiscal Year and not more than \$200,000,000 may be outstanding at any time. Issued amount includes \$130,000 in refunding bonds in excess of the principal amount of the bonds refunded.

(g) Not more than \$50,000,000 may be issued in any Fiscal Year plus any obligations unissued from previous Fiscal Years and not more than \$400,000,000 may be outstanding at any time.

(h) Not more than \$1,200,000,000 may be issued with the annual issuance now limited to no more than \$175,000,000 in any Fiscal Year plus any obligations unissued from previous Fiscal Years.

(i) Constitutional authorization was self-implementing and did not require further General Assembly authorization. No more new obligations may be issued under this authorization.

(j) See discussion above of "availability payments" under ODOT's first public-private agreement, which payments are expected to be made from biennial appropriations of non-GRF funds available to ODOT and remaining after the payment of debt service on highway general obligations, special obligations and GARVEE bonds shown above.

(k) Not more than \$220,000,000 may be issued in any Fiscal Year plus any amount unissued from previous Fiscal Years, and not more than \$1,200,000,000 may be outstanding at any time.

(l) Debt service on these "GARVEE" bonds is paid from federal transportation grants apportioned to the State (Title 23 of the U.S. Code).

The following table shows total Fiscal Year debt service on outstanding State obligations currently payable from the GRF, including the Bonds:

Annual Debt Service Requirements on State Obligations Paid from the GRF

FY	General Obligations			Special Obligations			Total GRF Debt Service(f)		
	Education (a,b)	Infra-structure(b)	All Other(c)	DAS Facilities	DRC Facilities(b)	All Other(d)	Principal	Interest	Total(e)
2020	\$289,682,326	\$80,376,108	\$81,871,064	\$25,040,841	\$19,531,520	\$93,060,123	\$ 338,860,000	\$ 250,701,983	\$ 589,561,983
2021	742,104,489	225,757,332	162,165,428	84,604,148	69,209,430	118,702,300	988,630,000	413,913,128	1,402,543,128
2022	705,213,006	217,764,840	140,882,805	74,480,358	68,505,750	106,369,056	942,985,000	370,230,814	1,313,215,814
2023	638,500,527	208,521,831	128,924,871	68,744,880	64,442,967	106,302,359	886,810,000	328,627,434	1,215,437,434
2024	537,378,440	190,769,046	108,525,058	58,697,402	62,592,633	101,037,269	768,950,000	290,049,847	1,058,999,847
2025	467,922,418	182,391,229	87,146,661	53,198,045	57,969,739	94,582,475	687,615,000	255,585,566	943,200,566
2026	398,279,334	168,148,081	81,091,214	30,444,119	34,490,306	76,998,425	563,065,000	226,386,479	789,451,479
2027	342,617,829	153,351,871	64,143,026	30,494,319	34,524,537	67,475,375	490,515,000	202,091,956	692,606,956
2028	321,394,939	153,189,746	60,659,836	30,549,781	34,480,350	61,078,800	481,420,000	179,933,452	661,353,452
2029	321,481,174	144,448,485	44,831,893	30,611,156	34,516,847	50,743,875	468,805,000	157,828,429	626,633,429
2030	331,767,530	127,393,277	26,078,725	26,388,856	31,655,775	46,224,344	451,695,000	137,813,507	589,508,507
2031	332,020,127	127,222,141	22,633,750	23,649,331	31,672,331	40,609,250	461,755,000	116,051,930	577,806,930
2032	307,704,913	103,472,200	12,947,750	23,658,806	29,079,799	32,891,000	414,520,000	95,234,468	509,754,468
2033	240,467,725	94,406,000	3,444,000	21,215,469	29,013,075	23,491,250	335,855,000	76,182,519	412,037,519
2034	216,826,625	83,579,750	-0-	17,147,050	29,272,513	10,624,000	297,500,000	59,949,938	357,449,938
2035	192,974,250	59,967,125	-0-	17,148,425	25,741,228	10,624,625	261,220,000	45,235,653	306,455,653
2036	168,783,750	59,948,625	-0-	11,173,250	25,766,650	10,624,250	243,955,000	32,341,525	276,296,525
2037	145,666,000	48,555,875	-0-	11,169,125	20,167,912	10,622,000	214,905,000	21,275,912	236,180,912
2038	96,242,000	37,782,875	-0-	5,490,125	14,847,847	10,626,750	153,940,000	11,049,597	164,989,597
2039	48,268,500	24,817,875	-0-	5,488,875	7,128,105	10,622,125	92,370,000	3,955,480	96,325,480
2040	-0-	-0-	-0-	-0-	7,125,588	-0-	<u>7,020,000</u>	<u>105,588</u>	<u>7,125,588</u>
							\$9,552,390,000	\$3,274,545,206	\$12,826,935,206

- (a) Consists of common schools and higher education general obligation bonds.
- (b) Includes estimated debt service on adjustable rate bonds at an assumed rate of 3%.
- (c) Includes natural resources, coal development, conservation, research and development, site development and veteran's compensation general obligation bonds.
- (d) Includes lease-rental bonds for mental health, parks and recreation, cultural and sports facilities, and facilities for the Department of Youth Services.
- (e) Excludes refunded bonds; includes refunding bonds; as of November 8, 2019.
- (f) Totals may not foot due to rounding

The following table shows total Fiscal Year debt service on certain outstanding State obligations currently payable from the indicated non-GRF revenues.

Annual Debt Service Requirements on State Obligations Paid from Non-GRF Revenues

FY	Highway User Receipts			GARVEE Federal Transportation Grants(c)
	Highway G.O.	ODOT/DPS Facilities(a)	Total(b)	
2020	\$113,882,606	\$12,792,500	\$126,675,106	\$182,767,446
2021	149,743,692	18,087,250	167,830,942	148,204,553
2022	146,084,052	16,522,000	162,606,052	103,420,375
2023	141,588,556	16,526,250	158,114,806	102,644,713
2024	138,099,277	16,520,500	154,619,777	101,903,025
2025	119,903,395	16,524,000	136,427,395	101,158,125
2026	90,251,300	16,520,000	106,771,300	65,376,875
2027	87,356,550	16,522,500	103,879,050	65,378,375
2028	84,462,050	16,519,750	100,981,800	65,379,875
2029	67,801,300	16,520,500	84,321,800	65,379,250
2030	48,669,000	16,518,000	65,187,000	41,281,875
2031	46,598,750	8,375,750	54,974,500	-0-
2032	29,333,750	8,379,000	37,712,750	-0-
2033	28,028,750	8,379,000	36,407,750	-0-
2034	13,098,750	-0-	13,098,750	-0-

- (a) Lease rental payments are paid from highway user receipts for these Ohio Department of Transportation and Department of Public Safety facilities.
 (b) As of November 8, 2019.
 (c) Debt service paid from federal transportation grants apportioned to the State under Title 23 of the U.S. Code.

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The following table shows the principal amount of those obligations that are currently scheduled to be outstanding as of July 1 of the indicated years, including the Bonds:

<u>Year</u>	Obligations Payable from the GRF			Non-GRF Obligations
	<u>Education(a)</u>	<u>Other GO(b)</u>	<u>Special Obligations(c)</u>	<u>Highway User Receipts(d)</u>
2020	\$4,849,590,000	\$2,591,720,000	\$1,772,220,000	\$1,078,070,000
2025	2,661,955,000	1,373,110,000	903,475,000	505,785,000
2030	1,464,310,000	577,185,000	441,545,000	128,790,000
2035	416,255,000	156,765,000	138,222,857	0

- (a) Includes bonds for common school and higher education capital facilities.
 (b) Includes natural resources, coal development, infrastructure improvement, conservation, research and development, site development and veterans compensation general obligation bonds.
 (c) Includes lease-rental bonds for various State capital facilities.
 (d) Includes general obligations for highways and lease-rental bonds for ODOT and DPS facilities.

The following tables show certain historical debt information and comparisons. These tables include only outstanding obligations of the State for which debt service is paid from the GRF.

<u>Fiscal Year</u>	<u>Principal Amount Outstanding</u>	<u>Outstanding Debt Per Capita</u>	<u>Outstanding Debt as % of Annual Personal Income</u>
1980	\$1,991,915,000	\$184	1.86%
1990	3,707,055,058	342	1.83
2000	6,308,680,025	556	1.94
2010	8,586,655,636	744	2.03
2011	8,996,752,848	779	1.99
2012	9,760,505,915	845	2.08
2013	9,263,358,266	800	1.94
2014	9,517,346,998	820	1.92
2015	9,354,508,600	805	1.81
2016	9,271,400,000	797	1.77
2017	9,450,790,000	810	1.73
2018	9,746,900,000	834	1.73(b)
2019	9,496,850,000	812(a)	1.68(b)

<u>Fiscal Year</u>	<u>Debt Service Payable</u>	<u>Total GRF Revenue and Net State Lottery Proceeds</u>	<u>Debt Service as % of GRF Revenue and Lottery Proceeds</u>	<u>Debt Service as % of Annual Personal Income</u>
1980	\$187,478,382	\$4,835,670,223	3.88%	0.18%
1990	488,676,826	12,230,682,298	4.00	0.24
2000	871,313,814	20,711,678,217	4.21	0.27
2010	710,284,236*	24,108,466,000**	2.95	0.17
2011	755,023,015*	26,777,133,000**	2.82	0.17
2012	692,776,090*	27,956,512,000	2.48	0.15
2013	1,204,775,861	30,361,815,000	3.97	0.25
2014	1,237,701,225	30,137,139,000	4.11	0.25
2015	1,278,258,664	32,463,100,000	3.94	0.25
2016	1,314,513,346	34,996,649,000	3.76	0.25
2017	1,328,276,711	35,218,700,000	3.77	0.24
2018	1,338,395,923	33,642,813,000	3.98	0.24(b)
2019	1,402,757,299	34,921,508,000	4.02	0.25(b)

- (a) Based on July 2018 population estimate.
 (b) Based on preliminary 2018 personal income data.

* Reduction is due in large part to the restructuring of certain GRF debt service payments resulting in net savings of \$416.8 million in Fiscal Year 2010, \$336.9 million in Fiscal Year 2011, and \$449.3 million in Fiscal Year 2012.

** Excludes federal funds from the American Recovery and Reinvestment Act of 2009.

Recent Debt Authorizations

Only a portion of State capital needs can be met by direct GRF appropriations, so additional State borrowing for capital and other purposes has been and will continue to be required. For the 2019-20 capital biennium, the General Assembly approved \$2.88 billion in new capital appropriations, with \$2.48 billion of those new capital appropriations to be funded by GRF-supported debt authorizations, \$60 million to be funded from non-GRF debt authorizations (for Ohio Department of Transportation maintenance facilities) and the remaining \$342 million to be funded from cash. The following additional GRF-supported debt authorizations reflect all of the new 2019-20 capital appropriations:

General Obligation

- \$475,000,000 for capital improvements for elementary and secondary public schools.
- \$325,000,000 for local infrastructure projects.
- \$437,000,000 for higher education facilities.
- \$34,000,000 for natural resources facilities.
- \$100,000,000 for conservation purposes.
- \$2,000,000 for coal development purposes.
- \$57,000,000 for highway development purposes.

Special Obligation

- \$200,000,000 for prisons and local jails.
- \$21,000,000 for youth services facilities.
- \$130,500,000 for State administrative facilities.
- \$84,000,000 for cultural facilities (including both arts and sports facilities).
- \$193,000,000 for mental health facilities (including local projects).
- \$201,400,000 for parks and recreation facilities (including local projects).

In addition to the above \$475 million general obligation debt authorization for elementary and secondary public school improvements, the General Assembly also appropriated \$75 million to be funded from the transfer of non-GRF development loan funds and \$50 million from State lottery profits for elementary and secondary public school capital improvements.

