

**THE COMMONWEALTH OF MASSACHUSETTS
ANNUAL FINANCIAL INFORMATION AND OPERATING DATA FOR FISCAL YEAR 2017
GENERAL OBLIGATION DEBT**

March 26, 2018

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, as successor to the Massachusetts Turnpike Authority, Massachusetts Bay Transportation Authority (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 (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, 2017, updating the financial information and operating data presented in the Commonwealth's statement of annual financial information for general obligation debt dated March 21, 2017 with respect to the fiscal year ended June 30, 2016. Specific reference is hereby made to the Commonwealth's Statutory Basis Financial Report for the year ended June 30, 2017 and its Comprehensive Annual Financial Report (GAAP basis) for the year ended June 30, 2017, copies of which have been filed with the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access (EMMA) 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 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, 2018 is projected, as of March 22, 2018 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, 3 Center Plaza, Suite 430, Boston, Massachusetts 02108, telephone (617) 367-9333, or to Jennifer Sullivan, Assistant Secretary, Executive Office for Administration and Finance, State House, Room 373, Boston, Massachusetts 02133, telephone (617) 727-2040.

1. 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 2013 through 2017. The Commonwealth's statutory basis financial statements have been independently reviewed but not audited. Projections for fiscal 2018 have been prepared by the Executive Office for Administration and Finance and reflect information through February 28, 2018. 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 2013</u>	<u>Fiscal 2014 (2)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Projected Fiscal 2018</u>
Beginning Fund Balances						
Reserved or Designated	\$170.4	\$297.1	\$190.0	\$226.0	\$126.0	\$117.3
Stabilization Fund	1,652.1	1,556.7	1,248.4	1,252.4	1,291.5	1,300.7
Undesignated	<u>167.2</u>	<u>20.6</u>	<u>12.1</u>	<u>92.3</u>	<u>64.5</u>	<u>29.7</u>
Total	<u>\$1,989.7</u>	<u>\$1,874.4</u>	<u>\$1,450.5</u>	<u>\$1,570.7</u>	<u>\$1,482.0</u>	<u>\$1,447.7</u>
Revenues and Other Sources						
Alcoholic Beverages	76.3	78.8	80.8	83.4	85.4	86.2
Banks	78.0	135.8	51.9	23.5	(0.1)	0.2
Cigarettes	440.1	520.7	510.3	505.6	490.3	487.2
Corporations	1,821.9	2,049.1	2,172.1	2,312.0	2,196.7	2,107.0
Deeds	188.9	223.1	238.3	281.9	297.2	308.5
Income	12,830.9	13,201.6	14,448.7	14,393.7	14,683.7	15,473.1
Inheritance and Estate	313.4	401.5	340.9	399.4	336.6	332.1
Insurance	426.0	368.1	391.4	429.6	421.9	431.6
Motor Fuel	651.6	732.2	756.1	766.6	769.4	766.8
Public Utilities (3)	(11.5)	9.8	3.4	(1.6)	(0.1)	-
Room Occupancy	129.2	138.3	150.7	162.2	156.7	164.1
Sales:						
Regular	3,595.9	3,810.6	3,986.6	4,156.9	4,226.1	4,446.7
Meals	901.2	948.9	998.8	1,063.8	1,132.5	1,181.1
Motor Vehicles	<u>666.9</u>	<u>736.4</u>	<u>789.1</u>	<u>833.9</u>	<u>852.5</u>	<u>844.4</u>
Sub-Total-Sales	5,163.9	5,495.9	5,774.4	6,054.6	6,211.1	6,472.3
Miscellaneous	14.2	15.1	12.8	13.6	12.9	31.9
Settlements and Judgments (4)	-	-	-	-	-	100.0
Total Tax Revenues (5)	<u>\$22,123.0</u>	<u>\$23,370.0</u>	<u>\$24,932.2</u>	<u>\$25,424.5</u>	<u>\$25,661.7</u>	<u>\$26,761.0</u>
MBTA Transfer (6)	(786.9)	(799.3)	(970.6)	(986.2)	(992.2)	(1,006.8)
MSBA Transfer	(682.0)	(727.5)	(764.1)	(798.5)	(816.8)	(846.6)
Workforce Training Fund						
Transfer (7)	(22.2)	(21.2)	(23.6)	(22.8)	(24.4)	(24.5)
Total Budgeted Operating Tax Revenues	<u>\$20,631.9</u>	<u>\$21,822.0</u>	<u>\$23,173.8</u>	<u>\$23,616.9</u>	<u>\$23,828.3</u>	<u>\$24,883.1</u>
Federal Reimbursements Departmental and Other	8,228.4	8,372.1	9,480.4	10,642.7	10,857.8	11,481.8

