

**THE COMMONWEALTH OF MASSACHUSETTS
ANNUAL FINANCIAL INFORMATION AND OPERATING DATA FOR FISCAL YEAR 2018
GENERAL OBLIGATION DEBT**

March 22, 2019

The following annual financial information and operating data is provided by The Commonwealth of Massachusetts (the "Commonwealth") pursuant to certain continuing disclosure undertakings and agreements entered into by the Commonwealth in connection with the Commonwealth's issuance of general obligation debt and the Commonwealth's support of the debt of certain other issuers, including the Massachusetts Department of Transportation ("MassDOT"), as successor to the Massachusetts Turnpike Authority, Massachusetts Bay Transportation Authority ("MBTA") (Assessment Bonds and bonds issued prior to July 1, 2000), Massachusetts Clean Water Trust (certain bonds receiving Commonwealth contract assistance), Massachusetts State College Building Authority (certain Commonwealth-guaranteed bonds), University of Massachusetts Building Authority (certain Commonwealth-guaranteed bonds), Massachusetts Development Finance Agency ("MassDevelopment") (certain bonds issued to finance projects under the infrastructure investment incentive (I-Cubed) program, South Weymouth naval air base development, and nonprofit community hospitals and hospital centers), and Woods Hole, Martha's Vineyard and Nantucket Steamship Authority. Set forth below is certain financial information and operating data relating to the Commonwealth for the fiscal year ended June 30, 2018, updating the financial information and operating data presented in the Commonwealth's statement of annual financial information for general obligation debt dated March 26, 2018 with respect to the fiscal year ended June 30, 2017. Specific reference is hereby made to the Commonwealth's Statutory Basis Financial Report for the year ended June 30, 2018 and its Comprehensive Annual Financial Report (GAAP basis) for the year ended June 30, 2018, copies of which have been filed with the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access system.

This statement is of limited scope. It contains only an updating of certain financial information and operating data described below. The information set forth herein does not contain all material information concerning the Commonwealth or its general obligation bonds necessary to make an informed investment decision. This statement does not constitute an offer to sell or the solicitation of an offer to buy Commonwealth general obligation bonds. This statement is submitted pursuant to various continuing disclosure undertakings and agreements relating to bonds that are subject to Rule 15c2-12, as amended, promulgated by the Securities and Exchange Commission and is intended to provide only the information necessary to conform to the requirements of said Rule 15c2-12. All information relating to the fiscal year ending June 30, 2019 is projected, as of February 28, 2019, unless otherwise indicated, and subject to change.

Questions regarding information contained in this statement may be directed to Sue Perez, Deputy Treasurer, Office of the Treasurer and Receiver-General, One Center Plaza, Suite 430, Boston, Massachusetts 02108, telephone (617) 367-9333, or to Mark Attia, Director of Debt Management, Executive Office for Administration and Finance, State House, Room 373, Boston, Massachusetts 02133, telephone (617) 727-2040.

- Summary presentation on statutory accounting and five-year comparative basis of selected budgeted operating funds operations, revenues and expenditures concluding with prior fiscal year, plus estimates for current fiscal year.

The revenues and expenditures of the budgeted operating funds presented in the following table are derived from the Commonwealth's statutory basis financial statements for fiscal 2014 through 2018. The Commonwealth's statutory basis financial statements have been independently reviewed but not audited. Projections for fiscal 2019 have been prepared by the Commonwealth's Executive Office for Administration and Finance and reflect information through February 28, 2019. Except where otherwise indicated, they are based on the office's most recent estimate of tax revenue (as officially issued) and non-tax revenue, on enacted appropriations adjusted for projected reversions and on supplemental appropriations filed by the Governor that remain before the Legislature. The financial information presented includes all budgeted operating funds of the Commonwealth. During a fiscal year there are numerous transactions among these budgeted funds, which from a fund accounting perspective create offsetting inflows and outflows. In conducting the budget process, the Executive Office for Administration and Finance excludes those inter-fund transactions that by their nature have no impact on the combined fund balance of the budgeted funds. The following table isolates this inter-fund activity from the budgeted sources and uses to align more clearly forecasts prepared during the budget process to the detailed fund accounting of the Commonwealth's annual financial statements.

Budgeted Operating Funds – Statutory Basis (in millions) (1)

	<u>Fiscal 2014</u> (2)	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Fiscal 2018</u>	<u>Projected</u> <u>Fiscal 2019</u>
<u>Beginning Fund Balances</u>						
Reserved or Designated	\$297.1	\$190.0	\$226.0	\$126.0	\$117.4	\$371.5
Stabilization Fund	1,556.7	1,248.4	1,252.4	1,291.5	1,300.7	2,001.3
Undesignated	20.6	12.1	92.3	64.5	29.7	13.9
Total	<u>\$1,874.4</u>	<u>\$1,450.5</u>	<u>\$1,570.7</u>	<u>\$1,482.0</u>	<u>\$1,447.8</u>	<u>\$2,386.7</u>
<u>Revenues and Other Sources</u>						
Alcoholic Beverages	78.8	80.8	83.4	85.4	85.8	88.1
Banks	135.8	51.9	23.5	(0.1)	17.4	0.3
Cigarettes	520.7	510.3	505.6	490.3	471.2	475.0
Corporations	2,049.1	2,172.1	2,312.0	2,196.7	2,392.2	2,338.6
Deeds	223.1	238.3	281.9	297.2	284.5	327.3
Income	13,201.6	14,448.7	14,393.7	14,683.7	16,239.6	16,732.4
Inheritance and Estate	401.5	340.9	399.4	336.6	473.0	450.1
Insurance	368.1	391.4	429.6	421.9	430.9	473.5
Marijuana Excise	-	-	-	-	-	40.0
Motor Fuel	732.2	756.1	766.6	769.4	769.1	767.3
Public Utilities (3)	9.8	3.4	(1.6)	(0.1)	(0.7)	0.0
Room Occupancy	138.3	150.7	162.2	156.7	158.7	165.3
Sales:						
Regular	3,810.6	3,986.6	4,156.9	4,226.1	4,433.2	4,635.0
Meals	948.9	998.8	1,063.8	1,132.5	1,154.4	1,207.0
Motor Vehicles	<u>736.4</u>	<u>789.1</u>	<u>833.9</u>	<u>852.5</u>	<u>866.3</u>	<u>878.0</u>
Sub-Total-Sales	5,495.9	5,774.4	6,054.6	6,211.1	6,453.9	6,720.0
Miscellaneous	15.1	12.8	13.6	12.9	11.5	14.4
Settlements and Judgments (4)	-	-	-	-	-	49.0
Total Tax Revenues	<u>\$23,370.0</u>	<u>\$24,932.2</u>	<u>\$25,424.5</u>	<u>\$25,661.7</u>	<u>\$27,787.2</u>	<u>\$28,641.3</u>
MBTA Transfer (5)	(799.3)	(970.6)	(986.2)	(992.2)	(1,007.9)	(1,042.1)
MSBA Transfer	(727.5)	(764.1)	(798.5)	(816.8)	(847.9)	(882.1)
Workforce Training Fund Transfer (6)	(21.2)	(23.6)	(22.8)	(24.4)	(24.7)	(24.0)
Total Budgeted Operating Tax Revenues	<u>\$21,822.0</u>	<u>\$23,173.8</u>	<u>\$23,616.9</u>	<u>\$23,828.3</u>	<u>\$25,906.7</u>	<u>\$26,693.1</u>
Federal Reimbursements	8,372.1	9,480.4	10,642.7	10,857.8	11,376.9	11,681.5