Recent constitutional authorizations are:

- 2014 – authorizes an additional \$1.875 billion of general obligation debt for public infrastructure as a ten-year extension of the existing local government infrastructure program authorized in 2005, with an increase in the annual issuance amount from \$150 million to \$175 million in the first five Fiscal Years and \$200 million in each Fiscal Year thereafter.
- 2010 – authorizes the issuance of \$700 million of State general obligation debt to renew and continue programs for research and development in support of Ohio industry, commerce, and business, with those obligations not subject to the 5% debt service cap described above. The authorization is in addition to the below-referenced 2005 constitutional amendment for the same purpose. The amount of all State general obligations that may be issued for, and the amounts of proceeds from those State general obligations that may be committed to, those research and development purposes, are limited to no more than \$450 million total for the period including State Fiscal Years 2006 through 2011, no more than \$225 million in Fiscal Year 2012 and no more than \$175 million in any Fiscal Year thereafter, plus any amounts that in any prior Fiscal Year could have been but were not issued.
- 2009 – authorized the issuance of State general obligation debt to provide compensation to persons who have served in active duty in the United States armed forces at any time during the Persian Gulf, Afghanistan, and Iraq conflicts, with those obligations not subject to the 5% direct obligation debt service cap described above. Not more than \$200 million in obligations could have been issued no later than December 31, 2013.
- 2008 – authorizes the issuance of State bonds for land conservation and revitalization purposes (including statewide brownfields clean-up). For each of the two purposes, the authorization is for not more than \$50 million in principal amount to be issued in any Fiscal Year plus any amount unissued from previous Fiscal Years and not more than \$200 million to be outstanding at any time. The bonds for conservation purposes are general obligations, and those for revitalization purposes are special obligations payable

from revenues and receipts designated by the General Assembly (previously a portion of the State's net liquor profits; see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2012-13**). The authorization is in addition to the 2000 constitutional amendment for the same purposes.

- 2005 – authorizes the issuance over ten years of \$500 million of State general obligation debt in support of research and development, and \$150 million of State general obligation debt for the development of sites for industry, commerce, distribution and research and development, with those obligations not subject to the 5% debt service cap described above. Also authorizes an additional \$1.35 billion of general obligation debt for public infrastructure as a ten-year extension of the existing local government infrastructure program, with an increase in the annual issuance amount from \$120 million to \$150 million in the last five Fiscal Years, which continues to be subject to that 5% debt service cap.
- 2000 – authorizes the issuance of State bonds for land conservation and revitalization purposes (including statewide brownfields clean-up). For each of the two purposes, the amendment authorizes not more than \$50 million in principal amount to be issued in any Fiscal Year plus any amount unissued from previous Fiscal Years and not more than \$200 million to be outstanding at any time. The bonds for conservation purposes are general obligations, and those for revitalization purposes are special obligations payable from revenues and receipts designated by the General Assembly (previously a portion of the State's net liquor profits; see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2012-13**).
- 1999 – authorizes State general obligation debt to pay costs of facilities for a system of common schools throughout the state and for state-supported and state-assisted institutions of higher education. The amendment also provides for the 5% direct obligation debt service cap described above.
- 1995 – authorizes additional highway bonds and extends the local infrastructure bond program. For the latter, it authorized an additional \$1.2 billion of State full faith and credit obligations to be issued over 10 years, with not more than \$120 million to be issued in any Fiscal Year. The highway finance portion authorizes not more than \$1.2 billion to be outstanding at any time and not more than \$220 million to be issued in any Fiscal Year.
- 1994 – pledges the State's full faith and credit and taxing power to meet certain guarantees under the State's tuition credit program, a program that provides for the purchase of tuition credits which are guaranteed to cover a specified amount when applied to tuition and other eligible higher education costs. Under the amendment, to secure the tuition guarantees, the General Assembly shall appropriate money sufficient to offset any deficiency that occurs in the trust fund, at any time necessary to make payment of the full amount of any tuition payment or refund required by a tuition payment contract.
- 1990 – authorizes greater State and political subdivision participation in the provision of individual and family housing. This supplements the previous constitutionally authorized loans-for-lenders and other housing assistance programs, financed in part with State revenue bonds. The amendment authorizes the General Assembly to provide for State assistance for housing in a variety of ways, including State borrowing for the purpose by the issuance of obligations secured by a pledge of all or such portion of State revenues or receipts as it authorizes (but not by a pledge of the State's full faith and credit).
- 1985 – authorizes the issuance of general obligation debt to finance grants or make or guarantee loans for research and development of coal technology that will encourage the use of Ohio coal. Those grants or loans are available to any individual, association, or corporation doing business in the State or to any educational or scientific institution located in the State. Not more than \$100 million may be outstanding at any time.

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ECONOMY AND EMPLOYMENT

Although manufacturing (including auto-related manufacturing) in Ohio remains an integral part of the State's economy, the greatest growth in Ohio's economy in recent years has been in the non-manufacturing sectors. Ohio's 2018 economic output, as measured by gross state product (GSP), totaled \$676.2 billion, 3.30% of the national GDP and seventh largest among the states. The State ranks third within the manufacturing sector as a whole (\$112.2 billion) and fourth in durable goods (\$63.4 billion). As a percent of Ohio's 2018 GSP, 16.6% was attributable to manufacturing, with 22.6% attributable to the goods-producing sectors and 34.3% to the business services sectors, including finance, insurance and real estate. Ohio is the ninth largest exporting state with 2018 merchandise exports totaling \$54.3 billion. The State's leading export products are machinery (including electrical machinery), motor vehicles (including parts), aircraft/spacecraft and plastics, which together accounted for 56.7% of that total.

Non-farm payroll employment in Ohio, in a diversifying employment base, decreased in 2001 through 2003, increased in 2004 through 2006, decreased in 2007 through 2010, and increased in 2011 through 2018. In the last three decades, there has been a shift toward the services industry, with manufacturing employment decreasing since its 1969 peak. The "non-manufacturing" sector employs approximately 87.5% of all non-farm payroll workers in Ohio. The changing mix of employment sectors nationally and in Ohio are shown in the following tables.

Ohio Nonfarm Payroll Jobs by Industry Type Not Seasonally Adjusted (in 000)

	<u>1980</u>	<u>1990*</u>	<u>2000*</u>	<u>2010*</u>	<u>2018*</u>
Mining & Logging.....	31	18	13	11	12
Construction.....	167	192	246	169	219
Manufacturing.....	1,264	1,060	1,021	621	699
Trade, Transportation & Public Utilities...	1,180	963	1,115	945	1,024
Financial Activities.....	204	255	305	277	308
Services.....	831 ¹	n.a.	n.a.	n.a.	n.a.
Professional & Business Services.....	n.a.	455	647	629	731
Educational & Health Services.....	n.a.	539	679	839	936
Leisure & Hospitality.....	n.a.	400	483	475	566
Information & Other Services.....	n.a.	279	331	284	285
Government.....	<u>690</u>	<u>722</u>	<u>785</u>	<u>786</u>	<u>779</u>
TOTAL	4,367	4,882	5,624	5,036	5,560

* Reflects change in the bases for industry classification from the 1987 Standard Industrial Classification (SIC) system to the current 2017 North American Industry Classification System (NAICS). Data since 1990 reflects this change.

¹ Data under SIC system included professional and business, education and health, leisure and hospitality, information and 'other' services under a single "Services" industry category.

Source: U.S. Department of Labor, Bureau of Labor Statistics, National and State Current Employment Statistics.

Distribution of Nonfarm Payroll Jobs by Industry Type (%)

	<u>1980</u>		<u>1990*</u>		<u>2000*</u>		<u>2010*</u>		<u>2018*</u>	
	<u>Ohio</u>	<u>U.S.</u>	<u>Ohio</u>	<u>U.S.</u>	<u>Ohio</u>	<u>U.S.</u>	<u>Ohio</u>	<u>U.S.</u>	<u>Ohio</u>	<u>U.S.</u>
Mining & Logging.....	0.7	1.1	0.4	0.7	0.2	0.5	0.2	0.5	0.2	0.5
Construction.....	3.8	4.8	3.9	4.8	4.4	5.1	3.4	4.2	3.9	4.9
Manufacturing	28.9	22.4	21.7	16.2	18.2	13.1	12.3	8.8	12.6	8.5
Trade, Transportation & Public Utilities	27.0	28.2	19.7	20.7	19.8	19.9	18.8	18.9	18.4	18.6
Financial Activities.....	4.7	5.7	5.2	6.0	5.4	5.9	5.5	5.9	5.5	5.7
Services.....	19.0 ¹	19.8 ¹	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Professional & Business Services.....	n.a.	n.a.	9.3	9.9	11.5	12.6	12.5	12.8	13.2	14.1
Educational & Health Services.....	n.a.	n.a.	11.0	10.1	12.1	11.6	16.7	15.3	16.8	15.9
Leisure & Hospitality.....	n.a.	n.a.	8.2	8.5	8.6	9.0	9.4	10.0	10.2	11.0
Information & Other Services.....	n.a.	n.a.	5.7	6.3	5.9	6.7	5.6	6.2	5.1	5.8
Government	15.8	18.0	14.8	16.8	14.0	15.7	15.6	17.3	14.0	15.1

* Reflects change in the bases for industry classification from the 1987 Standard Industrial Classification (SIC) system to the current 2017 North American Industry Classification System (NAICS). Data since 1990 has been adjusted to reflect this change.

¹ Data under SIC system included professional and business, education and health, leisure and hospitality, information and 'other' services under a single "Services" industry category.

Source: U.S. Department of Labor, Bureau of Labor Statistics, National and State Current Employment Statistics. The distribution percentages are as calculated by OBM.

Ohio and U.S. unemployment rates have been as follows:

Average Monthly Unemployment Rates (Seasonally Adjusted)

<u>Year</u>	<u>Ohio</u>	<u>U.S.</u>
1980.....	8.4%	7.1%
1990.....	5.6	5.6
2000.....	4.0	4.0
2005.....	5.9	5.1
2006.....	5.4	4.6
2007.....	5.6	4.6
2008.....	6.4	5.8
2009.....	10.3	9.3
2010.....	10.3	9.6
2011.....	8.8	8.9
2012.....	7.4	8.1
2013.....	7.5	7.4
2014.....	5.8	6.2
2015.....	4.9	5.3
2016.....	5.0	4.9
2017.....	5.0	4.4
2018.....	4.6	3.9
2019 January.....	4.7	4.0
February.....	4.6	3.8
March.....	4.4	3.8
April.....	4.3	3.6
May.....	4.1	3.6.
June.....	4.0	3.7
July.....	4.0	3.7

Source: Ohio Department of Job and Family Services, Labor Market Information.

The following are the private sector employers that had the highest number of full-time equivalent employees (estimated and rounded) in Ohio in 2019.

OHIO’S TOP 25 PRIVATE SECTOR EMPLOYERS – 2019

<u>Company</u>	<u>Employment Headcount (Estimated)</u>	<u>Sector</u>
Cleveland Clinic Health System	50,825	Health Care
Wal-Mart Stores Inc	49,330	Retail: General Merchandise
Kroger Company	45,340	Retail Food Stores
Mercy Health	31,500	Health Care
University Hospitals Health System	28,000	Health Care
Ohio Health	26,600	Health Care
ProMedica Health System	22,500	Health Care
JPMorgan Chase & Co.	21,000	Finance: Bank
Giant Eagle Inc.	19,000	Retail: Food Stores
Cincinnati Children’s Hospital Medical System	15,660	Health Care
Honda Motor Company	15,000	Motor Vehicles
Golden Gate Capital LP / Bob Evans Restaurants	14,500	Hospitality: Restaurants
United Parcel Service	14,425	Transportation: Air Delivery
Nationwide Mutual Insurance Company	14,000	Finance: Insurance
Premier Health Partners	14,000	Health Care
Lowe’s Companies Inc	13,400	Retail: Home Improvement
TriHealth Inc.	12,500	Health Care
Home Depot Inc.	12,350	Retail: Home Improvement
General Electric Company	12,000	Manufacture: Aerospace/Electrical
Kettering Health Network	12,000	Health Care
Nationwide Children’s Hospital	12,000	Health Care
Berkshire Hathaway	11,800	Retail General Merchandiser
Amazon Inc.	11,500	Retail: General Merchandise
Procter & Gamble Company	11,500	Soaps and Consumer Goods
Progressive Corporation	11,000	Finance, Insurance

Boldface indicates headquartered in Ohio. Source: Development Services Agency, Office of Research, May 2019.

POPULATION

Ohio's 2010 decennial census population of 11,536,504 indicated a 1.6% population growth over 2000 and ranked Ohio seventh among the states in population. The following tables show selected census figures.