	<u>Fiscal 2013</u>	<u>Fiscal 2014 (2)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Projected Fiscal 2018</u>
Revenues	3,370.5	3,712.4	3,852.8	4,257.2	4,382.1	4,740.2
Inter-fund Transfers from Non-budgeted Funds and other sources (8)	<u>1,548.1</u>	<u>1,555.2</u>	<u>1,729.5</u>	<u>1,848.7</u>	<u>2,099.1</u>	<u>1,856.4</u>
Budgeted Revenues and Other Sources	<u>\$33,778.9</u>	<u>\$35,461.7</u>	<u>\$38,236.5</u>	<u>\$40,365.5</u>	<u>\$41,167.3</u>	<u>\$42,961.5</u>
Inter-fund Transfers	<u>1,456.6</u>	<u>1,757.0</u>	<u>735.4</u>	<u>472.9</u>	<u>617.4</u>	<u>663.2</u>
Total Budgeted Revenues and Other Sources	<u>\$35,235.5</u>	<u>\$37,218.7</u>	<u>\$38,971.9</u>	<u>\$40,838.4</u>	<u>\$41,784.7</u>	<u>\$43,624.8</u>
<u>Expenditures and Uses</u>						
Direct Local Aid	5,115.7	5,292.5	5,420.4	5,567.7	5,703.0	5,890.4
Medicaid	10,799.7	11,900.8	13,655.2	14,851.0	15,251.7	15,673.0
Other Health and Human Services	4,768.9	4,979.5	5,300.8	5,433.0	5,601.4	6,062.1
Group Insurance	1,278.5	1,402.9	1,665.1	1,629.7	1,662.5	1,729.1
Department of Elementary and Secondary Education	489.2	515.3	514.9	539.3	523.2	541.6
Higher Education	990.8	1,091.5	1,161.6	1,194.3	1,168.3	1,177.5
Department of Early Education and Care	483.4	509.6	537.7	547.6	540.0	586.0
Public Safety	960.0	1,010.4	1,040.7	1,065.6	1,059.6	1,120.4
Energy and Environmental Affairs	201.8	215.0	225.0	221.4	222.1	238.7
Debt Service (9)	2,117.2	2,122.0	2,190.4	2,174.3	2,284.7	2,415.0
Post -Employment Benefits (10)	1,967.0	2,050.4	2,213.4	2,503.4	2,659.7	2,852.0
Other Program Expenditures	<u>3,006.7</u>	<u>3,293.7</u>	<u>3,113.1</u>	<u>3,240.7</u>	<u>3,235.0</u>	<u>3,247.5</u>
Total - Programs and Services before transfers to Non-budgeted funds	<u>\$32,178.7</u>	<u>\$34,383.6</u>	<u>\$37,038.3</u>	<u>\$38,968.0</u>	<u>\$39,911.2</u>	<u>\$41,533.5</u>
<u>Inter-fund Transfers to Non- budgeted Funds</u>						
Commonwealth Care Trust Fund (11)	661.2	390.1	-	-	-	-
Medical Assistance Trust Fund	390.9	395.0	71.0	665.6	403.4	747.1
Massachusetts Transportation Trust Fund	161.7	270.1	588.6	566.8	484.7	478.5
Other	<u>501.8</u>	<u>446.7</u>	<u>418.4</u>	<u>253.8</u>	<u>402.3</u>	<u>297.1</u>
Total Inter-Fund Transfers to Non-Budgeted Funds	<u>\$1,715.6</u>	<u>\$1,501.9</u>	<u>\$1,078.0</u>	<u>\$1,486.2</u>	<u>\$1,290.4</u>	<u>\$1,522.7</u>
Budgeted Expenditures and Other Uses	<u>\$33,894.3</u>	<u>\$35,885.5</u>	<u>\$38,116.3</u>	<u>\$40,454.2</u>	<u>\$41,201.6</u>	<u>\$43,056.1</u>
Inter-fund Transfers	<u>1,456.6</u>	<u>1,757.0</u>	<u>735.4</u>	<u>472.9</u>	<u>617.4</u>	<u>663.2</u>
Total Budgeted Expenditures and Other Uses	<u>\$35,350.9</u>	<u>\$37,642.5</u>	<u>\$38,851.7</u>	<u>\$40,927.1</u>	<u>\$41,819.0</u>	<u>\$43,719.3</u>
Excess (Deficiency) of Revenues and Other Sources Over Expenditures and Other Uses	<u>(\$115.4)</u>	<u>(\$423.8)</u>	<u>\$120.2</u>	<u>(\$88.7)</u>	<u>(\$34.3)</u>	<u>(\$94.6)</u>
<u>Ending Fund Balances</u>						
Reserved or Designated (12)	297.1	190.0	226.0	126.0	117.3	67.0