Departmental and Other Revenues	3,712.4	3,852.8	4,257.2	4,382.1	4,742.2	5,143.6
Inter-fund Transfers from Non-budgeted Funds and other sources (7)	<u>1,555.2</u>	<u>1,729.5</u>	<u>1,848.7</u>	<u>2,099.1</u>	<u>1,793.4</u>	<u>1,966.0</u>
Budgeted Revenues and Other Sources	<u>\$35,461.7</u>	<u>\$38,236.5</u>	<u>\$40,365.5</u>	<u>\$41,167.3</u>	<u>\$43,819.2</u>	<u>\$45,484.3</u>
Inter-fund Transfers	<u>1,757.0</u>	<u>735.4</u>	<u>472.9</u>	<u>617.4</u>	<u>1,217.0</u>	<u>1,224.1</u>
Total Budgeted Revenues and Other Sources	<u>\$37,218.7</u>	<u>\$38,971.9</u>	<u>\$40,838.4</u>	<u>\$41,784.7</u>	<u>\$45,036.2</u>	<u>\$46,708.4</u>
<u>Expenditures and Uses</u>						
Direct Local Aid	5,292.5	5,420.4	5,567.7	5,703.0	5,885.5	6,084.2
Medicaid	11,900.8	13,655.2	14,851.0	15,251.7	15,744.5	16,528.6
Other Health and Human Services	4,979.5	5,300.8	5,433.0	5,601.4	5,930.0	6,383.1
Group Insurance	1,402.9	1,665.1	1,629.7	1,662.5	1,634.0	1,670.9
Department of Elementary and Secondary Education	515.3	514.9	539.3	523.2	552.3	625.7
Higher Education	1,091.5	1,161.6	1,194.3	1,168.3	1,173.4	1,267.3
Department of Early Education and Care	509.6	537.7	547.6	540.0	564.3	621.5
Public Safety	1,010.4	1,040.7	1,065.6	1,059.6	1,102.0	1,236.1
Energy and Environmental Affairs	215.0	225.0	221.4	222.1	229.6	264.9
Debt Service (8)	2,122.0	2,190.4	2,174.3	2,284.7	2,323.4	2,453.3
Post -Employment Benefits (9)	2,050.4	2,213.4	2,503.4	2,659.7	2,891.5	3,074.8
Other Program Expenditures	<u>3,293.7</u>	<u>3,113.1</u>	<u>3,240.7</u>	<u>3,235.0</u>	<u>3,316.0</u>	<u>3,679.6</u>
Total - Programs and Services before transfers to Non-budgeted funds	<u>\$34,383.6</u>	<u>\$37,038.3</u>	<u>\$38,968.0</u>	<u>\$39,911.2</u>	<u>\$41,346.5</u>	<u>\$43,889.9</u>
<u>Inter-fund Transfers to Non-budgeted Funds</u>						
Commonwealth Care Trust Fund (10)	390.1	-	-	-	-	-
Medical Assistance Trust Fund	395.0	71.0	665.6	403.4	579.9	586.6
Massachusetts Transportation Trust Fund	270.1	588.6	566.8	484.7	634.7	603.2
Other	<u>446.7</u>	<u>418.4</u>	<u>253.8</u>	<u>402.3</u>	<u>319.2</u>	<u>214.5</u>
Total Inter-Fund Transfers to Non-Budgeted Funds	<u>\$1,501.9</u>	<u>\$1,078.0</u>	<u>\$1,486.2</u>	<u>\$1,290.4</u>	<u>\$1,533.8</u>	<u>\$1,404.2</u>
Budgeted Expenditures and Other Uses	<u>\$35,885.5</u>	<u>\$38,116.3</u>	<u>\$40,454.2</u>	<u>\$41,201.6</u>	<u>\$42,880.3</u>	<u>\$45,294.1</u>
Inter-fund Transfers	<u>1,757.0</u>	<u>735.4</u>	<u>472.9</u>	<u>617.4</u>	<u>1,217.0</u>	<u>1,224.1</u>
Total Budgeted Expenditures and Other Uses	<u>\$37,642.5</u>	<u>\$38,851.7</u>	<u>\$40,927.1</u>	<u>\$41,819.0</u>	<u>\$44,097.3</u>	<u>\$46,518.3</u>
Excess (Deficiency) of Revenues and Other Sources Over Expenditures and Other Uses	<u>(\$423.8)</u>	<u>\$120.2</u>	<u>(\$88.7)</u>	<u>(\$34.3)</u>	<u>\$938.9</u>	<u>\$190.1</u>
<u>Ending Fund Balances</u>						
Reserved or Designated (11)	190.0	226.0	126.0	117.4	371.5	102.3
Stabilization Fund	1,248.4	1,252.4	1,291.5	1,300.7	2,001.3	2,501.4
Undesignated	<u>12.1</u>	<u>92.3</u>	<u>64.5</u>	<u>29.7</u>	<u>13.9</u>	<u>(26.9)</u>
Total	<u>\$1,450.5</u>	<u>\$1,570.7</u>	<u>\$1,482.0</u>	<u>\$1,447.8</u>	<u>\$2,386.7</u>	<u>\$2,576.8</u>

SOURCES: Fiscal 2014-2018, Office of the Comptroller; fiscal 2019, Executive Office for Administration and Finance.

- (1) Totals may not add due to rounding.
- (2) Some fiscal 2014 amounts were reclassified to conform to the fiscal 2015 presentation in the Statutory Basis Financial Report.
- (3) Prior to January 1, 2014, public utility corporations were subject to an excise tax of 6.5% on net income. Legislation enacted in 2013 repealed the separate excise tax for utility corporations, which are now subject to the corporate excise imposed on business corporations.
- (4) For fiscal 2014 through 2018, tax and non-tax revenue from judgments and settlements in excess of \$10 million is included in specific tax and non-tax revenue categories.
- (5) Beginning in fiscal 2015, the annual amount of sales tax receipts statutorily credited to the MBTA was increased by \$160 million.
- (6) The Workforce Training Fund is not subject to annual appropriation, and employer contributions are deposited directly in the Workforce Training Fund after their collection.
- (7) Inter-fund Transfers from Non-budgeted Funds and Other Sources include profits from the State Lottery, abandoned property proceeds and other inter-fund transfers.
- (8) Fiscal 2016 budgeted Debt Service excluded \$113 million in payments made from a non-budgeted fund that was made from budgeted funds in other years.
- (9) Post-Employment Benefits include all budgeted pension transfers and transfers to the State Retiree Benefits Trust Fund (SRBTF).
- (10) Starting in fiscal 2015, transfers of funding for the Health Connector have not occurred because increased dedicated revenues, federal grants and self-generated revenues have been able to cover the full program and administrative costs.
- (11) Consists largely of appropriations authorized to be expended in the following year.

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2. Summary presentation on GAAP and five-year comparative basis of governmental funds operations, concluding with prior fiscal year.

The following table provides financial results on a GAAP basis for all governmental operating funds of the Commonwealth for fiscal 2014 through fiscal 2018.

Governmental Fund Operations – GAAP Basis – Fund Perspective (in millions)

	<u>Fiscal 2014</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Fiscal 2018</u>
Beginning fund balances	\$4,869.9	\$4,619.4	\$5,305.2	\$5,273.3	\$5,596.9
Revenues and Financing Sources	57,210.0	60,658.6	67,749.6	68,437.1	68,990.3
Expenditures and Financing Uses	57,460.5	59,972.8	67,781.5	68,113.5	67,749.0
Excess/(deficit)	<u>(250.5)</u>	<u>685.8</u>	<u>(31.9)</u>	<u>323.6</u>	<u>1,241.3</u>
Ending fund balances—GAAP fund perspective	<u>\$4,619.4</u>	<u>\$5,305.2</u>	<u>\$5,273.3</u>	<u>\$5,596.9</u>	<u>\$6,838.2</u>

SOURCE: Office of the Comptroller.

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3. Summary presentation on a five-year comparative basis of lottery revenues and profits.

A five-year history and projections for fiscal 2019 of Lottery revenues and profits are shown in the following table.

Lottery Revenues and Profits
(in thousands)

<u>Fiscal Year</u>	<u>Revenues</u>	<u>Net Operating Revenues</u>	<u>Net Profits</u>
2019 (1)	\$5,181,733	\$1,076,744	\$965,037
2018	5,291,951	1,097,398	997,057
2017	5,097,765	1,136,203	1,039,697
2016	5,233,931	1,092,130	989,411
2015	5,014,535	1,086,469	985,879
2014	4,863,373	1,069,958	974,562

Source: State Lottery Commission

(1) Fiscal 2019 figures are projected as of October 31, 2018. These numbers are under review and may be adjusted. Minor adjustments to Lottery revenues are reported several times a year based upon trends.

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4. Summary presentation of payments received pursuant to the tobacco master settlement agreement.

The following table sets forth the tobacco settlement amounts received by the Commonwealth to date. Since fiscal 2006 certain amounts have been withheld from each year's payments by tobacco manufacturers in relation to ongoing disputes of payment calculations. Those withheld amounts ranged from \$21 million to \$35 million in the period from 2006 through 2012, inclusive. A smaller amount has been withheld for 2013 through 2016, inclusive. The Commonwealth believes it is due the full amount and continues to pursue its claim to unreduced payments. The Commonwealth continues to pursue these disputed payments. The Commonwealth was also awarded \$414.3 million from a separate Strategic Contribution Fund established under the master settlement agreement to reward certain states' particular contributions to the national tobacco litigation effort. This additional amount, also subject to a number of adjustments, reductions and offsets, was paid in equal annual installments during the years 2008 through 2017, inclusive.