Ohio Population — Total and by Age Group

Year	Total	Rank Among States	Decennial Growth Rate	0-19 Years	20-64 Years	65 and Over
1970	10,652,017	6	9.7%	4,124,400	5,539,600	993,500
1980	10,797,630	6	1.4	3,502,900	6,125,200	1,169,500
1990	10,847,115	7	0.5	3,141,000	6,299,100	1,407,000
2000	11,353,140	7	4.7	3,216,000	6,629,400	1,507,800
2010	11,536,504	7	1.6	3,067,126	6,847,363	1,622,015

* July 2018 Census population estimate is 11,689,442.

Source: U.S. Census Bureau Web Site, Population Estimates.

Population of Ohio Metropolitan Areas(a)

	1970	1980	1990	2000	2010
Cleveland.....	2,063,729	1,898,825	2,202,069(b)	2,250,871(b)	2,077,240(b)
Cincinnati	1,106,821	1,100,983	1,526,092(c)	1,646,395(c)	2,130,151(d)
Columbus.....	1,017,847	1,093,316	1,345,450(e)	1,540,157(e)	1,836,536(e)
Dayton.....	852,531	830,070	951,270(f)	950,558(f)	979,835(f)
Akron.....	679,239	660,328	657,575	694,960	703,200
Toledo.....	643,443	656,940	614,128	618,203	651,429
Youngstown-Warren.....	537,124	531,350	600,895(g)	594,746(g)	565,773(g)
Canton.....	393,789	404,421	394,106	406,934	404,422
Lorain-Elyria	256,843	274,909	(b)	(b)	(b)
Hamilton-Middletown	226,207	258,787	291,479	332,807	(d)
Lima.....	210,074	218,244	154,340	155,084	106,331
Mansfield.....	129,997	131,205	174,007(g)	175,818(g)	124,475
Steubenville	96,193	91,564	142,523(h)	132,008(h)	124,454(h)

(a) SMSAs in 1970 & 1980, MSAs in 1990 and 2000 (PMSA's for Cleveland, Cincinnati, Akron, and Hamilton-Middletown).

(b) Lorain-Elyria included with Cleveland.

(c) Includes 12 counties (two in Indiana and six in Kentucky).

(d) Includes 15 counties (three in Indiana and seven in Kentucky); includes Hamilton-Middletown.

(e) Newark added.

(f) Springfield added.

(g) Includes three counties.

(h) Weirton added; includes two counties in West Virginia.

Source: U.S. Census Bureau Web Site, Metropolitan Area Population Estimates.

AGRICULTURAL AND RESOURCES BASES

With 14.0 million acres (of a total land area of 26.4 million acres) in farmland and an estimated 74,500 individual farms, agriculture combined with related agricultural sectors is an important segment of Ohio's economy. Ohio's 2017 crop production value of \$5.3 billion ranked thirteenth among states and represented 2.6% of the U.S. total value. Ohio's 2017 livestock production value of \$3.4 billion ranked nineteenth among states and represented 1.9% of the U.S. total value. Ohio accounts for 3.8% of total U.S. cash receipts for corn and 6.0% for soybeans. In 2017, Ohio's agricultural sector output (consisting of crops, livestock, poultry and dairy, and services and forestry, and all farm-related income) totaled \$9.9 billion and represented 2.4% of the U.S. total value. Ohio purchased inputs (feed, seed, chemicals, fertilizer, livestock, utilities, labor, and machinery) totaled \$5.8 billion. The net farm income on Ohio farms in 2017 was \$1.2 billion.

The availability of natural resources, such as water and energy, is of vital nationwide concern. Ohio has large quantities of these important natural resources. With Lake Erie and the Ohio River on the State's borders, and many lakes and streams throughout the State, water is readily available for all uses. Additionally, Ohio has sizable coal resources ranking seventh among the states in coal reserves and fifteenth in coal production in 2017.

STATE EMPLOYEES AND COLLECTIVE BARGAINING AGREEMENTS

Since 1985, the number of regular State employees (excluding employees who are not paid by State warrant such as state university employees) has ranged from a low of 51,629 at the end of Fiscal Year 2019 to a high of 68,573 in 1994. The State engages in collective bargaining with five employee unions representing 14 bargaining units, and generally operates under three-year agreements. The State's current collective bargaining agreements expire in February through June 2021.

RETIREMENT SYSTEMS

The State has established five public retirement systems to provide retirement, disability retirement and survivor benefits, and other post-employment benefits such as retiree health care. None of these benefits are guaranteed under the Ohio Constitution or under State law, or subject to bargaining under the State's current public employee collective bargaining law.

The Public Employees Retirement System (PERS), the largest of the five, covers both State and local public employees and non-teaching employees at public higher education institutions. The State Teachers Retirement System (STRS) covers teaching employees at school districts and public higher education institutions. The School Employees Retirement System (SERS) covers non-teaching employees at school districts and community colleges. The Highway Patrol Retirement System (HPRS) covers State troopers, and the Ohio Police and Fire Pension Fund (OP&F) covers local safety forces. Full financial information for each retirement system can be found on its website in that system's Comprehensive Annual Financial Report (CAFR).

The five retirement systems began reporting pensions in accordance with GASB Statement No. 67, Financial Reporting for Pension Plans, in Fiscal Year 2014, and the State began reporting pensions in accordance with GASB Statement No. 68, Accounting and Financial Reporting for Pensions, in Fiscal Year 2015. The retirement systems also began reporting in accordance with GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, in Fiscal Year 2017, and the State began reporting in accordance with GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, in Fiscal Year 2018.

The retirement systems were created by and operate pursuant to State law. As reflected in the 2012 pension reform acts discussed below, the General Assembly has the power to amend the structure and benefit levels, impose or revise contribution rates or amounts, and to make other changes. The systems have never been subject to the funding and vesting requirements of the federal Employee Retirement Income Security Act (ERISA). Federal law requires employees hired on or after April 1, 1986 to participate in the Medicare program, with matching employer and employee contributions, each now 1.45% of the wage base. Otherwise, State employees covered by a State retirement system are not currently covered under the federal Social Security Act. Congress has from time to time considered legislation relating to public sector retirement funds and to other aspects of public employee retirement.

Funding for the retirement systems is provided by a combination of public employer and employee contributions based on percentages of each employee's compensation, with the employees' contributions being deducted from their paychecks. Employee contribution percentages are either established in State law or by the retirement system board subject to a maximum contribution amount established in State law. With the exception of employee contributions for PERS law enforcement and public safety personnel, the current contribution percentages for each system (set forth in the following table under **Pension Benefits**) reflect the maximums permitted under State law.

In 1968, the Ohio General Assembly created the Ohio Retirement Study Council (ORSC) to oversee the state's five public retirement systems and to advise and inform the legislature on all matters relating to the benefits, funding, investment, and administration of those systems. The ORSC consists of nine voting members: three members of the House appointed by the Speaker; three members of the Senate appointed by the President; and three members appointed by the Governor (one representing the State, one representing local governments, and the third representing public education institutions). The five executive directors of the retirement systems also serve as nonvoting members of the ORSC.

Under State law, each retirement system's board is required to establish a period of not more than thirty years to amortize its unfunded actuarial accrued pension liability (UAAL). If in any year the period required to amortize that UAAL exceeds thirty years, the board must prepare and submit to the ORSC and the applicable committees in the Ohio General Assembly, a plan to reduce that amortization period to not more than thirty

years. Based on their most recent reporting years reflected in the table below under **Pension Benefits**, all of the retirement systems meet the 30-year funding requirement, with the number of years to fully amortize UAAL at eighteen years for STRS, twenty-three years for HPRS, twenty-six years for SERS, twenty-seven years for PERS, and twenty-eight years for OP&F. Prior to the 2012 pension reform acts described below, the board of each of the five retirement systems had approved and submitted to the ORSC and the Ohio General Assembly a plan to reduce or maintain its amortization period at not more than thirty years. Pursuant to this continuing requirement, the OP&F board increased (effective January 1, 2014) contributions to its pension fund by reducing from 2.85% to 0.5% the amount of employer contributions directed to health care and redirecting the 2.35% difference to pensions, and the STRS board increased (effective July 1, 2014) contributions to its pension fund by redirecting to pensions the 1.0% of employer contributions previously directed to healthcare. The HPRS board also increased (effective January 1, 2018) contributions to its pension fund by reducing from 4.0% to 3.5% the amount of employer contributions directed to its health care fund.

After extensive review, the General Assembly in September 2012 enacted, and the Governor signed into law effective January 7, 2013, five pension reform acts to implement with modifications plans previously submitted by the five retirement systems to reduce or maintain their UAAL periods to or at not more than thirty years. The reform act for PERS made changes including, among others, increasing the years of service and eligibility age necessary to retire with full benefits, increasing from three to five the number of years used in determining “final average salary” for purposes of calculating retirement benefits, reducing the post-retirement cost of living adjustment, and increasing the minimum salary threshold required to earn full-time service credit for public employee eligibility to participate in the system. The other reform acts made similar changes to STRS, SERS, OP&F and HPRS, and enacted phased increases in the employee contribution rate for STRS (from 10% to a maximum of 14% in July 2016) and OP&F (from 10% to a maximum of 12.25% in July 2015). The HPRS board was authorized to increase employee contributions up to a maximum of 14% from 10% beginning in July 2013, and it has implemented this authorization by increasing the employee contribution rate to 11.5% for 2014, 12.5% for 2015 to 2017, and 14.0% for 2018 and thereafter. With the exception of PERS, the reform acts also authorize each retirement system’s board to adjust certain pension benefits levels within limits without General Assembly approval. Under this authority, the post-retirement cost of living adjustment for retirees was eliminated by the STRS board (from 2.0% to 0.0% beginning July 1, 2017) and reduced by the HPRS board (phased down from 3.0% to 1.25% beginning January 1, 2015). As reflected above, these reform acts did not change the requirement that each system establish a period of not more than thirty years to amortize its pension UAAL and prepare and submit to the ORSC and the Ohio General Assembly a plan to reduce that amortization period if it exceeds thirty years.

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Retirement Contributions

The State makes its employer contributions based on a percent of salary for each State employee that is an active member of a state retirement system. Currently, just over 95% of State employees are members of PERS, about 3.2% are in HPRS and about 1.2% are in STRS. The following table summarizes State employer and employee contributions to those retirement systems with State employee members (\$ in millions):

State Fiscal Year	<u>PERS</u>		<u>STRS</u>		<u>HPRS</u>		<u>Total</u>
	Employer/Employee Amount	Pct. of Salary(a)	Employer/Employee Amount	Pct. of Salary	Employer/Employee Amount	Pct. of Salary	Employer/Employee Contributions
2015	\$383.7/\$266.8	14.0%/10.0%	\$5.8/\$4.9	14.0%/12.0%	\$26.7/\$12.0	26.5%/12.5%	\$416.2/\$283.7
2016	395.9/278.4	14.0/10.0	5.7/4.8	14.0/13.0	27.2/12.8	26.5/12.5	428.9/296.0
2017	411.5/289.5	14.0/10.0	5.9/5.4	14.0/14.0	31.1/14.6	26.5/12.5	448.5/309.5
2018	421.5/296.7	14.0/10.0	5.9/5.5	14.0/14.0	30.1/14.6	26.5/12.5	458.3/316.8
2019	433.0/304.6	14.0/10.0	6.0/5.6	14.0/14.0	31.7/14.9	26.5/14.0	470.6/325.1

(a) Reflects PERS state and local contribution rates only. PERS law enforcement employer/employee contribution rate was 18.1%/12.1% in Fiscal Year 2012, increasing in increment to 18.1%/13.0% in Fiscal Year 2014, and public safety was 18.1%/11.5% in Fiscal Year 2012, increasing to 18.1%/12.0% in Fiscal Year 2013.

Source: Contributions based on percent of payroll expenses from State of Ohio accounting system records.

The State also has funded and continues to fund a subsidy to the OP&F system to pay for survivor benefits provided in law and not otherwise funded. The aggregate subsidies were \$40.8 million in the 2016-17 biennium, \$46.1 million in the 2018-19 biennium, and are appropriated at \$69.7 million in the 2020-21 biennium. All State employer contributions are subject to appropriation in each State budget and are included in the appropriations for each department or agency's personnel costs.