	<u>Fiscal 2013</u>	<u>Fiscal 2014 (2)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Projected Fiscal 2018</u>
Stabilization Fund	1,556.7	1,248.4	1,252.4	1,291.5	1,300.7	1,366.9
Undesignated (13)	<u>20.6</u>	<u>12.1</u>	<u>92.3</u>	<u>64.5</u>	<u>29.7</u>	<u>(80.7)</u>
Total	<u>\$1,874.4</u>	<u>\$1,450.5</u>	<u>\$1,570.7</u>	<u>\$1,482.0</u>	<u>\$1,447.7</u>	<u>\$1,353.2</u>

SOURCES: Fiscal 2013-2017, Office of the Comptroller; fiscal 2018, 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 2013 through 2017, tax and non-tax revenue from judgments and settlements in excess of \$10 million is included in specific tax and non-tax revenue categories. Those amounts totaled approximately \$133.8 million in fiscal 2013, \$436.5 million in fiscal 2014, \$226.1 million in fiscal 2015, \$155.3 million in fiscal 2016, and \$111.6 million in fiscal 2017.
- (5) The total tax revenues for fiscal 2018 reflect the level projected in the fiscal 2018 budget, and the Executive Office for Administration and Finance current estimate of tax-related settlements and judgments.
- (6) Beginning in fiscal 2015, the annual amount of sales tax receipts statutorily credited to the MBTA was increased by \$160 million.
- (7) The Workforce Training Fund is not subject to annual appropriation, and the employer contributions are deposited directly in the Workforce Training Fund after their collection.
- (8) Inter-fund Transfers from Non-budgeted Funds and Other Sources include profits from the State Lottery, abandoned property proceeds and other inter-fund transfers.
- (9) 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.
- (10) Fiscal 2016 and fiscal 2017 Post-Employment Benefits include all budgeted pension transfers and transfers to the State Retiree Benefit Trust Fund (SRBTF). Fiscal 2013 through 2015 Post-Employment Benefits include all budgeted pension transfers and transfers to the SRBTF, excluding transfers to the SRBTF equivalent to a specified percentage of tobacco settlement payments of approximately \$25 million in fiscal 2013, \$56 million in fiscal 2014 and \$73 million in fiscal 2015. In fiscal 2018, Post-Employment Benefits includes a transfer to the SRBTF equivalent to 10% of tobacco settlement revenue (approximately \$25 million) paid out of debt service reversions.
- (11) The fiscal 2016 and later budgets do not include appropriations of funding for the Health Connector because they assume that increased dedicated revenues in the CCTF, federal grants and self-generated revenues will be able to cover the full program and administrative costs.
- (12) Consists largely of appropriations authorized to be expended in the following year.
- (13) The Executive Office for Administration and Finance will continue to monitor revenues and spending and implement measures as necessary to ensure that the Commonwealth's budget for fiscal 2018 will achieve statutory balance.