Payments Received Pursuant to the Tobacco Master Settlement Agreement (in millions) (1)

<u>Fiscal Year</u>	<u>Initial Payments</u>	<u>Annual Payments</u>	<u>Total Payments</u>
2000	\$186.6 (2)	\$139.6	\$326.2(2)
2001	78.2	164.2	242.4
2002	82.8	221.7	304.5
2003	86.4	213.6	300.0
2004	-	253.6	253.6
2005	-	257.4	257.4
2006	-	236.3	236.3
2007	-	245.4	245.4
2008	-	288.5	288.5
2009	-	315.2	315.2
2010	-	263.7	263.7
2011	-	248.7	248.7
2012	-	253.6	253.6
2013	-	253.5	253.5
2014	-	282.1	282.1
2015	-	245.8	245.8
2016	-	257.6	257.6
2017	-	254.5	254.5
2018	-	243.3	243.3
Total	<u>\$434.0</u>	<u>\$4,638.3</u>	<u>\$5,072.3</u>

SOURCE: Office of the Comptroller.

(1) Amounts are approximate. Totals may not add due to rounding.

(2) Payments received for both 1999 and 2000.

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5. So long as Commonwealth statutes impose limits on tax revenues, information as to compliance therewith in the prior fiscal year.

Chapter 62F of the General Laws establishes a state tax revenue growth limit for each fiscal year equal to the average positive rate of growth in total wages and salaries in the Commonwealth, as reported by the federal government, during the three calendar years immediately preceding the end of such fiscal year. The growth limit is used to calculate “allowable state tax revenue” for each fiscal year. Chapter 62F also requires that allowable state tax revenues be reduced by the aggregate amount received by local governmental units from any newly authorized or increased local option taxes or excises. Any excess in state tax revenue collections for a given fiscal year over the prescribed limit, as determined by the State Auditor, is to be applied as a credit against the then-current personal income tax liability of all taxpayers in the Commonwealth in proportion to the personal income tax liability of all taxpayers in the Commonwealth for the immediately preceding tax year. The law does not exclude principal and interest payments on Commonwealth debt obligations from the scope of its tax limit. However, the preamble contained in Chapter 62F provides that “although not specifically required by anything contained in this chapter, it is assumed that from allowable state tax revenues as defined herein the Commonwealth will give priority attention to the funding of state financial assistance to local governmental units, obligations under the state governmental pension systems and payment of principal and interest on debt and other obligations of the Commonwealth.”

The following table sets forth the Commonwealth’s net state tax revenues and allowable state tax revenues, as defined in Chapter 62F, for fiscal 2014 through fiscal 2018.

	<u>Net State Tax Revenues</u>	<u>Allowable State Tax Revenues</u>	<u>Net State Tax Revenues (under) Allowable State Tax Revenues</u>
2018	\$28,178,560,547	\$32,531,393,763	(\$4,352,833,216)
2017	26,044,206,400	31,095,184,910	(5,050,978,510)
2016	25,801,807,368	29,477,204,724	(3,675,397,356)
2015	25,239,065,862	28,071,638,151	(2,832,572,289)
2014	23,666,801,084	27,048,676,153	(3,381,875,070)

SOURCES: State Auditor’s Office.

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6. Summary description of the retirement systems for which the Commonwealth is responsible, including membership and contribution rates.

The Massachusetts State Employees' Retirement System (MSERS) and the Massachusetts Teachers' Retirement System (MTRS) are the two largest plans of the public contributory retirement systems operated in the Commonwealth. Membership in MSERS and MTRS as of January 1, 2018, the date of the most recent combined valuations, is as follows:

Retirement Systems Membership

	<u>MSERS</u>	<u>MTRS</u>
Retirees and beneficiaries currently receiving benefits	63,194	66,078
Terminated employees entitled to benefits but not yet receiving them	<u>4,424</u>	<u>N/A</u>
Subtotal	67,618	66,078
Current Members	<u>87,822</u>	<u>93,119</u>
Total	155,440	159,197

SOURCE: Public Employee Retirement Administration Commission

The MSERS is a cost sharing, multiple-employer defined-benefit public employee retirement system. The MTRS is a defined-benefit public employee retirement system managed by the Commonwealth on behalf of municipal teachers and municipal teacher retirees. The Commonwealth is a non-employer contributor and is responsible for all contributions and future benefits of the MTRS. Members become vested after 10 years of creditable service. For members who joined the system prior to April 2, 2012 superannuation retirement allowance may be received upon the completion of 20 years of service or upon reaching the age of 55 with 10 years of service. Normal retirement for those employees who were system members before April 2, 2012 occurs at age 65; for certain hazardous duty and public safety positions, normal retirement is at age 55. Most members who joined the system after April 1, 2012 cannot retire prior to age 60.

The MSERS and MTRS are partially funded by employee contributions of regular compensation. The following tables indicate current employee contribution rates (figures are approximate):

Employee Contribution Rates

<u>MTRS (1)</u>			
<u>Hire Date</u>	<u>% of Compensation (1)</u>	<u>Active Members</u>	<u>% of Total Active</u>
Pre-1975	5%	100	0.1%
1975-1983	7	442	0.5
1984-June 30, 1996	8	6,018	6.5
July 1, 1996-Present	9	15,463	16.6
July 1, 2001-Present	11	<u>71,096</u>	<u>76.3</u>
Totals		<u>93,119</u>	<u>100.0%</u>

SOURCE: Public Employee Retirement Administration Commission. Membership data from Teachers' Retirement System January 1, 2018 Actuarial Valuation.

(1) Employees hired after January 1, 1979 (except those contributing 11%) contribute an additional 2% of any regular compensation in excess of \$30,000 annually. Legislation enacted in fiscal 2000 established an alternative superannuation retirement benefit program for teachers hired on or after July 1, 2001 (and others who opt in) with an 11% contribution requirement for a minimum of five years. The contribution rate for most employees hired after April 1, 2012 will be reduced to 6% after 30 years of creditable service.

<u>MSERS (1)</u>			
<u>Hire Date</u>	<u>% of Compensation (1)</u>	<u>Active Members</u>	<u>% of Total Active</u>
Pre-1975	5%	382	0.4%
1975-1983	7	2,956	3.4
1984-June 30, 1996	8	15,766	17.9
July 1, 1996-Present	9	67,942	77.4
State Police 1996-Present	12	<u>776</u>	<u>0.9</u>
Totals		<u>87,822</u>	<u>100.0%</u>

SOURCE: Public Employee Retirement Administration Commission. Membership data from State Retirement Board January 1, 2018 Actuarial Valuation.

(1) Employees hired after January 1, 1979 contribute an additional 2% of any regular compensation in excess of \$30,000 annually.

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7. Summary presentation of the then-current, statutorily imposed funding schedule for future Commonwealth pension liabilities, if any.

The most recent funding schedule for payments into the Commonwealth’s Pension Liability Fund was filed by the Secretary of Administration and Finance on January 13, 2017. The assumptions underlying the funding schedule include valuation of assets and liabilities as of January 1, 2016, an annual rate of return on assets of 7.5%, and appropriation increases of 8.94% per year until the final amortization payment in fiscal 2036 (four years before the statutory requirement). The funding schedule also fully amortizes by fiscal 2027 the liabilities attributable to the employee retirement incentive program approved by the Governor on May 4, 2015.

The fiscal 2019 through fiscal 2037 transfers required by the current funding schedule are as follows:

Current Funding Schedule for Pension Obligations (in thousands) (1)

<u>Fiscal Year</u>	<u>Payments</u>	<u>Fiscal Year</u>	<u>Payments</u>
2019	\$ 2,608,453	2029	\$ 6,138,577
2020	2,841,525	2030	6,687,075
2021	3,095,422	2031	7,284,583
2022	3,372,006	2032	7,935,479
2023	3,673,304	2033	8,644,535
2024	4,001,523	2034	9,416,947
2025	4,359,070	2035	10,258,375
2026	4,748,564	2036	11,174,988
2027	5,172,860	2037	1,370,935
2028	5,635,069		

SOURCE: Executive Office for Administration and Finance

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8. Summary presentation on a ten-year comparative basis of actuarial valuations of pension fund assets, liabilities, and funding progress.