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Pension Benefits

The following table summarizes State and local membership and financial data for each of the retirement systems for the most recent year reported by the particular system (\$ in millions):

Valuation as of:	<u>PERS</u> 12/31/18	<u>STRS</u> 07/01/18	<u>SERS(a)</u> 06/30/18	<u>OP&F(b)</u> 01/01/18	<u>HPRS</u> 12/31/18
Active Members.....	292,547	170,327	158,343	28,212	1,668
Retirees and Beneficiaries	219,075	157,422	81,332	29,361	1,671
Employer/Employee Contributions (% of Salary) (c)...	14.0/10.0(d)	14.0/14.0	14.0/10.0	(e)	26.5/14.0
Active Member Payroll	\$14,391.1	\$11,923.7	\$3,332.4	\$2,209.3	\$116.0
Market Value of Assets (MVA) (f).....	\$81,427.2	\$74,916.3	\$14,270.5	\$14,963.6	\$715.5
Actuarial Value of Assets (AVA) (g).....	\$84,287.0	\$73,115.4	\$13,848.0	\$14,594.6	\$769.1
Actuarial Accrued Liability (AAL) (h).....	\$108,704.6	\$96,904.1	\$19,598.1	\$20,887.2	\$1,158.2
Funding Ratio (AVA to AAL %, (MVA to AAL %)) ..	77.5 (74.9)	75.5 (77.3)	70.7 (72.8)	69.9 (71.6)	66.4 (61.8)
Unfunded Actuarial Accrued Liability (UAAL).....	\$24,417.6	\$23,788.7	5,750.1	\$6,292.7	\$389.1
UAAL to Active Member Payroll %	169.7	199.5	172.6	284.8	335.4
UAAL Funding Period (years) (i).....	27	18	26	28	23

(a) SERS information excludes Medicare Part B reimbursement which is considered a post-employment healthcare benefit reported in accordance with GASB Statement 43 for all data except MVA.

(b) OP&F deferred retirement option plan balances are included in MVA, AVA, and AAL.

(c) For PERS and SERS, the maximum employer and employee contribution rates under law are 14.0% and 10.0%. For STRS and HPRS, the maximum employer and employee contributions rates are 14.0/14.0% and 26.5/14.0%, respectively. Each system's board annually determines the portion of the employer contribution, if any, that is directed to fund post-employment health care benefits.

(d) PERS state employer/employee contribution rate is 14.0/10.0%, local is 14.0/10.0%, law enforcement is 18.1/13.0%, and public safety is 18.1/12.0%. PERS state and local employer and employee contribution rates increased to their current statutory maximum of 14.0% and 10.0%, respectively, in calendar year 2008.

(e) OP&F employer and employee contribution rates increased to their current statutory maximum of 19.5/12.25% for police and 24.0/12.25% for fire in July 2015.

(f) Defined contribution plan assets are generally excluded for PERS and included for STRS.

(g) Recognizes assumed investment returns fully each year (7.2% for PERS and HPRS, 7.45% for STRS, 7.5% for SERS, and 8.0% for OP&F). Differences between actual and assumed investment returns, subject to each system's market corridor limitation, are phased-in over a closed four-year period.

(h) Reflects an individual entry age normal actuarial cost method.

(i) UAAL funding period is calculated based on a closed period as a level percent of payroll, except for the portion of PERS members who participate in the member directed plan which uses a closed period as a level dollar of payroll.

Sources: Retirement systems' CAFRs and annual actuarial valuations.

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The following table summarizes financial and funding information for each of the retirement systems for the five years previous to the current year information provided above as reported by the particular system (\$ in millions):

Retirement System Valuation Year-End	Actuarial Value of Assets (AVA)(a)	Actuarial Accrued Liability (AAL)(b)	Unfunded Actuarial Accrued Liability (UAAL)(c)	Funding Ratio (AVA to AAL)	Market Value of Assets (MVA)(d)	Funding Ratio (MVA to AAL)	Active Member Payroll	UAAL Percent of Active Member Payroll
<u>PERS</u>								
12/31/17*	\$83,292.2	\$106,090.0	\$22,797.8	78.5%	\$87,104.9	82.1%	\$14,058.0	162.2%
12/31/16	\$80,279.7	\$100,167.1	\$19,887.4	80.1%	\$77,514.2	77.4%	\$13,717.6	145.0%
12/31/15	\$78,061.0	\$97,177.0	\$19,116.0	80.3%	\$74,560.1	76.7%	\$13,177.0	145.1%
12/31/14	\$74,865.0	\$89,285.0	\$14,420.0	83.8%	\$77,263.2	86.5%	\$12,932.5	111.5%
12/31/13	\$71,411.2	\$86,644.6	\$15,233.4	82.4%	\$74,866.6	86.4%	\$12,331.0	123.5%
<u>STRS</u>								
07/01/17	\$72,216.2	\$96,126.4	\$23,910.2	75.1%	\$72,371.2	75.3%	\$11,557.1	206.9%
07/01/16	\$70,114.6	\$100,756.4	\$30,641.8	69.6%	\$67,283.4	66.8%	\$11,099.6	276.1%
07/01/15	\$68,656.0	\$99,014.7	\$30,358.7	69.3%	\$71,377.6	72.1%	\$10,948.6	277.3%
07/01/14	\$66,657.2	\$96,167.1	\$29,509.9	69.3%	\$71,843.6	74.7%	\$10,725.3	275.1%
07/01/13	\$62,590.8	\$94,366.7	\$31,775.9	66.3%	\$65,392.7	69.3%	\$10,765.6	295.2%
<u>SERS(e)</u>								
06/30/17	\$13,560.0	\$19,186.6	\$5,626.6	70.7%	\$13,613.6	71.0%	\$3,302.8	170.4%
06/30/16	\$13,037.0	\$19,368.6	\$6,331.6	67.3%	\$12,451.6	64.3%	\$2,932.2	215.9%
06/30/15	\$12,467.0	\$18,122.0	\$5,655.0	68.8%	\$12,797.2	70.6%	\$2,845.4	198.7%
06/30/14	\$11,903.0	\$17,492.0	\$5,589.0	68.0%	\$12,820.9	73.3%	\$2,759.3	202.6%
06/30/13	\$11,007.0	\$16,860.0	\$5,853.0	65.3%	\$11,300.5	67.0%	\$2,746.8	213.1%
<u>OP&F(f)</u>								
01/01/17	\$14,162.5	\$20,290.4	\$6,127.9	69.8%	\$13,682.4	67.4%	\$2,180.9	281.0%
01/01/16	\$13,653.0	\$19,135.9	\$5,482.9	71.3%	\$12,923.9	67.5%	\$2,060.9	266.1%
01/01/15	\$13,029.3	\$18,395.6	\$5,366.3	70.8%	\$13,453.4	73.1%	\$1,986.6	270.1%
01/01/14	\$11,063.2	\$16,577.8	\$5,514.6	66.7%	\$11,920.5	71.9%	\$1,942.3	283.9%
01/01/13	\$10,278.0	\$16,007.9	\$5,729.9	64.2%	\$10,602.8	66.2%	\$1,913.4	299.5%
<u>HPRS</u>								
12/31/17	\$774.7	\$1,153.6	\$378.9	67.2%	\$786.4	68.2%	\$112.7	336.2%
12/31/16	\$763.7	\$1,127.9	\$364.3	67.7%	\$721.7	64.0%	\$108.8	334.8%
12/31/15	\$739.8	\$1,079.0	\$339.1	68.6%	\$704.2	65.3%	\$100.0	339.2%
12/31/14	\$712.3	\$1,012.8	\$300.5	70.3%	\$740.7	73.1%	\$99.2	302.9%
12/31/13	\$690.6	\$989.1	\$298.5	69.8%	\$729.0	73.7%	\$98.5	303.0%

(a) Recognizes the assumed long-term investment return fully for each particular year. Differences between actual and assumed investment returns, subject to each system's market corridor limitation, are phased-in over a closed four-year period.

(b) Reflects an individual entry age actuarial cost method.

(c) UAAL is calculated based on a closed period as a level percent of payroll, except for STRS in 2013-2014 and OP&F in 2013-2014 for which UAAL is calculated based on an open period of time and the portion of PERS members who participate in the member directed plan which uses a level dollar of payroll.

(d) Defined contribution plan assets are excluded for PERS, except for annuitized define contribution assets, and included for STRS.

(e) Excludes Medicare Part B reimbursement which is considered a post-employment health care benefit reported in accordance with GASB 43 for all data except MVA.

(f) Effective with the January 1, 2015 valuation, OP&F deferred retirement option plan balances are included in AVA, AAL, and MVA.

*Reflects revised actuarial assumptions based on change in discount rate from 7.5% to 7.2%.

Sources: Retirement systems' CAFRs and annual actuarial valuations.

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GASB Statements No. 67 & 68. GASB Statement No. 67 replaced prior accounting standards for reporting pension plan information beginning in Fiscal Year 2014. Under this new accounting standard, the reporting of unfunded actuarial accrued liability (UAAL) has been replaced by the net pension liability (NPL). The NPL represents the excess of the total pension liability over fiduciary net position. The components of the NPL and the sensitivity of the NPL to changes in the single discount rate for each of the retirement systems for the most recent year are as follows (\$ in millions):

	<u>PERS(a)</u> 12/31/18	<u>STRS</u> 07/01/18	<u>SERS</u> 06/30/18	<u>OP&F</u> 12/31/18	<u>HPRS</u> 12/31/18
Valuation as of:					
Total Pension Liability (b)(c).....	\$108,701.2	\$96,904.1	\$19,997.7	\$22,103.7(e)	\$1,472.3(f)
Fiduciary Net Position (d).....	\$81,427.2	\$74,916.3	\$14,270.5	\$13,941.1	\$715.5
Net Pension Liability (NPL).....	\$27,274.0	\$21,987.8	\$5,727.2	\$8,162.6	\$756.9
Fiduciary Net Position as a Percentage of					
Total Pension Liability.....	74.9%	77.3%	71.4%	63.1%	48.6%
NPL Calculated With 1% Decrease in Discount Rate.....	\$40,422.4	\$32,110.2	\$8,067.2	\$10,729.2	\$951.7
NPL Calculated With 1% Increase in Discount Rate.....	\$16,354.7	\$13,420.5	\$3,765.3	\$6,017.9	\$608.0

- (a) For PERS, figures reflect the traditional plan, the defined benefit portion of the combined plan, and the defined benefit annuities portion of the member-directed plan.
- (b) Reflects a single discount rate of 7.2% for PERS, 7.45% for STRS, 7.5% for SERS, and 8.00% for OP&F. The projection of cash flows used to determine the discount rate assumed that employee and employer contributions are made at the actuarially determined rates under State law. Based on those assumptions, the fiduciary net position was projected to be available to make all projected future benefit payments. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of project benefit payments to determine total pension liability. Also reflects an individual entry age actuarial cost method.
- (c) For HPRS, the fiduciary net position was not projected to be sufficient to make all projected future benefit payments and, therefore, a blended discount rate of 3.84% was used. The blended discount rate represents the long-term expected rate of return for the funded benefit payments and a tax-exempt, high-quality municipal bond rate for the unfunded benefit payment.
- (d) Based on the market value of assets.
- (e) Total pension liability was determined by an actuarial valuation as of 01/01/18, and updated with roll-forward procedures to 12/31/18.
- (f) Total pension liability was determined by an actuarial valuation as of 12/31/17, and updated with roll-forward procedures to 12/31/18.
- Sources: Retirement systems' CAFRs and annual actuarial valuations.

GASB Statement No. 68 replaced prior accounting standards for state and local governments reporting of pension plan information beginning in Fiscal Year 2015. This new accounting standard requires employers and non-employer contributing entities to report a proportionate share of their NPL in their financial statements. Employers determine their proportionate share of NPL by comparing their current year contributions to the plan to current year contributions to the plan made by all employers and non-employer entities, based on information provided to them by their retirement system(s). The State's proportionate share of the NPL and the sensitivity of the NPL to changes in the single discount rate for PERS, STRS and HPRS for the most recent year are as follows (\$ in millions):

	<u>PERS(a)</u> 12/31/17	<u>STRS</u> 07/01/17	<u>HPRS</u> 12/31/17
Valuation as of:			
Total Pension Liability (b).....	\$102,653.3	\$96,126.4	\$1,178.5(d)
Fiduciary Net Position (c).....	\$87,104.9	\$72,371.2	\$786.4
Net Pension Liability (NPL).....	\$15,548.4	\$23,755.2	\$392.2
State Proportionate Share of			
Net Pension Liability (PSL).....	\$3,245.3	\$90.4	\$392.2
PSL as a Percentage of NPL	20.9%	0.4%	100.0%
PSL Calculated With 1% Decrease in Discount Rate.....	\$5,795.0	\$129.6	\$523.8
PSL Calculated With 1% Increase in Discount Rate	\$1,121.4	\$57.4	\$282.4

- (a) For PERS, figures reflect the traditional plan, the defined benefit portion of the combined plan, and the defined benefit annuities portion of the member-directed plan.
- (b) Reflects a single discount rate of 7.5% for PERS, 7.45% for STRS, and 7.75% for HPRS.
- (c) Based on the market value of assets.
- (d) Total pension liability was determined by an actuarial valuation as of 12/31/16, and updated with roll-forward procedures to 12/31/17.
- Sources: State of Ohio Fiscal Year 2018 CAFR, retirement systems' CAFRs and annual actuarial valuations.