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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 2013 through fiscal 2017.

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

	<u>Fiscal 2013</u>	<u>Fiscal 2014</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>
Beginning fund balances	\$6,318.9	\$4,869.9	\$4,619.4	\$5,305.2	\$5,273.3
Revenues and Financing Sources	55,289.9	57,210.0	60,658.6	67,749.6	68,437.1
Expenditures and Financing Uses	56,738.9	57,460.5	59,972.8	67,781.5	68,113.5
Excess/(deficit)	<u>(1,449.0)</u>	<u>(250.5)</u>	<u>685.8</u>	<u>(31.9)</u>	<u>323.6</u>
Ending fund balances—GAAP fund perspective	<u>\$4,869.9</u>	<u>\$4,619.4</u>	<u>\$5,305.2</u>	<u>\$5,273.3</u>	<u>\$5,596.9</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 2018 of Lottery revenues and profits are shown in the following table.

Lottery Revenues and Profits
(in thousands)

Fiscal Year	Revenues	Net Operating Revenues	Net Profits
2018 (1)	\$5,163,153	\$1,070,272	\$ 968,756
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
2013	4,850,482	1,050,128	955,801

Source: State Lottery Commission

(1) Fiscal 2018 figures are projected. 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, is payable 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
Total	<u>\$434.0</u>	<u>\$4,395.0</u>	<u>\$4,829.0</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 2013 through fiscal 2017.

	<u>Net State Tax Revenues</u>	<u>Allowable State Tax Revenues</u>	<u>Net State Tax Revenues (under)</u> <u>Allowable State Tax Revenues</u>
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)
2013	22,397,185,749	26,074,941,366	(3,677,755,617)

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, 2017, 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	62,259	65,036
Terminated employees entitled to benefits but not yet receiving them	4,094	N/A
Subtotal	66,353	65,036
Current Members	90,014	92,128
Total	156,367	157,164

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%	129	0.1%
1975-1983	7	545	0.6
1984-June 30, 1996	8	6,681	7.3
July 1, 1996-Present	9	14,627	15.9
July 1, 2001-Present	11	70,146	76.1
Totals		<u>92,128</u>	<u>100.0%</u>

SOURCE: Public Employee Retirement Administration Commission. Membership data from Teachers' Retirement System January 1, 2017 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.

MSERS (1)

<u>Hire Date</u>	<u>% of Compensation (1)</u>	<u>Active Members</u>	<u>% of Total Active</u>
Pre-1975	5%	517	0.6%
1975-1983	7	3,612	4.0
1984-June 30, 1996	8	17,067	19.0
July 1, 1996-Present	9	68,155	75.7
State Police 1996-Present	12	663	0.7
Totals		<u>88,081</u>	<u>100.0%</u>

SOURCE: Public Employee Retirement Administration Commission. Membership data from State Board of Retirement January 1, 2017 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 2018 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>
2018	\$ 2,394,498	2028	\$ 5,635,069
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

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)

Valuation Date (Jan. 1)	Actuarial Value of Assets (1)	Market Value of Assets	% of Actuarial Value to Market Value	Funded Ratio (Actuarial Value)	Funded Ratio (Market Value)
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
2008	44,532	49,235	90.4	78.6	86.9

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 ten 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>
MSERS						
Actuarial Valuation as of Jan. 1						
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
2008	20,400,656	22,820,502	2,419,846	89.4	4,574,233	52.9
MTRS						
Actuarial Valuation as of Jan. 1						
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
2008	22,883,553	30,955,504	8,071,951	73.9	5,163,498	156.3
Aggregate Commonwealth Pension Obligations (1)						
Actuarial Valuation as of Jan. 1						
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
2008	44,531,652	56,636,710	12,105,058	78.6	10,156,252	119.2

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. As noted above, 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 the early retirement incentive program (ERIP).