The following table shows, with respect to the Commonwealth's aggregate pension obligations, a 10-year comparison of the actuarial value of assets to the market values, the ratio of the actuarial value to market value, and the funded ratio based on actuarial value compared to the funded ratio based on the market value of assets:

Ten Year Comparison of Actuarial and Market Values of Pension Assets (in millions)

<u>Valuation Date (Jan. 1)</u>	<u>Actuarial Value of Assets (1)</u>	<u>Market Value of Assets</u>	<u>% of Actuarial Value to Market Value</u>	<u>Funded Ratio (Actuarial Value)</u>	<u>Funded Ratio (Market Value)</u>
2018	\$54,918	\$58,038	94.6%	57.0%	60.3%
2017	51,952	51,107	101.7	56.7	55.8
2016	49,535	48,943	101.2	56.7	56.0
2015	48,106	50,290	95.7	59.0	61.7
2014	45,894	48,351	94.9	61.2	64.5
2013	43,517	43,760	99.4	60.6	60.9
2012	43,942	39,947	110.0	65.1	59.1
2011	45,631	41,482	110.0	71.1	64.6
2010	41,589	37,809	110.0	67.5	61.4
2009	37,058	33,689	110.0	62.7	57.0

SOURCE: Public Employee Retirement Administration Commission.
 (1) Based on five-year average smoothing methodology.

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The following tables show, for each of the MSERS and the MTRS and for Commonwealth obligations in the aggregate (including Boston teachers and cost-of-living allowances as well as MSERS and MTRS), the historical funded status for the most recent 10 years, based on actuarial values and market values of assets:

Historical Pension Funding Progress for the Last Ten Fiscal Years- Actuarial Value
(in thousands, except for percentages)

	<u>Actuarial Value of Plan Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Unfunded Actuarial Accrued Liability (UAAL)</u>	<u>Funded Ratio</u>	<u>Annual Covered Payroll</u>	<u>UAAL as % of Covered Payroll</u>
<u>MSERS</u>						
Actuarial Valuation as of Jan. 1						
2018	\$26,248,250	\$40,456,611	\$14,208,361	64.9%	\$6,155,194	230.8%
2017	24,773,042	38,316,719	13,543,677	64.7	5,927,012	228.6
2016	23,465,963	36,966,278	13,500,315	63.5	5,792,288	233.1
2015	22,720,160	33,679,150	10,958,990	67.5	5,591,911	196.0
2014	21,581,133	30,679,600	9,098,467	70.3	5,344,510	170.2
2013	20,317,389	29,385,442	9,068,053	69.1	5,183,195	175.0
2012	20,507,604	27,784,731	7,277,127	73.8	4,922,388	185.7
2011	21,244,900	26,242,776	4,997,876	81.0	4,808,250	103.9
2010	19,019,062	24,862,421	5,843,359	76.5	4,711,563	124.0
2009	16,992,214	23,723,240	6,731,026	71.6	4,712,655	142.8
<u>MTRS</u>						
Actuarial Valuation as of Jan. 1						
2018	\$27,057,700	\$51,653,285	\$24,595,585	52.4%	\$6,829,012	360.2%
2017	25,638,136	49,193,503	23,555,367	52.1	6,583,871	357.8
2016	24,593,787	46,562,807	21,969,020	52.8	6,388,732	343.9
2015	23,946,759	44,115,769	20,169,010	54.3	6,204,274	325.1
2014	22,940,196	40,741,695	17,801,499	56.3	5,962,650	298.6
2013	21,787,470	39,135,218	17,347,748	55.7	5,783,294	300.0
2012	22,141,475	36,483,027	14,341,552	60.7	5,655,353	253.6
2011	23,117,952	34,890,991	11,773,039	66.3	5,558,311	211.8
2010	21,262,462	33,738,966	12,476,504	63.0	5,509,698	226.4
2009	18,927,731	32,543,782	13,616,051	58.2	5,389,895	252.6
<u>Aggregate Commonwealth Pension Obligations (1)</u>						
Actuarial Valuation as of Jan. 1						
2018	\$54,918,125	\$96,316,894	\$41,398,769	57.0%	\$13,531,845	305.9%
2017	51,952,206	91,573,998	39,621,792	56.7	13,059,709	303.4
2016	49,535,323	87,401,722	37,866,399	56.7	12,702,727	298.1
2015	48,105,862	81,535,003	33,429,141	59.0	12,302,162	271.7
2014	45,894,034	74,936,994	29,042,960	61.2	11,793,788	246.3
2013	43,517,498	71,865,832	28,348,334	60.6	11,408,407	248.5
2012	43,941,682	67,546,587	23,604,905	65.1	11,011,466	214.4
2011	45,630,507	64,219,135	18,588,628	71.1	10,811,975	171.9
2010	41,589,706	61,575,676	19,985,970	67.5	10,655,881	187.6
2009	37,057,703	59,142,155	22,084,452	62.7	10,537,212	209.6

SOURCE: Public Employee Retirement Administration Commission.

(1) Aggregate Commonwealth pension obligations include obligations with respect to MSERS, MTRS, Boston teachers, and local cost-of-living adjustments from 1981 to 1996.

9. Summary presentation on a five-year comparative basis of annual required pension contributions under GAAP and pension contributions made.

The following table sets forth the annual required contribution (ARC) by the Commonwealth for each of the fiscal years indicated and the actual contributions made. The ARC was determined annually through fiscal 2014, based on the most recent Commonwealth valuation, under Governmental Accounting Standards Board (GASB) Statement No. 27. GASB 27 is no longer applicable with the implementation of GASB 67/68, as described below, but the Commonwealth expects to continue calculating the ARC under GASB 27 principles for comparison. Actuarial valuations have been performed annually since January 1, 2000. The Commonwealth also develops a revised funding schedule by statute at least every three years, and the Commonwealth made the full contribution required, under the then-current funding schedule, for each year displayed in the table. The decrease from fiscal 2016 to fiscal 2017 shown below in the percentage of the ARC funded reflects the assumptions and plan changes described in the January 1, 2016 valuation report that increased plan liabilities.

The calculation of the Commonwealth's ARC assumes amortization of the unfunded actuarial liability on a 4.0% annual increasing basis to fiscal 2040. (This is the minimum allowable funding schedule for local systems under state pension law.) The amount shown in the table below for contributions made in the current fiscal year is the amount required by the current funding schedule. The amounts shown for contributions made in fiscal 2016 and fiscal 2017 include the costs associated with an early retirement incentive program (ERIP).

Annual Required Contributions and Other Pension Contributions
(in thousands)

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Annual required contribution (ARC) (1)	\$2,217,130	\$2,600,000	\$3,060,000	\$3,292,000	\$3,500,000
Contributions made	<u>\$1,793,000</u>	<u>\$2,001,093</u>	<u>\$2,198,093</u>	<u>\$2,394,000</u>	<u>\$2,608,000</u>
% of ARC funded for the fiscal year	75%	77%	72%	73%	75%
ARC as ratio of total government expenditures (2)	5.7%	6.4%	7.2%	7.6%	7.6%

SOURCE: Public Employee Retirement Administration Commission.

- (1) The ARC calculation for fiscal 2016 does not include costs associated with the ERIP because such costs had not yet been identified at the time the calculation was made.
- (2) Based on Total Budgeted Expenditures and Other Uses.

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10. Summary presentation on a five-year comparative basis of PRIT Fund asset allocation and investment returns.

The following table sets forth the actual PRIT Fund asset allocation for each of the most recent five fiscal years, as well as the current target ranges. The actual allocation figures are as of June 30 for each of the fiscal years indicated. The targets are those contained in the asset allocation plan, which was most recently approved on February 26, 2019.

PRIT Fund Asset Allocation

	<u>Fiscal</u> <u>2014</u>	<u>Fiscal</u> <u>2015</u>	<u>Fiscal</u> <u>2016</u>	<u>Fiscal</u> <u>2017</u>	<u>Fiscal</u> <u>2018</u>	<u>Target Ranges</u>
Global Equity	43.1%	42.7%	42.2%	45.7%	41.9%	34.0 – 44.0%
Core Fixed Income	13.9	13.7	13.9	12.0	12.8	12.0 – 18.0
Value-Added Fixed Income	8.5	8.3	8.4	8.1	8.0	5.0 – 11.0
Private Equity	11.1	11.3	11.1	10.6	10.8	10.0 – 16.0
Real Estate	8.9	10.0	10.4	9.1	9.0	7.0 – 13.0
Timber/Natural Resources	3.9	3.8	3.3	3.7	3.4	1.0 – 7.0
Portfolio Completion Strategies	9.6	9.3	9.8	9.5	13.4	8.0 – 14.0

SOURCE: Pension Reserves Investment Management Board.