Other Post-Employment Benefits

Each of the State's public retirement systems also offers post-employment health care benefits to its members. Contributions to and benefits under these health care programs are not vested and, as reflected by the recent actions of the OP&F and STRS boards described above, are subject to future adjustment by their respective boards. In this regard, PERS adopted, beginning in 2004, a series of health care preservation plans to adjust benefits and contributions by employers, employees, and retirees. In 2017 STRS implemented benefit adjustments that when coupled with strong investment returns and positive claims experience had a positive effect on its health care program. In 2019 OP&F replaced its health care plan with a new stipend-based health care model that also had a positive effect on its health care program.

The following table presents a summary of assets and actuarial accrued liabilities for post-employment healthcare benefits for each of the State's public retirement systems (\$ in millions):

Valuation as of:	<u>PERS</u> 12/31/17*	<u>STRS</u> 06/30/18	<u>SERS</u> 06/30/18	<u>OP&F(a)</u> 12/31/18	<u>HPRS</u> 12/31/18
Value of Assets (b)	\$12,021.4	\$3,721.3	\$435.6	n/a	\$109.5
Actuarial Accrued Liability (AAL) (c)	\$18,393.0	\$2,114.5	\$2,524.9	n/a	\$262.0
Unfunded Actuarial Accrued Liability (UAAL) (d)	\$6,372.0	(\$1,606.9)	\$2,089.3	n/a	\$152.5
Funding Ratio (Assets to AAL %)	65.4%	176.0%	17.3%	n/a	41.8%
Employer Contribution (% of Salary) (e).....	1.0%	0.0%	0.5%(f)	0.5%	3.5%

- (a) OP&F is no longer reporting unfunded actuarial accrued liabilities under prior accounting standards. See GASB Statement No. 74 table below for information on the reporting of post-employment benefit plans other than pension plans.
- (b) For PERS and HPRS, investment returns are recognized fully each year with the differences between actual and assumed investment returns (assumed at 6.0% for PERS and 7.25% for HPRS), subject to each system's market corridor limitation, phased-in over a closed four-year period. For STRS and SERS, reflects market value. For PERS, includes assets for member-directed plan participants.
- (c) Reflects an individual entry age normal actuarial cost method.
- (d) UAAL is calculated based on an open period as a level percent of payroll.
- (e) Each system's board annually determines the portion of the employer contribution, if any, that is directed to fund post-employment health care benefits. See discussion above for recent adjustments by OP&F, STRS and HPRS boards to employer contribution directed to fund health care benefits.
- (f) SERS also collects a health care surcharge from employers for employees who earn less than an actuarially determined minimum compensation amount. This amount is in addition to the amount allocated to health care from the employer contributions.

*Reflects revised actuarial assumptions based on change in discount rate from 6.5% to 6.0%.

Sources: Retirement systems' CAFRs and annual actuarial valuations.

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The following table presents a summary of assets and actuarial accrued liabilities for post-employment healthcare benefits for the four years previous to the current year information provided above for each of the State's public retirement systems (\$ in millions). For Fiscal Years 2016 and prior, financial reporting of health care plans is in compliance with GASB Statement 43 -- Financial Reporting for Post-Employment Benefit Plans Other than Pension Plans.

Retirement System Valuation Year-End	Value of Assets(a)	Actuarial Accrued Liability (AAL)(b)	Unfunded Actuarial Accrued Liability(c)	Funding Ratio (Assets to AAL)	Employer Contribution (% of Salary)(d)(e)
<u>PERS</u>					
12/31/16	\$12,098.2	\$19,924.4	\$7,826.2	60.7%	2.0%
12/31/15*	\$11,933.1	\$19,224.0	\$7,291.0	62.1%	2.0%
12/31/15	\$11,933.1	\$18,514.6	\$6,581.5	64.5%	2.0%
12/31/14	\$12,062.4	\$19,404.9	\$7,342.5	62.2%	2.0%
12/31/13	\$12,031.4	\$19,784.1	\$7,752.7	60.8%	1.0%
<u>STRS</u>					
01/01/18	\$3,691.4	\$2,416.0	(\$1,275.4)	152.8%	0.0%
01/01/17	\$3,222.1	\$5,886.2	\$2,664.1	54.7%	0.0%
01/01/16	\$3,258.2	\$5,154.2	\$1,896.0	63.2%	0.0%
01/01/15	\$3,454.4	\$4,676.2	\$1,221.9	73.9%	0.0%
<u>SERS</u>					
06/30/17	\$382.1	\$2,396.5	\$2,014.4	15.9%	0.0%
06/30/16	\$370.2	\$2,407.3	\$2,037.1	15.4%	0.0%
06/30/15	\$408.4	\$2,424.5	\$2,016.2	16.8%	0.82%
06/30/14	\$413.9	\$2,475.6	\$2,061.8	16.7%	0.14%
<u>OP&F</u>					
01/01/17	\$901.7	\$5,487.8	\$4,586.2	16.4%	0.50%
01/01/16	\$929.4	\$5,166.6	\$4,237.2	18.0%	0.50%
01/01/15	\$1,031.9	\$5,399.6	\$4,367.6	19.1%	0.50%
01/01/14	\$1,053.5	\$5,244.6	\$4,191.0	20.1%	0.50%
<u>HPRS</u>					
12/31/17	\$110.1	\$248.1	\$138.0	44.4%	3.50%
12/31/16	\$108.3	\$403.7	\$295.4	26.8%	4.00%
12/31/15	\$106.6	\$412.4	\$305.8	25.8%	4.00%
12/31/14	\$103.8	\$376.7	\$272.9	27.6%	4.30%

(a) For PERS & HPRS, recognizes investment returns fully each year (assumed at 5%) with the differences between actual and assumed investment returns, subject to each system's market corridor limitation, phased-in over a closed four-year period. For STRS, SERS and OP&F, reflects market value.

(b) Reflects an individual entry age normal actuarial cost method.

(c) UAAL is calculated based on an open period as a level percent of payroll.

(d) Each system's board annually determines the portion of the employer contribution, if any, that is directed to fund post-employment health care benefits.

(e) SERS also collects a health care surcharge from employers for employees who earn less than an actuarially determined minimum compensation amount. This amount is in addition to the amount allocated to health care from the employer contributions.

*Reflects revised actuarial assumptions based on completion of a five-year experience study.

Sources: Retirement systems' annual actuarial valuations.

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GASB Statements No. 74 & 75. GASB Statement No. 74 replaced prior accounting standards for reporting post-employment benefit plans other than pension plans (OPEB) beginning in Fiscal Year 2017. Under this new accounting standard, the reporting of unfunded actuarial accrued liability has been replaced by the net OPEB liability (NOL). The NOL represents the excess of the total OPEB liability over fiduciary net position. The components of the NOL and the sensitivity of the NOL to changes in the single discount rate for those retirement systems that have reported information for the most recent year are as follows (\$ in millions):

Valuation as of:	<u>PERS</u>	<u>STRS</u>	<u>SERS</u>	<u>OP&F</u>	<u>HPRS</u>
	<u>12/31/18</u>	<u>06/30/18</u>	<u>06/30/18</u>	<u>12/31/18</u>	<u>12/31/18</u>
Total OPEB Liability (a)(b).....	\$24,290.6(d)	\$2,114.5	\$3,209.9	\$1,704.4(e)	\$459.6(d)
Fiduciary Net Position (c).....	\$11,252.9	\$3,721.3	\$435.6	\$793.8	\$101.8
Net OPEB Liability (NOL).....	\$13,037.7	(\$1,606.9)	\$2,774.3	\$910.7	\$357.8
Fiduciary Net Position as a Percentage of					
Total OPEB Liability.....	46.3%	176.0%	13.6%	46.6%	22.2%
NOL Calculated With 1% Decrease in Discount Rate....	\$16,680.1	(\$1,377.3)	\$3,366.4	\$1,109.4	\$445.6
NOL Calculated With 1% Increase in Discount Rate.....	\$10,141.6	(\$1,799.9)	\$2,305.4	\$743.8	\$289.1
NOL Calculated With 1% Decrease in Cost Trend Rate	\$12,531.6	(\$1,789.0)	\$2,238.3	n/a	291.8
NOL Calculated With 1% Increase in Cost Trend Rate..	\$13,619.8	(\$1,422.0)	\$3,484.0	n/a	434.9

(a) For PERS, SERS and HPRS, the fiduciary net position was not projected to be sufficient to make all projected future benefit payments and, therefore, blended discount rates of 3.96%, 3.70% and 3.82%, respectively, were used. The blended discount rates represent the long-term expected rate of return for the funded benefit payments and a tax-exempt, high-quality municipal bond rate for the unfunded benefit payment. For STRS, the fiduciary net position was projected to be sufficient to make all projected future benefit payments and, therefore, a discount rate of 7.45%, representing the long-term expected rate of return on assets, was used. For OP&F, the fiduciary net position was projected to be available to make projected future benefit payments until 2031 and, therefore, a single discount rate of 4.66%, representing a tax-exempt, high quality municipal bond rate, was used. After 2031, benefit payments will be funded on a pay-as-you go basis.

(b) For all retirement systems, reflects an individual entry age normal actuarial cost method as a level percent of payroll.

(c) Based on the market value of assets.

(d) Total OPEB liability was determined by an actuarial valuation as of 12/31/17, and updated with roll-forward procedures to 12/31/18.

(e) Total OPEB liability was determined by an actuarial valuation as of 01/01/18, and updated with roll-forward procedures to 12/31/18.

Sources: Retirement systems' CAFRs.

GASB Statement No. 75 replaced prior accounting standards for state and local governments reporting of postemployment benefit plans other than pensions beginning in Fiscal Year 2018. This new accounting standard requires employers and non-employer contributing entities to report a proportionate share of their NOL in their financial statements. Employers determine their proportionate share of NOL by comparing their current year contributions to the plan to current year contributions to the plan made by all employers and non-employer entities, based on information provided to them by their retirement system(s). The State's proportionate share of the NOL and the sensitivity of the NOL to changes in the single discount rate for PERS, STRS and HPRS for the most recent year are as follows (\$ in millions):

Valuation as of:	<u>PERS</u>	<u>STRS</u>	<u>HPRS</u>
	<u>12/31/17</u>	<u>06/30/17</u>	<u>12/31/17</u>
Total OPEB Liability (a).....	\$23,678.1(c)	\$7,377.4(d)	\$566.1(e)
Fiduciary Net Position (b).....	\$12,818.8	\$3,475.8	\$111.8
Net OPEB Liability (NOL).....	\$10,859.3	\$3,901.6	\$454.3
State Proportionate Share of			
Net OPEB Liability (PSL).....	\$2,252.4	\$14.9	\$454.3
PSL as a Percentage of NOL.....	20.7%	0.4%	100.0%
PSL Calculated With 1% Decrease in Discount Rate.....	\$2,992.4	\$19.9	\$573.8
PSL Calculated With 1% Increase in Discount Rate.....	\$1,653.8	\$10.8	\$362.4
PSL Calculated With 1% Decrease in Cost Trend Rate.....	\$2,155.1	\$10.3	\$367.9
PSL Calculated With 1% Increase in Cost Trend Rate.....	\$2,353.0	\$20.8	\$555.5

(a) The fiduciary net position was not projected to be available to make all projected future benefit payments and, therefore, blended discount rates of 3.85% for PERS, 4.13% for STRS, and 3.42% for HPRS were used. The blended discount rates represent the long-term expected rate of return for the funded benefit payments and a tax-exempt, high-quality municipal bond rate for the unfunded benefit payment.