Annual Required Contributions and Other Pension Contributions
(in thousands)

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Annual required contribution (ARC) (1)	\$2,011,147	\$2,217,130	\$2,600,000	\$3,060,000	\$3,292,000
Contributions made	<u>\$1,630,000</u>	<u>\$1,793,000</u>	<u>\$2,001,093</u>	<u>\$2,198,093</u>	<u>\$2,394,000</u>
% of ARC funded for the fiscal year	81%	75%	77%	72%	73%
ARC as ratio of total government expenditures (2)	5.3%	5.7%	6.4%	7.2%	7.6%

SOURCE: Public Employee Retirement Administration Commission.

- (1) The ARC calculations for fiscal 2014 differs from those disclosed in prior filings because the ARC calculation in prior disclosures did not take into account amounts required to be contributed for Boston teachers and local cost-of-living allowances. 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.

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 targets. The actual allocation figures are as of June 30 for each of the years indicated. The targets are those contained in the asset allocation plan, which was most recently reviewed on February 15, 2018.

PRIT Fund Asset Allocation

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>Target</u>
Domestic Equity	20.8%	19.0%	19.2%	18.7%	19.8%	17.5%
International Equity	18.0	17.1	16.9	16.5	18.0	15.5
Emerging Markets Equity	6.5	7.0	6.6	7.0	7.9	6.0
Core Fixed Income	12.6	13.9	13.7	13.9	12.0	12.0
Value-Added Fixed Income	8.9	8.5	8.3	8.4	8.1	10.0
Private Equity	11.7	11.1	11.3	11.1	10.6	12.0
Real Estate	8.2	8.9	10.0	10.4	9.1	10.0
Timber/Natural Resources	4.0	3.9	3.8	3.3	3.7	4.0
Hedge Funds	9.2	9.6	9.1	8.6	8.4	0.0
Portfolio Completion Strategies	n/a	0.0	0.2	1.2	1.1	13.0

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>
2017	13.20%	2012	(0.08)%
2016	2.29	2011	22.30
2015	3.86	2010	12.82
2014	17.53	2009	(23.87)
2013	12.69	2008	(1.81)
	3 yr average		6.34%
	5 yr average		9.76%
	10 yr average		5.08%

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 (offline 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)

Actuarial Valuation as of January 1:	Actuarial Value of Plan Assets	Actuarial Liability	Accrued Unfunded Liability (UAAL)	Actuarial Ratio Covered	Funded Payroll	Annual Covered Payroll as % of UAAL
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 and Public Employee Retirement Administration Commission.

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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 2013</u>	<u>June 2014</u>	<u>June 2015 (2)</u>	<u>June 2016 (3)</u>	<u>June 2017</u>
Executive Office	68	70	75	75	74
Office of the Comptroller	111	113	109	107	106
Executive Departments					
Administration and Finance	2,823	2,882	2,983	2,595	2,607
Energy and Environmental Affairs	1,915	1,900	1,907	1,773	1,736
Health and Human Services	19,379	19,699	20,096	19,556	19,844
Board of Library Commissioners	10	10	11	-	-
Housing and Economic Development	684	702	699	673	640
Labor and Workforce Development	236	250	234	236	231
Executive Office of Education	359	523	399	370	334
Public Safety and Security	8,626	8,815	8,627	8,380	8,000
Elder Affairs	38	39	36	-	-
Subtotal under Governor's Authority	34,249	35,004	35,173	33,765	33,392
Judiciary	7,217	7,188	7,256	7,257	7,205
Higher Education	12,981	13,858	14,225	14,810	14,753
Other (1)	10,356	10,606	10,701	10,747	10,770
Subtotal funded by the Operating Budget	64,803	66,655	67,358	66,579	66,300
Federal Grant, Trust and Capital Funded (4)	20,612	19,929	20,243	19,293	17,254
Total (5)	85,415	86,584	87,601	85,872	83,554

SOURCE: Executive Office for Administration and Finance.