The following table sets forth the investment rates of return for the assets in the PRIT Fund for the last 10 fiscal years:

PRIT Fund Rates of Return (Gross of Fees)

<u>Fiscal Year</u>	<u>Rate of Return</u>	<u>Fiscal Year</u>	<u>Rate of Return</u>
2018	9.97%	2013	12.69%
2017	13.20	2012	(0.08)
2016	2.29	2011	22.30
2015	3.86	2010	12.82
2014	17.53	2009	(23.87)
	3yr average		8.39%
	5yr average		9.22%
	10yr average		6.28%

SOURCE: Pension Reserves Investment Management Board.

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11. Summary presentation of actuarial valuations of OPEB assets, liabilities and funding progress.

In addition to providing pension benefits, the Commonwealth is statutorily required to provide certain health care and life insurance benefits (“other post-employment benefits” or “OPEB”) for retired employees of the Commonwealth, as well as retired employees of housing authorities, redevelopment authorities and certain other governmental agencies. Substantially all of the Commonwealth’s employees may become eligible for these benefits if they reach retirement age and eligibility while working for the Commonwealth. Eligible retirees are required to contribute a specified percentage of the health care/benefit costs. The Commonwealth is reimbursed for the cost of benefits to retirees of the eligible authorities and non-state agencies. (Although, as noted above, the Commonwealth is required to pay pensions to retired municipal teachers, the Commonwealth has no OPEB obligations with respect to retired municipal teachers.)

The Group Insurance Commission (GIC) manages the Commonwealth’s other post-employment benefits for all state and certain agency employees and retirees. The GIC has representation on the Board of Trustees of the State Retiree Benefits Trust (SRBT). The SRBT is set up to pay for former state employees’ OPEB benefits and to invest state and certain municipalities funds that have been set aside to pay for OPEB benefits and the cost to administer those funds and can only be dissolved when all such health care and other non-pension benefits, current and future, have been paid or defeased.

State Retiree Benefits Trust
(in thousands, except for percentages)

<u>Actuarial Valuation as of June 30 (1):</u>	<u>Plan Net Position</u>	<u>Total OPEB Liability</u>	<u>Net (Unfunded) OPEB Liability</u>	<u>Funded Ratio</u>	<u>Covered Payroll</u>	<u>Net OPEB liability as % of Covered Payroll</u>
2018	\$1,187,569	\$16,096,773	\$14,909,204	7.4%	\$6,155,914	242.2%
2017	996,407	18,480,936	17,484,529	5.4	5,927,012	295.0

<u>Actuarial Valuation as of January 1 (2):</u>	<u>Actuarial Value of Plan Assets</u>	<u>Actuarial Liability</u>	<u>Accrued Unfunded Liability (UAAL)</u>	<u>Actuarial Ratio Covered</u>	<u>Funded Payroll</u>	<u>Annual Covered Payroll as % of UAAL</u>
2017	\$817,400	\$20,263,500	\$19,446,100	4.0%	\$5,927,012	328.1%
2016	760,400	17,082,900	16,322,500	4.5	5,792,288	281.8
2015	610,000	16,502,800	15,892,800	3.7	5,591,911	284.2
2014	511,200	15,670,200	15,159,000	3.3	5,344,500	283.6
2013	406,700	15,784,100	15,377,400	2.6	5,183,195	296.7
2012	360,500	16,559,400	16,298,900	2.2	4,922,388	331.1
2011	350,500	16,568,600	16,218,100	2.1	4,808,250	337.3
2010	309,800	15,166,300	14,856,500	2.0	4,711,563	315.3
2009	273,500	15,305,100	15,031,600	1.8	4,712,655	319.0
2008	-	9,812,000	9,812,000	0.0	4,574,233	214.5

SOURCE: Office of the Comptroller

- (1) Amounts are as of June 30 and prepared in accordance with GASB Statement No. 74, effective as of fiscal 2017.
- (2) Amounts are as of January 1 and prepared in accordance with GASB Statement No. 43, which was replaced by GASB Statement No. 74.

12. If and to the extent otherwise updated in the prior fiscal year, summary presentation of the size of the state workforce.

The following table sets forth information regarding the Commonwealth's workforce as of the end of the last five fiscal years.

State Workforce

	<u>June 2014</u>	<u>June 2015</u>	<u>June 2016 (2)</u>	<u>June 2017</u>	<u>June 2018</u>
Executive Office	70	75	75	74	77
Executive Departments					
Administration and Finance	2,872	2,979	2,593	2,274	2,214
Energy and Environmental Affairs	1,900	1,907	1,773	1,736	1,725
Health and Human Services	19,675	20,088	19,560	19,849	20,162
Board of Library Commissioners	10	11	-	-	-
Housing and Economic Development	702	699	673	640	748
Labor and Workforce Development	250	234	236	231	234
Executive Office of Education	715	582	569	507	523
Public Safety and Security	8,808	8,620	8,373	7,994	8,042
Elder Affairs	39	36	-	-	-
Technology Services and Security	-	-	-	333	354
Federal Grant, Trust and Capital Funded (3)	<u>9,317</u>	<u>9,472</u>	<u>8,847</u>	<u>8,139</u>	<u>8,133</u>
Subtotal under Governor's Authority	<u>44,358</u>	<u>44,703</u>	<u>42,699</u>	<u>41,777</u>	<u>42,212</u>
Judiciary	7,196	7,264	7,263	7,208	7,229
Higher Education	24,026	24,783	25,212	25,283	24,887
Other (4)	<u>10,910</u>	<u>11,010</u>	<u>11,040</u>	<u>11,092</u>	<u>11,048</u>
Total	<u>86,490</u>	<u>87,760</u>	<u>86,214</u>	<u>85,360</u>	<u>85,376</u>

SOURCE: Office of the Comptroller.

(1) This table has been revised from prior presentations to conform to the presentation in the Statutory Basis Financial Reports.

(2) Figures for June, 2016 and thereafter include the Board of Library Commissioners in Other and Elder Affairs in Health and Human Services.

(3) The Massachusetts Department of Transportation is included in Federal Grant, Trust, and Capital Funded.

(4) Other includes members of the Legislature and their staff, constitutional officers, other independently elected officials and other independent state agencies.

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13. Five-year summary presentation of actual capital project expenditures.

The following table sets forth actual capital expenditures for fiscal 2014 to fiscal 2018.

Commonwealth Historical Capital Spending (in millions) (1)

Investment Category:	<u>Fiscal 2014</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Fiscal 2018</u>
Information technology	\$190	\$207	\$169	\$154	\$185
Infrastructure/facilities	457	449	526	510	417
Environment	138	221	238	202	217
Housing	182	188	185	213	242
Public safety	22	26	18	17	18
Transportation	1,790	2,041	2,081	1,895	1,889
Other	<u>227</u>	<u>242</u>	<u>215</u>	<u>269</u>	<u>280</u>
Total	<u>\$3,006</u>	<u>\$3,374</u>	<u>\$3,432</u>	<u>\$3,260</u>	<u>\$3,248</u>

SOURCE: Office of the State Comptroller.

(1) Includes all spending funded by capital appropriations, including General Obligation, Special Obligation, project financed, and federal reimbursement spending.

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14. Statement of general and special obligation long-term debt issuance and repayment analysis on a five-year comparative basis through the end of the prior fiscal year.

The following table shows long-term debt of the Commonwealth issued and retired from fiscal 2014 through fiscal 2018, exclusive of unamortized bond premiums:

General and Special Obligation Long-Term Debt Issuance and Repayment Analysis (in thousands) (1)

	<u>Fiscal 2014 (4)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Fiscal 2018</u>
Beginning Balance as of July 1	\$21,513,039	\$22,419,852	\$23,826,301	\$25,079,591	\$26,445,665
Debt Issued	<u>2,359,899</u>	<u>2,918,817</u>	<u>2,766,419</u>	<u>2,877,265</u>	<u>2,391,763</u>
Subtotal	<u>23,672,983</u>	<u>25,338,669</u>	<u>26,592,720</u>	<u>27,956,856</u>	<u>28,837,428</u>
Debt retired or defeased, exclusive of refunded debt	(1,434,511)	(1,486,243)	(1,446,444)	(1,389,581)	(1,389,419)
Refunding debt issued, net of refunded debt (2)	<u>(18,575)</u>	<u>(26,125)</u>	<u>(66,685)</u>	<u>(121,610)</u>	<u>(87,190)</u>
Ending Balance June 30 (3)	<u>\$22,419,852</u>	<u>\$23,826,301</u>	<u>\$25,079,591</u>	<u>\$26,445,665</u>	<u>\$27,360,819</u>

SOURCE: Office of the Comptroller.