(b) Based on the market value of assets.

(c) Total OPEB liability was determined by an actuarial valuation as of 12/31/16, and updated with roll-forward procedures to 12/31/17.

(d) Total OPEB liability was determined by an actuarial valuation as of 01/01/17, and updated with roll-forward procedures to 06/30/17.

(e) Total OPEB liability was determined by an actuarial valuation as of 01/01/17, and updated with roll-forward procedures to 12/31/17.

Sources: State of Ohio Fiscal Year 2018 CAFR and retirement systems' CAFRs.

TAX LEVELS AND TAX BASES

The variety of taxes and excises levied by the State is indicated in several tables in this Appendix. According to the Federation of Tax Administrators, citing the U.S. Census Bureau as its source, Ohio ranked 35th in state taxes per capita in 2017. Three major tax bases in the State, personal income (taxed by the State and municipalities and, with voter approval, by certain school districts), retail sales and use (taxed by the State and counties and transit authorities), and real and tangible personal property of public utilities (taxed by local governments and school districts), are described below. The State also levies a commercial activity tax on business activities as described below.

The State also imposes a tax on the use, distribution, or sale of motor vehicle fuel. This “gasoline” tax was raised by 10.5 cents per gallon effective July 1, 2019 to 38.5 cents per gallon (approximately one cent of this tax is specifically directed to local highway-related infrastructure projects).

Sales and Use Tax

The State sales and use tax rate was increased one-quarter percent from 5.5% to 5.75% beginning September 1, 2013 (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2014-15**). Prior to this increase, the rate had been 5.5% since July 1, 2005. The sales and use tax is levied uniformly across counties on retail sales of tangible personal property that are not specifically exempt. Retail sales include the rental and storage of tangible personal property, the rental of hotel rooms, and certain specified services including, but not limited to, repair and installation services, data processing, computer, and electronic information services, telecommunication and certain personal care services.

Counties and transit authorities each are authorized to levy permissive sales and use taxes at rates of 0.25% to 1.5% in quarter-percent increments and beginning in Fiscal Year 2019 in one-tenth percent increments. The highest potential aggregate of State and permissive local sales taxes is 8.75% and the highest currently levied in any county is 8%. The State collects the combined state and local tax and returns the local share directly to the counties and transit authorities.

Personal Income Tax

Under recent legislation, State personal income tax rates, applying generally to federal adjusted gross income minus (or plus) adjustments and personal exemptions, were reduced by 8.5% in calendar year 2013, 1.5% in calendar year 2014, 6.3% in calendar year 2015 (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2014-15 and 2016-17**) and 4.0% in tax year 2019 (see **FISCAL MATTERS – Recent and Current Finances – Current Biennium**). Recent legislation also established a deduction for pass-through entities and sole proprietorships annual business net income of 75% in tax years 2014 and 2015, and 100% in tax year 2016 and beyond, up to \$250,000 per taxpayer (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2014-15 and 2016-17**). Previously, personal income tax rates were reduced by 21% across five installments (4.2% annually in each of the tax years 2005 through 2008, with the final 4.2% reduction delayed from tax year 2009 to tax year 2011).

The 2018 personal income tax rates (adjusted for inflation) ranged from \$80.56 plus 1.98% on incomes more than \$10,851 but less than \$16,300, with increasing bracketed base rates and percentages up to a maximum on incomes over \$217,400 of \$8,333 plus 4.997% on the amount over \$217,400.

The Constitution requires 50% of State income tax receipts to be returned to the political subdivisions or school districts in which those receipts originate. There is no present constitutional limit on income tax rates.

Municipalities and school districts, and joint economic development districts and zones, may also levy certain income taxes. Any municipal rate (applying generally to wages and salaries and business net income) over 1%, and any school district income tax (applying generally to the State income tax base for individuals and estates), requires voter approval. Most cities and villages levy a municipal income tax. The highest municipal rate in 2018 was 3%. A school district income tax is currently approved in 197 districts. Each joint economic development district or zone may also levy an income tax (which like municipal income taxes applies generally to wages and salaries and business net income) with the rate of that tax limited to the highest income tax rate of a municipal member of the district or zone). Effective July 1, 2005, there may also be proposed for voter approval municipal income taxes to be shared with school districts, but those taxes may not be levied on the income of nonresidents.

Since 1970 the ratio of Ohio to U.S. aggregate personal income has declined, with Ohio's ranking among the states moving from fifth in 1970 to seventh in 1990, and eighth since 2000. This movement, portrayed below, in significant measure reflects "catching up" by several other states and a trend in Ohio toward more service sector employment.

Personal Income (\$ in Billions)

		<u>U.S.</u>	<u>Ohio</u>	<u>Ohio Percent of U.S.</u>	<u>State Rank*</u>
1970	Total.....	\$855.1	\$44.1	5.2%	5
	per capita.....	4,196	4,136	98.6	18
1980	Total.....	2,307.0	107.0	4.6	6
	per capita.....	10,153	9,909	97.6	25
1990	Total.....	4,890.5	202.8	4.1	7
	per capita.....	19,591	18,669	95.3	21
2000	Total.....	8,650.3	326.0	3.8	8
	per capita.....	30,657	28,684	93.6	26
2010	Total.....	12,542.0	423.1	3.4	8
	per capita.....	40,546	36,663	90.4	32
2015	Total.....	15,711.6	515.9	3.3	8
	per capita.....	44,406	48,985	90.7	29
2016	Total.....	16,115.6	525.1	3.3	8
	per capita.....	45,127	49,883	90.5	29
2017	Total.....	16,820.3	544.8	3.2	8
	per capita.....	46,710	51,731	90.3	29
2018**	Total.....	17,572.9	563.9	3.2	8
	per capita.....	53,712	48,242	89.8	29

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

* Excludes District of Columbia.

** Preliminary data.

In addition to personal income, the retail sales base is an important indicator of sales and use tax receipts.

Retail Sales (\$ in Billions)

<u>Fiscal Year</u>	<u>Ohio Retail Sales</u>	<u>U.S. Retail Sales</u>	<u>Ohio Percent of U.S.</u>
1980	\$39.01	\$979.25	4.0%
1990	66.95	1,914.04	3.5
2000	117.72	3,213.82	3.6
2010	133.44	4,170.78	3.2
2016	166.34	5,417.16	3.1
2017	170.40	5,620.10	3.0
2018	172.82	5,905.83	2.9

Source: Calculated by Global Insight based on data from the U.S. Department of Commerce, Bureau of the Census.

Commercial Activity Tax

The State implemented a new commercial activity tax (CAT) on taxable gross receipts in excess of \$1,000,000 from doing business in Ohio phased-in over Fiscal Years 2006 through 2010 until levied at the current rate of 0.26%. Beginning calendar year 2014, the State established a variable minimum tax on the CAT for businesses with taxable gross receipts greater than \$1 million (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2014-15**). The State phased-out over the same general period its corporate franchise tax in equal annual increments over the 2006 through 2010 tax years, except for application to financial institutions and certain affiliates of insurance companies and financial institutions which was replaced with a new financial institutions tax effective tax year 2014 (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2012-13 and 2014-15**). On December 7, 2012, the Ohio Supreme Court upheld the application of the CAT to gross receipts from the sales of motor fuels but ordered that the proceeds of the CAT derived from those gross receipts – estimated by OBM at approximately \$100 million annually – could not in the future be applied to non-highway purposes. Under provisions enacted in the biennial appropriations Act for the 2014-15 biennium and other legislation, the State phased-out the CAT on the sale of motor vehicle fuel and replaced it with a "petroleum activity tax" (PAT), computed on the basis of the average price of a gallon of gasoline or diesel fuel. In accordance with the Ohio Supreme Court's ruling, PAT receipts are required to be used for highway purposes.

As described further below, the receipts from the CAT are directed in part to make compensating payments to school districts and other local taxing units in connection with the phase-out of the tangible personal property tax in 2006 through 2009. Beginning in Fiscal Year 2012, the State has accelerated the phase-out of compensating payments to school districts and local governments resulting in an increased share of the CAT being deposited into the GRF (see **Property Tax** below and **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2014-15, 2016-17 and 2018-19**).

Property Tax

The following table lists, for informational purposes only, the non-exempt real and tangible personal property tax base in the State and taxes levied on that base (on a calendar year basis). Only local taxing subdivisions, and not the State, currently tax the real and tangible personal property included in this table. Reported figures for 2018 show that these property taxes represent 3.30% of Ohio personal income.

		<u>Assessed Value (a)</u>	<u>Percent of True Value (b)</u>	<u>Taxes Charged</u>
1980	Real(c).....	\$56,457,842,607	27.1%	\$2,343,384,488(e)
	Tangible(d).....	15,649,200,844	39.2	765,047,826
	Public Utility(c).....	8,670,052,613	83.3	411,321,235
1990	Real.....	93,857,482,000	35.0	4,593,147,000(e)
	Tangible(d).....	18,473,055,000	28.0	1,149,643,000
	Public Utility(c)(f).....	12,934,191,000	88.6	799,396,000
2000	Real.....	167,857,657,350	35.0	8,697,809,112(e)
	Tangible(d).....	23,298,302,564	25.0	1,720,740,378
	Public Utility(c)(f).....	13,635,709,860	67.0	967,674,709
2010	Real.....	238,264,394,249	35.0	14,486,087,962(e)
	Tangible(d).....	320,961,400	5.0(b)	18,432,832
	Public Utility(c)(f).....	10,096,712,600(g)	52.9	747,237,219
2015	Real.....	234,225,079,130	35.0	15,676,144,409(e)
	Tangible(d).....	-0-	-0-(b)	-0-
	Public Utility(c)(f).....	14,111,055,940(g)	52.9	1,120,681,300
2016	Real.....	238,100,197,518	35.0	16,170,309,495(e)
	Tangible(d).....	-0-	-0-(b)	-0-
	Public Utility(c)(f).....	15,962,565,444(g)	56.8	1,271,855,503
2017	Real.....	247,070,913,220	35.0	16,591,449,814(e)
	Tangible(d).....	-0-	-0-(b)	-0-
	Public Utility(c)(f).....	16,700,657,510(g)(h)	58.7	1,347,897,157
2018	Real.....	255,789,561,245	35.0	17,060,795,040(e)
	Tangible(d).....	-0-	-0-(b)	-0-
	Public Utility(c)(f).....	19,220,171,390(g)(h)	60.67	1,533,994,082

- (a) Increases in assessed value of “Real” are in part products of reappraisals.
 - (b) Regular annual reductions for “Tangible” (except for most public utility tangible) reached 0% in 2009; only telecommunication and telephone personal property was taxable in 2009 and 2010.
 - (c) Includes public utility personal property owned and located within Ohio and railroad real property; excludes public utility real property.
 - (d) Includes machinery, inventories, fixtures; effective tax year 2007 includes telephone company property. Excludes public utility tangible property. Effective tax year 2009 includes only telephone company property.
 - (e) Includes the statutory 10% rollback (12.5% for owner-occupied residences) and elderly/handicapped partial exemption amounts, paid by the State to local taxing entities to compensate for statutory reductions in local tax collections. Effective for tax year 2005 and thereafter, the 10% rollback was eliminated for real property used in business, with exceptions for certain property used in farming or for housing. The 12.5% rollback for owner-occupied residences was eliminated for new voter-approved tax levies (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia – 2018-19**).
 - (f) Beginning in 1990, the true value of most public utility property is based on annual composite allowances that vary according to the type and age of property.
 - (g) Beginning in 2001, the statutory assessment rate for electric and gas utilities decreased from 88% to 25%.
 - (h) The statutory assessment rate for waterworks utilities is 88%, except for certain property first subject to taxation in 2017 is 25%.
- Source: Ohio Department of Taxation.