(1) Amounts have been revised to reflect updated Higher Education totals.

(2) June, 2016 and 2017 figures include the Board of Library Commissioners in Other and Elder Affairs in Health and Human Services.

(3) Other includes members of the Legislature and their staff, the offices of the State Treasurer, Secretary of the Commonwealth, Auditor and Attorney General, the eleven District Attorneys, the seven former county sheriffs' offices that have become state agencies, and other agencies independent from the Governor.

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

(5) Totals may not add due to rounding.

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

The following table sets forth actual capital expenditures for fiscal 2013 to fiscal 2017.

Commonwealth Historical Capital Spending (in millions) (1)

Investment Category:	<u>Fiscal 2013</u>	<u>Fiscal 2014</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>
Information technology	\$133	\$190	\$207	\$169	\$154
Infrastructure/facilities	452	457	449	526	510
Environment	130	138	221	238	202
Housing	183	182	188	185	213
Public safety	17	22	26	18	17
Transportation	1,528	1,790	2,041	2,081	1,895
Other	<u>183</u>	<u>227</u>	<u>242</u>	<u>215</u>	<u>269</u>
Total (2)	<u>\$2,626</u>	<u>\$3,006</u>	<u>\$3,374</u>	<u>\$3,432</u>	<u>\$3,260</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.
- (2) Totals may not add due to rounding.

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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 2013 through fiscal 2017, exclusive of unamortized bond premiums:

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

	<u>Fiscal 2013</u>	<u>Fiscal 2014 (4)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>
Beginning Balance as of July 1	\$21,433,553	\$21,513,039	\$22,419,852	\$23,826,301	\$25,079,591
Debt Issued	<u>1,470,473</u>	<u>2,359,899</u>	<u>2,918,817</u>	<u>2,766,419</u>	<u>2,877,265</u>
Subtotal	<u>22,904,026</u>	<u>23,672,983</u>	<u>25,338,669</u>	<u>26,592,720</u>	<u>27,956,856</u>
Debt retired or defeased, exclusive of refunded debt	(1,386,527)	(1,434,511)	(1,486,243)	(1,446,444)	(1,389,581)
Refunding debt issued, net of refunded debt (3)	<u>(4,460)</u>	<u>(18,575)</u>	<u>(26,125)</u>	<u>(66,685)</u>	<u>(121,610)</u>
Ending Balance June 30 (2)	<u>\$21,513,039</u>	<u>\$22,419,852</u>	<u>\$23,826,301</u>	<u>\$25,079,591</u>	<u>\$26,445,665</u>

SOURCE: Office of the Comptroller.

(1) Including accretion of capital appreciation bonds.

(2) 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.

(3) Amounts may be negative due to defeasances of debt of authorities from the issuance of Commonwealth debt as afforded under General Laws.

(4) In accordance with GAAP, includes \$200 million in principal related to commercial paper bond anticipation notes (BANs) 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 2013</u>	<u>Fiscal 2014 (1)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>
General Obligation Debt	\$19,140,239	\$19,596,662	\$20,801,956	\$21,668,296	\$22,716,695
Special Obligation Debt	1,923,700	2,292,255	2,324,490	2,754,255	2,990,960
Federal Grant Anticipation Notes	<u>449,100</u>	<u>530,935</u>	<u>699,855</u>	<u>657,040</u>	<u>738,010</u>
<u>TOTAL</u>	<u>\$21,513,039</u>	<u>\$22,419,852</u>	<u>\$23,826,301</u>	<u>\$25,079,591</u>	<u>\$26,445,665</u>

SOURCE: Office of the Comptroller.