- (1) Including accretion of capital appreciation bonds.
- (2) Amounts may be negative due to defeasances of debt of authorities from the issuance of Commonwealth debt as afforded under General Laws.
- (3) Includes federal grant anticipation notes issued as crossover refunding bonds. The refunding escrows funded by these bonds and related premiums are used to pay interest on the refunding bonds until the refunded bonds are callable and then to redeem the refunded bonds. Interest on the refunded bonds prior to redemption continues to be paid from pledged revenues as before.
- (4) In accordance with GAAP, includes \$200 million in principal related to commercial paper bond anticipation notes which were retired subsequent to year-end upon the issuance of long-term general obligation bonds on July 11, 2014.

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15. Statement of outstanding Commonwealth debt on a five-year comparative basis through the end of the prior fiscal year.

The following table sets forth the amounts of Commonwealth long-term general obligation debt, special obligation debt and federal grant anticipation notes outstanding, exclusive of unamortized bond premiums, as of the end of the last five fiscal years.

Outstanding Long Term Commonwealth Debt (in thousands)

	<u>Fiscal 2014 (1)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Fiscal 2018</u>
General Obligation Debt	\$19,596,662	\$20,801,956	\$21,668,296	\$22,716,695	\$23,143,374
Special Obligation Debt	2,292,255	2,324,490	2,754,255	2,990,960	3,469,000
Federal Grant Anticipation Notes	<u>530,935</u>	<u>699,855</u>	<u>657,040</u>	<u>738,010</u>	<u>748,445</u>
<u>TOTAL</u>	<u>\$22,419,852</u>	<u>\$23,826,301</u>	<u>\$25,079,591</u>	<u>\$26,445,665</u>	<u>\$27,360,819</u>

SOURCE: Office of the Comptroller.

(1) In accordance with GAAP, includes \$200 million in principal related to commercial paper bond anticipation notes which were retired subsequent to year-end upon the issuance of long-term general obligation bonds on July 11, 2014.

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16. Annual fiscal year debt service requirements for Commonwealth general obligation and special obligation bonds, beginning with the current fiscal year.

The following table sets forth, as of February 28, 2019, the annual fiscal year debt service requirements on outstanding Commonwealth general obligation bonds, special obligation bonds and federal grant anticipation notes. For variable-rate bonds with respect to which the Commonwealth is a fixed-rate payor under an associated interest rate swap agreement, the debt service schedule assumes payment of the fixed rate due under such agreement. For other variable-rate bonds, the schedule assumes a 5% interest rate.

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Debt Service Requirements on Commonwealth Bonds as of February 28, 2019 through Maturity (in thousands)

Period Ending	<u>General Obligation Bonds</u>						<u>Federal Highway Grant Anticipation Notes</u>				
	Principal	Gross Interest	CABs	Build America Bond Subsidies	Net Interest	Debt Service	Principal	Gross Interest	Build America Bond Subsidies	Net Interest	Debt Service
6/30/2019	\$ 235,560	\$ 283,072	\$ -	(\$6,380)	\$276,692	\$ 512,252	\$ 37,055	\$ 18,265	(\$ 441)	\$ 17,825	\$ 54,880
6/30/2020	1,289,529	1,023,744	4,410	(36,300)	987,444	2,281,383	66,015	34,447	(782)	33,665	99,680
6/30/2021	1,294,378	962,559	4,265	(35,014)	927,545	2,226,189	78,485	31,191	(577)	30,614	109,099
6/30/2022	1,219,755	902,920	4,436	(32,698)	870,221	2,094,413	82,375	27,302	(357)	26,945	109,320
6/30/2023	1,069,933	847,759	4,532	(31,412)	816,347	1,890,812	86,470	23,205	(122)	23,083	109,553
6/30/2024	1,086,660	794,396	4,606	(31,412)	762,984	1,854,250	89,510	19,290	-	19,290	108,800
6/30/2025	1,092,190	743,179	4,563	(31,177)	712,002	1,808,754	93,985	14,815	-	14,815	108,800
6/30/2026	967,744	695,193	4,683	(30,776)	664,417	1,636,844	98,685	10,115	-	10,115	108,800
6/30/2027	878,704	651,153	4,963	(30,203)	620,951	1,504,617	103,620	5,181	-	5,181	108,801
6/30/2028	793,938	611,503	5,248	(28,953)	582,550	1,381,735	-	-	-	-	-
6/30/2029	900,541	574,743	4,865	(26,687)	548,056	1,453,461	-	-	-	-	-
6/30/2030	922,741	534,306	4,619	(22,892)	511,414	1,438,773	-	-	-	-	-
6/30/2031	915,783	486,102	4,391	(16,808)	469,294	1,389,468	-	-	-	-	-
6/30/2032	828,646	449,710	4,185	(14,776)	434,934	1,267,764	-	-	-	-	-
6/30/2033	663,689	415,870	3,259	(12,440)	403,430	1,070,377	-	-	-	-	-
6/30/2034	620,573	386,144	2,605	(11,068)	375,076	998,254	-	-	-	-	-
6/30/2035	627,991	359,116	2,005	(9,647)	349,468	979,465	-	-	-	-	-
6/30/2036	661,506	330,533	1,404	(8,177)	322,356	985,266	-	-	-	-	-
6/30/2037	706,171	299,074	994	(6,654)	292,420	999,584	-	-	-	-	-
6/30/2038	685,918	266,742	645	(5,077)	261,664	948,227	-	-	-	-	-
6/30/2039	726,365	234,675	210	(3,445)	231,230	957,804	-	-	-	-	-
6/30/2040	667,500	202,729	-	(1,609)	201,120	868,620	-	-	-	-	-
6/30/2041	671,630	173,341	-	-	173,341	844,971	-	-	-	-	-
6/30/2042	735,140	145,099	-	-	145,099	880,239	-	-	-	-	-
6/30/2043	772,630	114,809	-	-	114,809	887,439	-	-	-	-	-
6/30/2044	700,225	81,950	-	-	81,950	782,175	-	-	-	-	-
6/30/2045	549,985	57,710	-	-	57,710	607,695	-	-	-	-	-
6/30/2046	520,820	34,556	-	-	34,556	555,376	-	-	-	-	-
6/30/2047	282,500	14,220	-	-	14,220	296,720	-	-	-	-	-
6/30/2048	71,500	4,675	-	-	4,675	76,175	-	-	-	-	-
6/30/2049	30,000	1,255	-	-	1,255	31,255	-	-	-	-	-
Totals (1)	\$23,190,244	\$12,682,833	\$70,887	(\$433,606)	\$12,249,228	\$35,510,359	\$736,200	\$183,811	(\$2,278)	\$181,533	\$917,733

SOURCE: Office of the Comptroller.

(1) Totals may not add due to rounding.

Special Obligation Revenue Bonds
(Convention Center)

Special Obligation Revenue Bonds
(CTF- Accelerated Bridge Program)