Under State legislation effective July 1, 2005 and as reflected in the above table, the tangible personal property tax (TPPT) (including that tax on inventories) was phased out over tax years 2006 through 2009, with that tax generally eliminated beginning in tax year 2009. That legislation provided for the State to make replacement distributions to school districts and other local taxing units from revenue generated by the State commercial activity tax (CAT). Distributions were and are generally based on the taxable value of tangible personal property as reported in 2004 and property tax levies in effect for 2005. In Fiscal Year 2012, the State began phasing-out those TPPT replacement payments to schools and local governments with replacement payments to schools reduced by two percent of each district’s total resources in each of Fiscal Years 2012 and 2013 for a total reduction of four percent; and replacement payments to local governments reduced by two

percent of total resources for tax years 2011, 2012, and 2013 for a total reduction of six percent. Replacement payments were then frozen in Fiscal Years 2014 and 2015. The phasing out of these replacement payments resumed beginning in Fiscal Year 2016, with payments to school districts to be reduced in Fiscal Years 2016 and 2017 by between 1% and 2% of each district's total resources with the variance based on district wealth levels, with guarantees in both Fiscal Year 2016 and Fiscal Year 2017 that no district will fall below 100% and 96%, respectively, of its Fiscal Year 2015 total funding level. Fiscal Year 2016 and thereafter replacement payments to other local governments are reduced annually by two percent of their total resources (see **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2016-17**).

Beginning July 2007, the State's homestead exemption program, which takes the form of a credit on local residential real property tax bills, was expanded to allow all senior citizens and disabled Ohioans, regardless of income, to exempt from tax the first \$25,000 of the market value of their home. Previously eligibility was restricted and benefits were tiered based on income. Beginning July 1, 2013, eligibility for new applicants is based on income (see **FISCAL MATTERS – Recent and Current Finances - Recent Biennia – 2014-15**). The total cost of the homestead exemption program in Fiscal Year 2017 was \$446.3 million, in Fiscal Year 2018 was \$434.7 million, and in Fiscal Year 2019 was \$418.8 million.

Property tax relief payments by the State to local subdivisions totaled \$3.58 billion for the 2016-17 biennium, \$3.60 billion for the 2018-19 biennium, and are appropriated at \$3.70 billion for the 2020-21 biennium.

SCHOOLS AND MUNICIPALITIES

Schools

Litigation was commenced in the Ohio courts in 1991 questioning the constitutionality of Ohio's system of school funding and compliance with the constitutional requirement that the State provide a "thorough and efficient system of common schools". On December 11, 2002, the Ohio Supreme Court, in a 4-3 decision on a motion to reconsider its own decision rendered in September 2001, concluded (as it had in its 1997 and 2000 opinions in that litigation) that the State did not comply with that requirement, even after again noting and crediting significant State steps in preceding years.

In its prior decisions, the Ohio Supreme Court stated as general base threshold requirements that every school district have enough funds to operate, an appropriate number of teachers, sound and safe buildings, and equipment sufficient for all students to be afforded an educational opportunity. With particular respect to funding sources, the Court concluded in 1997 and 2000 decisions that property taxes no longer may be the primary means of school funding in Ohio.

On March 4, 2003, the plaintiffs filed with the original trial court a motion to schedule and conduct a conference to address compliance with the orders of the court in that case, the State petitioned the Ohio Supreme Court to issue a writ prohibiting that conference on compliance, and the trial court subsequently petitioned the Ohio Supreme Court for guidance as to the proper course to follow. On May 16, 2003, the Ohio Supreme Court granted that writ and ordered the dismissal of the motion before the trial court. On October 20, 2003, the United States Supreme Court declined to accept the plaintiffs' subsequent petition requesting further review of the case.

In the years following this litigation, the General Assembly has taken steps, including significantly increasing State funding for public schools, as discussed below. In addition, at the November 1999 election, electors approved a constitutional amendment authorizing the issuance of State general obligation debt for school buildings and for higher education facilities (see discussion under **STATE DEBT**). December 2000 legislation also addressed certain mandated programs and reserves, characterized by the plaintiffs and the Court as "unfunded mandates."

Under the financial structure in place before the 2009-10 biennium, Ohio's 613 public school districts and 49 joint vocational school districts received a major portion (but less than 50%) of their operating moneys from State subsidy appropriations (the primary portion of which is known as the Foundation Program) distributed in accordance with statutory formulae that take into account both local needs and local taxing capacity. The Foundation Program amounts have steadily increased in most recent years, including small aggregate increases even in those Fiscal Years in which appropriations cutbacks were imposed.

School districts also rely upon receipts from locally voted taxes. In part because of provisions of some State laws, such as partially limiting the increase (without further vote of the local electorate) in voted property tax

collections that would otherwise result from increased assessed valuations, some school districts have experienced varying degrees of difficulty in meeting mandated and discretionary increased costs. Local electorates have largely determined the total moneys available for their schools. Locally elected boards of education and their school administrators are responsible for managing school programs and budgets within statutory requirements.

The State's school subsidy formulas that were used until the 2009-10 biennium were structured to encourage both program quality and local taxing effort. Until the late 1970's, although there were some temporary school closings, most local financial difficulties that arose were successfully resolved by the local districts themselves by some combination of voter approval of additional property tax levies, adjustments in program offerings, or other measures. For more than 20 years, requirements of law and levels of State funding have sufficed to prevent school closings for financial reasons, which in any case are prohibited by current law.

To broaden the potential local tax revenue base, school districts also may submit for voter approval income taxes on the district income of individuals and estates. Many districts have submitted the question, and income taxes are currently approved in 184 districts.

Biennial school funding State appropriations from the GRF (including property tax reimbursements) and Lottery Profits Education Fund (but excluding federal and special revenue funds) for recent biennia were:

- 2012-13 - \$16.6 billion (a 2.3% decrease over the previous biennium).
- 2014-15 - \$18.3 billion (a 10.5% increase over the previous biennium).
- 2016-17 - \$20.0 billion (a 9.3% increase over the previous biennium).
- 2018-19 - \$20.7 billion (a 3.5% increase over the previous biennium).

Those appropriations for school funding for the 2020-21 biennium are \$21.8 billion (an 5.4% increase from the previous biennium), representing an increase of 3.7% in Fiscal Year 2020 over Fiscal Year 2019 and an increase of 1.9% in Fiscal Year 2021 over Fiscal Year 2020.

The amount of lottery profits transferred to the Lottery Profits Education Fund (LPEF) totaled \$1.04 billion in Fiscal Year 2017, \$1.17 billion in Fiscal Year 2018, \$1.15 billion in Fiscal Year 2019, and is currently estimated to be \$1.13 billion in Fiscal Year 2020. Ohio participation in the multi-state lottery commenced in May 2002. A constitutional provision requires that net lottery profits be paid into LPEF be used solely for the support of elementary, secondary, vocational and special education purposes, including application to debt service on general obligation bonds to finance common school facilities. The 2010-11 biennial appropriations Act also authorized the implementation of video lottery terminals (VLTs) at Ohio seven horse racing tracks.

The 2014-15 biennial appropriations Act enacted a new funding formula for the distribution of State funding to school districts based on a per pupil amount. This per pupil formula is similar to the "Building Blocks" school funding formula in place through Fiscal Year 2009 until its replacement with the "Evidence Based Model" for the 2010-11 biennium. The Evidence Based Model was repealed in July 2011 and a temporary formula was put in place for the 2012-13 biennium that allocated funding to each school district based on the per pupil funding it received for Fiscal Year 2011, adjusted by its share of a statewide per pupil adjustment amount that was indexed by the district's relative tax valuation per pupil.

The 2016-17 biennial appropriations Act modified certain components of the funding formula to distribute new resources to districts with less capacity to raise revenue through local sources. Under the modified formula, the State Department of Education will compute and pay to each school district education aid based on a per pupil funding amount of \$5,900 in Fiscal Year 2016 and \$6,000 in Fiscal Year 2017, multiplied by each school district's "state share index," which uses a three-year average of adjusted property valuation per pupil and the median income of that school district to calculate the percentage of the per-pupil amount that is to be paid by the State and the amount assumed to be contributed by the school district through local sources. The 2016-17 biennial appropriations Act also supplemented transportation funds for low density districts and continued to provide additional funds for students with exceptional needs, including those with special needs and the disabled, and limited English proficiency, and for economically disadvantaged and gifted students. Funding was also provided based on the number of K-3 students at each school district to be used to help school districts comply with Ohio's 3rd grade reading guarantee. The Act continued funding for the "Straight A Fund" to provide school districts with grants to develop and implement creative and innovative instructional models to inspire learning and student growth.

The 2018-19 biennial appropriations Act maintained all components of the 2016-17 funding formula with certain minor modifications. School district's education aid continued to be paid based on a per pupil funding amount (increasing to \$6,010 in Fiscal Year 2018 and \$6,020 in Fiscal Year 2019) multiplied by each school district's state share index. The 2018-19 appropriations Act reduced the minimum share of transportation funding to better target school districts with lower capacity to raise revenue locally and increased the multiplier in the formula for computing capacity aid to provide additional aid to low wealth school districts and those with small populations and low property valuation. The Act also modified the calculations for temporary transitional aid and the gain cap to take into account changes in student population. Funding also continued for other education initiatives including Early Childhood Education, EdChoice Expansion Scholarships, and the Community Connectors grant program.

The 2020-21 biennial appropriations Act provides each school district with the same amount of core funding and pupil transportation funding as it received under the funding formula for Fiscal Year 2019, along with certain other limited payments and adjustments, such as preschool special education payments and catastrophic cost reimbursements. The 2020-21 biennial appropriations Act also provides additional payments to school districts for student wellness and success to provide support for mental health counseling, wraparound supports, mentoring, and after-school programs. The Act also provides for additional payments to qualifying school districts that experienced an increase in enrollment between Fiscal Years 2016 and 2019.

Legislation was enacted in 1996 to address school districts in financial straits. It is similar to that for municipal "fiscal emergencies" and "fiscal watch" discussed below under **Municipalities**, but is particularly tailored to certain school districts and their then-existing or potential fiscal problems. Newer legislation created a third, more preliminary, category of "fiscal caution". A current listing of school districts in fiscal emergency or watch status can be found on the Auditor of State's website at <http://www.auditor.state.oh.us>.

Municipalities

Ohio has a mixture of urban and rural population, with approximately three-quarters urban. There are 932 incorporated cities and villages (municipalities with populations under 5,000) in the State. Five cities have populations of more than 100,000 and 16 cities exceed 50,000 in population.

A 1979 act established procedures for identifying and assisting those few cities and villages experiencing defined "fiscal emergencies." A commission composed of State and local officials, and private sector members experienced in business and finance appointed by the Governor, is to monitor the fiscal affairs of a municipality facing substantial financial problems. That act requires the municipality to develop, subject to approval and monitoring by its commission, a financial plan to eliminate deficits and cure any defaults and otherwise remedy fiscal emergency conditions and to take other actions required under its financial plan. It also provides enhanced protection for the municipality's bonds and notes and, subject to the act's stated standards and controls, permits the State to purchase limited amounts of the municipality's short-term obligations (used only once, in 1980).

As noted in the discussion above under **FISCAL MATTERS – Recent and Current Finances – Recent Biennia - 2012-13**, the amount of distributions to most local governments, including municipalities, from the several State local government revenue assistance funds have been subject to reductions and other adjustments in several of those recent biennia.

The fiscal emergency legislation has been amended to extend its potential application to counties (88 in the State) and townships. This extension is on an "if and as needed" basis and is not aimed at particularly identified existing fiscal problems of those subdivisions. A current listing of governments in each status can be found on the Auditor of State's website at <http://www.auditor.state.oh.us>.

Book-Entry System; DTC**Book-Entry System**

The information set forth in the following numbered paragraphs is based on information provided by The Depository Trust Company in its “Sample Offering Document Language Describing DTC and Book-Entry-Only Issuance” (labeled BLOR 06-2013). As such, the State and the Commission believe it to be reliable, but take no responsibility for the accuracy or completeness of that information. It has been adapted to the Bonds by substituting “Bonds” for “Securities,” “Commission” for “Issuer” and “Bond Registrar” for “registrar”, and by the addition of the italicized language set forth in the text. See also the additional information following those numbered paragraphs.

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

2. DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. 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. (*This internet site is included for reference only, and the information in this internet site is not incorporated by reference in this Official Statement.*)

3. 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 Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Bonds, except in the event that use of the book-entry system for the Bonds is discontinued.

4. To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

5. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults and proposed amendments to the Bond documents. For example, Beneficial Owners of Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Bond Registrar and request that copies of the notices be provided directly to them.

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

7. Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Commission 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).

8. Redemption proceeds, distributions and dividend payments (*debt charges*) 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 Commission or the Bond Registrar, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Bond Registrar, the State or the Commission, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions and dividend payments (*debt charges*) to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Commission or the Bond Registrar, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

9. (*Not Applicable to the Bonds.*)

10. DTC may discontinue providing its services as depository with respect to the Bonds at any time by giving reasonable notice to the Commission or the Bond Registrar. Under such circumstances, in the event that a successor depository is not obtained, Bond certificates are required to be printed (*or otherwise produced*) and delivered.