(1) In accordance with GAAP, includes \$200 million in principal related to commercial paper bond anticipation notes (BANs) 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, 2018, 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, 2018 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
6/30/2018	\$ 241,435	\$285,777	\$ -	(\$ 6,380)	\$279,397	\$ 520,832	\$35,225	\$20,281	(\$532)	\$19,748	\$ 54,973
6/30/2019	1,361,150	999,584	4,852	(36,557)	963,027	2,329,028	62,985	37,477	(973)	36,504	99,489
6/30/2020	1,280,519	944,227	4,410	(36,300)	907,928	2,192,857	66,015	34,447	(782)	33,665	99,680
6/30/2021	1,361,643	879,234	4,265	(35,014)	844,220	2,210,129	78,485	31,191	(577)	30,614	109,099
6/30/2022	1,202,285	818,597	4,436	(32,698)	785,899	1,992,621	82,375	27,302	(357)	26,945	109,320
6/30/2023	1,042,048	764,565	4,532	(31,412)	733,153	1,779,733	86,470	23,205	(122)	23,083	109,553
6/30/2024	1,008,931	712,530	4,195	(31,412)	681,118	1,694,243	89,510	19,290	-	19,290	108,800
6/30/2025	1,002,664	665,067	4,303	(31,177)	633,890	1,640,856	93,985	14,815	-	14,815	108,800
6/30/2026	928,327	620,059	4,414	(30,776)	589,283	1,522,024	98,685	10,115	-	10,115	108,800
6/30/2027	838,475	577,508	4,605	(30,203)	547,305	1,390,386	103,620	5,181	-	5,181	108,801
6/30/2028	801,137	539,603	4,842	(28,953)	510,650	1,316,628	-	-	-	-	-
6/30/2029	867,906	502,656	4,433	(26,687)	475,969	1,348,308	-	-	-	-	-
6/30/2030	829,819	463,921	4,148	(22,892)	441,029	1,274,995	-	-	-	-	-
6/30/2031	833,937	420,057	3,985	(16,808)	403,249	1,241,171	-	-	-	-	-
6/30/2032	742,883	388,010	3,709	(14,776)	373,234	1,119,826	-	-	-	-	-
6/30/2033	562,010	358,837	2,836	(12,440)	346,397	911,243	-	-	-	-	-
6/30/2034	557,354	333,929	2,149	(11,068)	322,861	882,364	-	-	-	-	-
6/30/2035	565,406	310,191	1,483	(9,647)	300,544	867,433	-	-	-	-	-
6/30/2036	598,908	284,502	887	(8,177)	276,325	876,120	-	-	-	-	-
6/30/2037	623,896	256,430	548	(6,654)	249,776	874,220	-	-	-	-	-
6/30/2038	588,711	228,315	279	(5,077)	223,238	812,228	-	-	-	-	-
6/30/2039	594,255	201,644	-	(3,445)	198,199	792,454	-	-	-	-	-
6/30/2040	590,500	175,122	-	(1,609)	173,513	764,013	-	-	-	-	-
6/30/2041	594,630	149,502	-	-	149,502	744,132	-	-	-	-	-
6/30/2042	658,140	125,027	-	-	125,027	783,167	-	-	-	-	-
6/30/2043	701,130	98,504	-	-	98,504	799,634	-	-	-	-	-
6/30/2044	628,725	69,131	-	-	69,131	697,856	-	-	-	-	-
6/30/2045	503,485	47,775	-	-	47,775	551,260	-	-	-	-	-
6/30/2046	474,320	26,791	-	-	26,791	501,111	-	-	-	-	-
6/30/2047	236,000	8,625	-	-	8,625	244,625	-	-	-	-	-
6/30/2048	25,000	1,250	-	-	1,250	26,250	-	-	-	-	-
Totals (1)	\$22,845,628	\$12,256,971	\$69,311	(\$470,163)	\$11,786,808	\$34,701,747	\$797,355	\$223,303	(\$3,343)	\$219,960	\$1,017,315