Period Ending				Build America Bond				
	Principal	Interest	Debt Service	Principal	Gross Interest	Subsidies	Net Interest	Debt Service
6/30/2019	\$ -	\$ -	\$ -	\$ 15,350	\$ 41,234	(\$ 6,157)	\$ 35,077	\$ 50,427
6/30/2020	23,380	28,842	52,222	16,855	81,731	(12,314)	69,417	86,272
6/30/2021	24,610	27,673	52,283	18,220	80,889	(12,314)	68,574	86,794
6/30/2022	25,970	26,380	52,350	21,760	79,978	(12,314)	67,663	89,423
6/30/2023	27,440	24,952	52,392	30,245	78,922	(12,314)	66,607	96,852
6/30/2024	28,990	23,443	52,433	39,870	77,421	(12,314)	65,107	104,977
6/30/2025	30,625	21,848	52,473	51,720	75,430	(11,937)	63,493	115,213
6/30/2026	32,360	20,164	52,524	54,340	72,806	(11,529)	61,276	115,616
6/30/2027	34,190	18,384	52,574	56,420	69,947	(11,065)	58,882	115,302
6/30/2028	36,125	16,504	52,629	51,520	66,970	(10,575)	56,394	107,914
6/30/2029	38,170	14,517	52,687	54,670	64,276	(10,058)	54,218	108,888
6/30/2030	40,330	12,418	52,748	54,600	61,643	(9,512)	52,131	106,731
6/30/2031	42,610	10,199	52,809	60,350	58,868	(8,935)	49,932	110,282
6/30/2032	45,020	7,856	52,876	63,445	55,625	(8,316)	47,309	110,754
6/30/2033	47,565	5,380	52,945	66,715	52,214	(7,661)	44,552	111,267
6/30/2034	50,250	2,764	53,014	70,000	48,798	(6,970)	41,828	111,828
6/30/2035	-	-	-	70,055	45,280	(6,239)	39,042	109,097
6/30/2036	-	-	-	73,595	41,756	(5,466)	36,289	109,884
6/30/2037	-	-	-	81,615	38,048	(4,650)	33,398	115,013
6/30/2038	-	-	-	81,180	33,979	(3,718)	30,261	111,441
6/30/2039	-	-	-	85,455	29,926	(2,546)	27,380	112,835
6/30/2040	-	-	-	89,835	25,534	(1,308)	24,225	114,060
6/30/2041	-	-	-	94,505	20,901	-	20,901	115,406
6/30/2042	-	-	-	99,385	16,911	-	16,911	116,296
6/30/2043	-	-	-	103,165	12,912	-	12,912	116,077
6/30/2044	-	-	-	109,415	8,135	-	8,135	117,550
6/30/2045	-	-	-	9,600	2,724	-	2,724	12,324
6/30/2046	-	-	-	56,670	2,304	-	2,304	58,974
Totals (1)	\$527,635	\$261,324	\$788,959	\$1,680,555	\$1,345,159	(\$188,214)	\$1,156,944	\$2,837,499

SOURCE: Office of the Comptroller.
(1) Totals may not add due to rounding.

Special Obligation Revenue Bonds
(Gas Tax)

Special Obligation Revenue Bonds
(CTF – Rail Enhancement Program)

Period Ending	Principal	Interest	Debt Service	Principal	Interest	Debt Service
6/30/2019	\$ 24,300	\$ 2,759	\$ 27,059	\$ 26,495	\$ 26,329	\$ 52,824
6/30/2020	25,640	4,182	29,822	29,045	51,451	80,496
6/30/2021	26,905	2,916	29,821	29,910	50,064	79,974
6/30/2022	28,385	1,436	29,821	28,760	48,586	77,346
6/30/2023	-	-	-	26,610	47,229	73,839
6/30/2024	-	-	-	19,785	45,927	65,712
6/30/2025	-	-	-	10,810	44,996	55,806
6/30/2026	-	-	-	11,295	44,468	55,763
6/30/2027	-	-	-	12,565	43,916	56,481
6/30/2028	-	-	-	21,010	43,288	64,298
6/30/2029	-	-	-	21,495	42,286	63,781
6/30/2030	-	-	-	25,205	41,211	66,416
6/30/2031	-	-	-	23,265	40,108	63,373
6/30/2032	-	-	-	24,500	38,944	63,444
6/30/2033	-	-	-	25,785	37,719	63,504
6/30/2034	-	-	-	27,120	36,430	63,550
6/30/2035	-	-	-	31,850	35,074	66,924
6/30/2036	-	-	-	33,145	33,667	66,812
6/30/2037	-	-	-	30,390	32,010	62,400
6/30/2038	-	-	-	36,300	30,490	66,790
6/30/2039	-	-	-	37,740	28,683	66,423
6/30/2040	-	-	-	39,485	26,799	66,284
6/30/2041	-	-	-	41,255	24,828	66,083
6/30/2042	-	-	-	42,330	22,865	65,195
6/30/2043	-	-	-	44,480	20,936	65,416
6/30/2044	-	-	-	45,040	18,904	63,944
6/30/2045	-	-	-	152,270	16,895	169,165
6/30/2046	-	-	-	112,165	10,353	122,518
6/30/2047	-	-	-	59,100	5,650	64,750
6/30/2048	-	-	-	61,900	2,845	64,745
Totals (1)	\$105,230	\$11,292	\$116,522	\$1,131,105	\$992,951	\$2,124,056

SOURCE: Office of the Comptroller.
(1) Totals may not add due to rounding.

17. Annual fiscal year contract assistance requirements for Commonwealth general obligation contract assistance, beginning with the current fiscal year.

The following table sets forth the Commonwealth's general obligation contract assistance requirements for all of fiscal 2019 and each fiscal year thereafter pursuant to contracts with the Massachusetts Clean Water Trust, MassDOT (as successor to the Turnpike Authority), and MassDevelopment (including the I-Cubed Program and the South Weymouth naval air base contract assistance requirements) and contracts associated with the Social Innovation Financing Trust Fund.

General Obligation Contract Assistance Requirements
(in thousands)

<u>Fiscal Year</u>	<u>Massachusetts Clean Water Trust</u>	<u>Massachusetts Department of Transportation</u>	<u>Massachusetts Development Finance Agency</u>	<u>Social Innovation Financing Trust Fund (3)</u>	<u>Total</u>
2019	\$63,384	\$125,000	\$9,838	\$9,100	\$207,322
2020	43,374	125,000	9,838	24,200	202,412
2021	36,079	125,000	9,844	4,435	175,358
2022	26,584	125,000	9,843	400	161,827
2023	26,660	125,000	9,838	50	161,548
2024	18,301	125,000	9,837	-	153,138
2025	14,038	125,000	9,845	-	148,883
2026	11,573	125,000	9,840	-	146,413
2027 through 2050	<u>66,643 (1)</u>	<u>1,900,000 (2)</u>	<u>178,342</u>	-	<u>2,144,985</u>
Total (4)	<u>\$306,636</u>	<u>\$2,900,000</u>	<u>\$257,065</u>	<u>\$38,185</u>	<u>\$3,501,886</u>

SOURCES: Massachusetts Clean Water Trust column – Office of the Treasurer and Receiver-General; MassDOT, MassDevelopment and Social Innovation Financing Trust Fund columns - Executive Office for Administration and Finance.

- (1) Current contract assistance payments end in fiscal 2049.
- (2) Represents \$25 million per year for fiscal years 2027 to 2050, inclusive, and \$100 million per year for fiscal years 2027 to 2039, inclusive.
- (3) Projected payment schedule as of October 31, 2018. The actual amount and timing of payments will be based on the achievement of specified performance outcomes.
- (4) Totals may not add due to rounding.

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18. Annual fiscal year budgetary contractual assistance liabilities for Commonwealth, beginning with the current fiscal year.

In addition to Commonwealth-owned buildings and facilities, the Commonwealth leases additional space from private parties. In certain circumstances, the Commonwealth has acquired certain types of capital assets under long-term capital leases; typically, these arrangements relate to computer and telecommunications equipment and to motor vehicles. Such leases comprise the Commonwealth's only budgetary contractual assistance liabilities outstanding.

Minimum future rental expenditure commitments of the Commonwealth under operating leases and long-term principal and interest obligations related to leases in effect as of June 30, 2018 are set forth in the table below.

Long-Term Leases (in thousands)

<u>Fiscal Year</u>	<u>Leases (1)</u>
2019	\$191,354
2020	127,289
2021	93,324
2022	75,358
2023	61,900
2024	53,761
2025	42,606
2026	28,489
2027	22,232
2028 through 2050	<u>202,419</u>
Total	<u>\$898,732</u>

SOURCES: Office of the Comptroller

(1) Includes operating and capital leases. Leases with the institutions of higher education that are supported by tuition and fees are not included.

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19. Five-year summary presentation of authorized and unissued general obligation debt.

General obligation bonds of the Commonwealth are authorized to correspond with capital appropriations. Over the last decade, the Commonwealth has typically had a large amount of authorized and unissued debt. However, the Commonwealth's actual expenditures for capital projects in a given year relate more to the capital needs which the Commonwealth determines it can afford to finance in such year than to the total amount of authorized and unissued debt. The table below presents authorized and unissued debt at year end:

Authorized and Unissued Debt (in thousands)

<u>Fiscal Year</u>	<u>Authorized and Unissued Debt</u>
2014	\$26,255,768
2015	29,071,339
2016	26,145,997
2017	22,716,302
2018	20,860,482

SOURCE: Office of the Comptroller.