11. The Commission may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Bond certificates will be

printed (or otherwise produced) and delivered to DTC. (See also **Revision of Book-Entry System; Replacement Bonds.**)

12. The information above in this section concerning DTC and DTC's book-entry system has been obtained from sources that the State and Commission believe to be reliable, but the State and Commission take no responsibility for the accuracy thereof.

Direct Participants and Indirect Participants may impose service charges on Beneficial Owners in certain cases. Purchasers of book-entry interests should discuss that possibility with their brokers.

The State, the Commission and the Bond Registrar have no role in the purchases, transfers or sales of book-entry interests. The rights of Beneficial Owners to transfer or pledge their interests, and the manner of transferring or pledging those interests, may be subject to applicable state law. Beneficial Owners may want to discuss with their legal advisors the manner of transferring or pledging their book-entry interests.

The State, the Commission and the Bond Registrar have no responsibility or liability for any aspects of the records or notices relating to, or payments made on account of, beneficial ownership, or for maintaining, supervising or reviewing any records relating to that ownership.

The State, the Commission and the Bond Registrar cannot and do not give any assurances that DTC, Direct Participants, Indirect Participants or others will distribute to the Beneficial Owners payments of debt charges on the Bonds made to DTC as the registered owner, or redemption, if any, or other notices, or that they will do so on a timely basis, or that DTC, Direct Participants or Indirect Participants will serve or act in a manner described in this Official Statement.

For all purposes under the Bond proceedings (except the Continuing Disclosure Agreement for each series under which others as well as DTC may be considered an owner or holder of the Bonds, see **Continuing Disclosure Agreements**), DTC will be and will be considered by the State, the Commission and the Bond Registrar to be the owner or holder of the Bonds.

Beneficial Owners will not receive or have the right to receive physical delivery of Bonds, and, except to the extent they may have rights as Beneficial Owners or holders under the Continuing Disclosure Agreement for each series will not be or be considered by the State, the Commission and the Bond Registrar to be, and will not have any rights as, owners or holders of Bonds under the Bond proceedings.

Reference herein to "DTC" includes when applicable any successor securities depository and the nominee of the depository.

Revision of Book-Entry System; Replacement Bonds

The Bond proceedings for each series provide for issuance of fully-registered Bonds (Replacement Bonds) directly to owners of Bonds other than DTC only in the event that DTC (or a successor securities depository) determines not to continue to act as securities depository for the Bonds. Upon occurrence of this event, the Commission may in its discretion attempt to have established a securities depository book-entry relationship with another securities depository. If the Commission does not do so, or is unable to do so, and after the Bond Registrar has made provision for notification of the Beneficial Owners of the Bonds by appropriate notice to DTC, the Commission and the Bond Registrar will authenticate and deliver Replacement Bonds of any one maturity, in authorized denominations, to or at the direction of any persons requesting such issuance, and, if the event is not the result of Commission action or inaction, at the expense (including legal and other costs) of those requesting.

Debt charges on Replacement Bonds will be payable when due without deduction for the services of the Bond Registrar as paying agent. Principal of and any premium on Replacement Bonds

will be payable when due to the registered owner upon presentation and surrender at the designated office of the Bond Registrar. Interest on Replacement Bonds will be payable on the interest payment date by the Bond Registrar by transmittal to the registered owner of record on the Bond Register as of the 15th day preceding the interest payment date. Replacement Bonds will be exchangeable for other Replacement Bonds of authorized denominations, and transferable, at the designated office of the Bond Registrar without charge (except taxes or governmental fees). Exchange or transfer of then-redeemable Replacement Bonds is not required to be made: (i) between the 15th day preceding the mailing of notice of redemption of Replacement Bonds and the date of that mailing, or (ii) of a particular Replacement Bond selected for redemption (in whole or part).

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Text of Legal Opinion
(Infrastructure Improvement General Obligation Bonds, Series 2019A)

We have served as bond counsel to our client the Ohio Public Facilities Commission (the Commission) and not as counsel to any other person in connection with the issuance of \$147,000,000 Infrastructure Improvement General Obligation Bonds, Series 2019A (the Series 2019A Bonds), dated the date of this letter. The Series 2019A Bonds are obligations of the State of Ohio (the State), issued by the Commission, for the purpose of financing or assisting in the financing of the cost of public infrastructure capital improvement projects of local subdivisions. In our capacity as bond counsel, we have examined the transcript of proceedings relating to the issuance of the Series 2019A Bonds, a copy of the signed and authenticated Series 2019A Bond of the first maturity and such other documents, matters and law as we deem necessary to render the opinions set forth in this letter.

The Series 2018A Bonds are issued under and pursuant to Section 2s of Article VIII of the Ohio Constitution and Sections 151.01, 151.02 and 151.08 of the Ohio Revised Code and other authorizations by the Ohio General Assembly (collectively with predecessor Sections 2k, 2m and 2p of Article VIII of the Ohio Constitution, the Act), and resolutions of the Commission (collectively, the Bond Resolution).

Based on that examination and subject to the limitations stated below, we are of the opinion that under existing law:

1. The Series 2019A Bonds constitute valid and binding general obligations of the State, and the full faith and credit, revenue and taxing power of the State are pledged to the payment of the principal of and interest on (Debt Service) the Series 2019A Bonds.
2. Debt Service on the Series 2019A Bonds and on bonds or other obligations issued or to be issued and outstanding pursuant to the Act (collectively, the Bonds) are payable from and secured by (i) a pledge of the excises, taxes and revenues of the State as provided for in the Bond Resolution (collectively, the Committed State Receipts), and (ii) moneys deposited in the State Capital Improvements Bond Service Fund created under the Act and further provided for in the Bond Resolution. Fees, excises and license taxes relating to the registration, operation or use of vehicles on the public highways, or to fuels used for propelling such vehicles, and net State lottery proceeds, are not pledged and may not be used to pay that Debt Service.
3. The State is required to charge and collect Committed State Receipts in an amount sufficient to pay when due the Debt Service on the Bonds, and the State has covenanted to maintain statutory authority for and to cause to be levied, collected and applied excises, taxes and revenues so that those Committed State Receipts, including deposits of them to the State Capital Improvements Bond Service Fund, will be sufficient in time and amount to pay that Debt Service when due and certain other costs (including Debt Service on other State obligations). Provision has been

made by law for setting aside each year in the State Capital Improvements Bond Service Fund a sufficient amount of the Committed State Receipts, without other or further appropriation, to pay when due the Debt Service on the Bonds.

4. Interest on the Series 2019A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the Code), and is not an item of tax preference for purposes of the federal alternative minimum tax. Interest on, and any profit made on the sale, exchange or other disposition of, the Series 2019A Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. We express no opinion as to any other tax consequences regarding the Series 2019A Bonds.

The opinions stated above are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. In rendering all such opinions, we assume, without independent verification, and rely upon (i) the accuracy of the factual matters represented, warranted or certified in the proceedings and documents we have examined, and (ii) the due and legal authorization, execution and delivery of those documents by, and the valid, binding and enforceable nature of those documents upon, any parties other than the Commission and the State.

In rendering those opinions with respect to the treatment of the interest on the Series 2019A Bonds under the federal tax laws, we further assume and rely upon compliance with the covenants in the proceedings and documents we have examined, including those of the Commission for itself and the State. Failure to comply with certain of those covenants subsequent to issuance of the Series 2019A Bonds may cause interest on the Series 2019A Bonds to be included in gross income for federal income tax purposes retroactively to their date of issuance.

The rights of the owners of the Series 2019A Bonds and the enforceability of the Series 2019A Bonds are subject to bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or transfer, and other laws relating to or affecting the rights and remedies of creditors generally; to the application of equitable principles, whether considered in a proceeding at law or in equity; to the exercise of judicial discretion, and to limitations on legal remedies against public entities.

No opinions other than those expressly stated herein are implied or shall be inferred as a result of anything contained in or omitted from this letter. The opinions expressed in this letter are stated only as of the time of its delivery and we disclaim any obligation to revise or supplement this letter thereafter. Our engagement as bond counsel in connection with the original issuance and delivery of the Series 2019A Bonds is concluded upon delivery of this letter.

Respectfully submitted,

Text of Legal Opinion
(Third Frontier Research and Development
General Obligation Bonds, Series 2019B (Federally Taxable))

We have served as bond counsel to our client the Ohio Public Facilities Commission (the Commission) and not as counsel to any other person in connection with the issuance of \$100,000,000 Third Frontier Research and Development General Obligation Bonds, Series 2019B (Federally Taxable) (the Series 2019B Bonds), dated the date of this letter. The Series 2019B Bonds are obligations of the State of Ohio (the State), issued by the Commission, for the purpose of financing or assisting in the financing of the cost of research and development projects in support of Ohio industry, commerce and business. In our capacity as bond counsel, we have examined the transcript of proceedings relating to the issuance of the Series 2019B Bonds, a copy of the signed and authenticated Series 2019B Bond of the first maturity and such other documents, matters and law as we deem necessary to render the opinions set forth in this letter.

The Series 2019B Bonds are issued under and pursuant to Section 2p of Article VIII of the Ohio Constitution and Sections 151.01, 151.02 and 151.10 of the Ohio Revised Code and other authorizations by the Ohio General Assembly (collectively, the Act), and resolutions of the Commission (collectively, the Bond Resolution).

Based on that examination and subject to the limitations stated below, we are of the opinion that under existing law:

1. The Series 2019B Bonds constitute valid and binding general obligations of the State, and the full faith and credit, revenue and taxing power of the State are pledged to the payment of the principal of and interest on (Debt Service) the Series 2019B Bonds.
2. Debt Service on the Series 2019B Bonds and on bonds or other obligations issued or to be issued and outstanding pursuant to the Act (collectively, the Bonds) are payable from and secured by (i) a pledge of the excises, taxes and revenues of the State as provided for in the Bond Resolution (collectively, the Committed State Receipts), and (ii) moneys deposited in the Third Frontier Research and Development Projects Bond Service Fund created under the Act and further provided for in the Bond Resolution. Fees, excises and license taxes relating to the registration, operation or use of vehicles on the public highways, or to fuels used for propelling such vehicles, and net State lottery proceeds, are not pledged and may not be used to pay that Debt Service.
3. The State is required to charge and collect Committed State Receipts in an amount sufficient to pay when due the Debt Service on the Bonds, and the State has covenanted to maintain statutory authority for and to cause to be levied, collected and applied excises, taxes and revenues so that those Committed State Receipts, including deposits of them to the Third Frontier Research and Development Projects Bond Service Fund, will be sufficient in time and amount to pay that Debt

Service when due and certain other costs (including Debt Service on other State obligations). Provision has been made by law for setting aside each year in the Third Frontier Research and Development Projects Bond Service Fund a sufficient amount of the Committed State Receipts, without other or further appropriation, to pay when due the Debt Service on the Bonds.

4. Interest on, and any profit made on the sale, exchange or other disposition of, the Series 2019B Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. We express no opinion as to any other tax consequences regarding the Series 2019B Bonds.

Interest on the Series 2019B Bonds is not excluded from gross income for federal income tax purposes.

The opinions stated above are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. In rendering all such opinions, we assume, without independent verification, and rely upon (i) the accuracy of the factual matters represented, warranted or certified in the proceedings and documents we have examined, and (ii) the due and legal authorization, execution and delivery of those documents by, and the valid, binding and enforceable nature of those documents upon, any parties other than the Commission and the State.

The rights of the owners of the Series 2019B Bonds and the enforceability of the Series 2019B Bonds are subject to bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or transfer, and other laws relating to or affecting the rights and remedies of creditors generally; to the application of equitable principles, whether considered in a proceeding at law or in equity; to the exercise of judicial discretion, and to limitations on legal remedies against public entities.

No opinions other than those expressly stated herein are implied or shall be inferred as a result of anything contained in or omitted from this letter. The opinions expressed in this letter are stated only as of the time of its delivery and we disclaim any obligation to revise or supplement this letter thereafter. Our engagement as bond counsel in connection with the original issuance and delivery of the Series 2019B Bonds is concluded upon delivery of this letter.

Respectfully submitted,