Authorized and unissued debt is measured in accordance with the statutory basis of accounting, which is different from GAAP. Only the net proceeds of bonds issued (exclusive of underwriters' discount, costs of issuance and other financing costs) are deducted from the amount of authorized and unissued debt. Therefore, the change in authorized and unissued debt at the end of any fiscal year is not intended to correlate to the change in the principal amount of debt outstanding as measured and reported in conformity with GAAP.

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20. So long as Commonwealth statutes impose a limit on the amount of outstanding “direct” bonds, information as to compliance therewith as of the end of the prior fiscal year.

Since December, 1989, state finance law has included a limit on the amount of outstanding “direct” bonds of the Commonwealth. For fiscal 2012, the debt limit was \$18.944 billion under the statute in place during fiscal 2012. In August, 2012, state finance law was amended, effective January 1, 2013, to specify that the debt limit be calculated for fiscal years starting in fiscal 2013 using a fiscal 2012 base value of \$17,070,000,000 and increasing the limit for each subsequent fiscal year to 105% of the previous fiscal year’s limit. Based on this calculation, the statutory limit on “direct” bonds during fiscal 2019 is \$24,019,204,215. Prior to June 10, 2013, this limit was calculated using a statutory definition that differed from GAAP in that the principal amount of outstanding bonds included the amount of any premium and was measured net of any discount, costs of issuance and other financing costs (“net proceeds”). On June 10, 2013, state finance law was amended, effective January 1, 2013, to change the statutory definition of outstanding debt from net proceeds to principal outstanding, a change that brings the outstanding debt definition in conformance with GAAP.

The debt limit law provides that bonds to be refunded from the proceeds of Commonwealth refunding bonds are to be excluded from outstanding “direct” bonds upon the issuance of the refunding bonds. Pursuant to special legislation enacted over the years, certain outstanding Commonwealth debt obligations are not counted in computing the amount of bonds subject to the limit, including Commonwealth refunding/restructuring bonds issued in September and October, 1991, federal grant anticipation notes, bonds issued to pay operating notes issued by the MBTA or to reimburse the Commonwealth for advances to the MBTA, bonds payable from the Central Artery and Statewide Road and Bridge Infrastructure Fund, bonds issued to finance the Massachusetts School Building Authority, and bonds issued to finance the Commonwealth’s Accelerated Bridge Program. On August 10, 2016, the Governor approved legislation that exempts from the statutory debt limit bonds that are issued to finance the Commonwealth’s rail enhancement program.

The outstanding Commonwealth debt, the amounts of such outstanding debt excluded from the statutory debt limit, the net amounts of such outstanding Commonwealth debt subject to the statutory debt limit and the statutory debt limit as of the end of each of the last five fiscal years are shown in the following table on a statutory basis.

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Calculation of the Debt Limit
(in thousands)

	<u>Fiscal 2014 (4)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Fiscal 2018</u>	<u>Fiscal 2019 (6)</u>
Total principal balance	\$22,419,852	\$23,826,301	\$25,079,591	\$26,445,665	\$27,360,819	\$27,441,856
Less: principal of direct debt excluded from the statutory debt limit:						
Special obligation debt (1)	(888,405)	(829,340)	(768,365)	(703,690)	(657,340)	(632,865)
Accelerated bridge program	(1,403,850)	(1,495,150)	(1,535,890)	(1,642,730)	(1,680,555)	(1,680,555)
Rail enhancement program (2)	-	-	-	(644,540)	(1,131,105)	(1,131,105)
Federal grant anticipation notes (1)	(530,935)	(699,855)	(657,040)	(738,010)	(748,445)	(736,200)
Assumed county debt	-	-	-	-	-	-
MBTA forward funding	(207)	(207)	(207)	(207)	(207)	(207)
Transportation Infrastructure Fund	(1,241,263)	(1,197,127)	(1,150,296)	(1,110,195)	(1,092,519)	(1,078,171)
School Building Assistance (SBA)	<u>(723,917)</u>	<u>(689,446)</u>	<u>(652,197)</u>	<u>(632,348)</u>	<u>(598,985)</u>	<u>(574,902)</u>
Outstanding direct debt, principal (3)	<u>\$17,631,275</u>	<u>\$18,915,176</u>	<u>\$20,315,596</u>	<u>\$20,973,945</u>	<u>\$21,451,664</u>	<u>\$21,607,851</u>
Statutory Debt Limit	<u>\$18,819,675</u>	<u>\$19,760,659</u>	<u>\$20,748,692</u>	<u>\$21,786,126</u>	<u>\$22,875,433</u>	<u>\$24,019,204</u>

SOURCE: Office of the Comptroller.

- (1) Includes federal grant anticipation notes issued as crossover refunding bonds. The refunding escrows funded by these bonds and related premiums are used to pay interest on the refunding bonds until the refunded bonds are callable and then to redeem the refunded bonds. Interest on the refunded bonds prior to redemption continues to be paid from pledged revenues as before.
- (2) Exempt from the debt limit, effective August 10, 2016.
- (3) Includes accretion of capital appreciation bonds.
- (4) In accordance with GAAP, includes \$200 million in principal related to commercial paper bond anticipation notes which were retired subsequent to year-end upon the issuance of long-term general obligation bonds on July 11, 2014.
- (5) Amounts are as of February 28, 2019 and are unaudited.

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21. Summary presentation of the then-current Commonwealth interest rate swap agreements.

The following table describes the interest rate swap agreements, all of which are floating-to-fixed rate hedges that the Commonwealth has entered into in connection with certain of its outstanding variable rate bond issues as of February 28, 2019.

Associated Bond Issue	Outstanding Notional Amount (thousands)	Bond Floating Rate	Swap Fixed Rate Paid (Range)	Swap Variable Rate Received	Effective Date	Termination Date	Fair value as of 6/30/2018	Counterparty
<i>General Obligation Bonds:</i>								
Series 2001B & C Refunding	\$ 195,840	VRDB	4.150%	Cost of Funds	2/20/2001	1/1/2021	(\$7,241,638)	Morgan Stanley Capital Services
Series 2015B, 2015C, 2017A & 2017B (refunding)	118,505	SIFMA	3.875%-3.903%	SIFMA	3/15/2005	2/1/2028	(41,162,391)	Wells Fargo Bank
Series 2006C (refunding)	96,095	CPI	3.78%-3.85%	CPI-based formula	1/1/2007	11/1/2020	(1,721,406)	Wells Fargo Bank
Series 2007A (refunding)	31,665	LIBOR	3.936%	67% 3-Month LIBOR + 0.46%	10/8/2008	11/1/2020	(990,770)	Wells Fargo Bank
Series 2007A (refunding)	343,380	LIBOR	3.936%-4.083%	67% 3-Month LIBOR + 0.46-0.55%	10/8/2008	11/1/2025	(31,435,501)	Bank of NY Mellon
Series 2006B, Series 2016C	<u>\$281,605</u>	VRDB	4.515%	67% 3-Month LIBOR	4/2/2009	6/15/2033	<u>(56,197,147)</u>	Barclays Bank PLC
Subtotal	<u>\$1,072,090</u>						<u>(\$138,748,853)</u>	

SOURCE: Office of the Treasurer and Receiver General.

22. Summary presentation of the then-current Commonwealth liquidity facilities.

The following table describes the liquidity facilities that the Commonwealth had with respect to such bonds as of February 28, 2019.

Variable Rate Bonds	Outstanding Principal Amount (in thousands)	Liquidity Provider	Termination Date
2000 Series A	\$200,000	Citibank	10/12/2021
2000 Series B	75,590	TD Bank	4/19/2023
2001 Series C (Refunding)	140,255	Barclays Bank	1/01/2021
2006 Series A	123,365	Barclays Bank	8/03/2020

SOURCE: Office of the Treasurer and Receiver General.

The Commonwealth also has liquidity support for two series of commercial paper totaling \$200 million.

Commercial Paper Series	Available Principal Amount (in thousands)	Liquidity Provider	Termination Date
Series I (tax-exempt) and Series K (taxable) ⁽¹⁾	\$200,000	TD Bank	4/18/2023

SOURCE: Office of the Treasurer and Receiver General.

(1) One or both series may be outstanding as long as the total amount outstanding does not exceed \$200 million.

As of February 28, 2019, no commercial paper was outstanding.

In addition, on February 8, 2019, the Commonwealth entered into a Note Purchase Agreement with RBC Capital Markets, LLC that provides for the issuance from time to time of up to \$200 million of general obligation bond or revenue anticipation notes. The agreement has a five-year term. Any notes, if issued, will be purchased by Royal Bank of Canada pursuant to a Noteholder Agreement. As of February 28, 2019, no notes were outstanding.