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
6/30/2018	\$ -	\$ -	\$ -	\$13,600	\$41,749	(\$ 6,157)	\$35,593	\$ 49,193
6/30/2019	24,475	30,126	54,601	15,350	81,721	(12,314)	69,406	84,756
6/30/2020	23,380	28,842	52,222	16,595	80,984	(12,314)	68,670	85,265
6/30/2021	24,610	27,673	52,283	17,950	80,154	(12,314)	67,840	85,790
6/30/2022	25,970	26,380	52,350	21,475	79,257	(12,314)	66,942	88,417
6/30/2023	27,440	24,952	52,392	29,925	78,215	(12,314)	65,900	95,825
6/30/2024	28,990	23,443	52,433	39,535	76,730	(12,314)	64,416	103,951
6/30/2025	30,625	21,848	52,473	51,370	74,756	(11,937)	62,819	114,189
6/30/2026	32,360	20,164	52,524	53,970	72,149	(11,529)	60,620	114,590
6/30/2027	34,190	18,384	52,574	56,035	69,309	(11,065)	58,244	114,279
6/30/2028	36,125	16,504	52,629	51,115	66,351	(10,575)	55,776	106,891
6/30/2029	38,170	14,517	52,687	54,240	63,677	(10,058)	53,619	107,859
6/30/2030	40,330	12,418	52,748	54,150	61,066	(9,512)	51,554	105,704
6/30/2031	42,610	10,199	52,809	59,875	58,313	(8,935)	49,378	109,253
6/30/2032	45,020	7,856	52,876	62,950	55,094	(8,316)	46,778	109,728
6/30/2033	47,565	5,380	52,945	66,195	51,708	(7,661)	44,046	110,241
6/30/2034	50,250	2,764	53,014	69,455	48,318	(6,970)	41,348	110,803
6/30/2035	-	-	-	69,480	44,828	(6,239)	38,589	108,069
6/30/2036	-	-	-	72,995	41,331	(5,466)	35,865	108,860
6/30/2037	-	-	-	80,985	37,654	(4,650)	33,004	113,989
6/30/2038	-	-	-	80,520	33,616	(3,718)	29,898	110,418
6/30/2039	-	-	-	84,765	29,596	(2,546)	27,050	111,815
6/30/2040	-	-	-	89,105	25,240	(1,308)	23,932	113,037
6/30/2041	-	-	-	93,740	20,646	-	20,646	114,386
6/30/2042	-	-	-	98,580	16,696	-	16,696	115,276
6/30/2043	-	-	-	102,315	12,739	-	12,739	115,054
6/30/2044	-	-	-	108,520	8,007	-	8,007	116,527
6/30/2045	-	-	-	8,670	2,637	-	2,637	11,307
6/30/2046	-	-	-	55,695	2,260	-	2,260	57,955
Totals (1)	\$552,110	\$291,450	\$843,560	\$1,679,155	\$1,414,800	(\$200,529)	\$1,214,272	\$2,893,427

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
6/30/2018	\$23,040	\$3,393	\$26,433	\$23,435	\$22,447	\$45,882
6/30/2019	24,300	5,518	29,818	26,495	42,576	69,071
6/30/2020	25,640	4,182	29,822	27,195	41,369	68,564
6/30/2021	26,905	2,916	29,821	27,965	40,074	68,039
6/30/2022	28,385	1,436	29,821	26,715	38,694	65,409
6/30/2023	-	-	-	24,240	37,438	61,678
6/30/2024	-	-	-	17,295	36,255	53,550
6/30/2025	-	-	-	8,200	35,449	43,649
6/30/2026	-	-	-	8,555	35,051	43,606
6/30/2027	-	-	-	9,695	34,636	44,331
6/30/2028	-	-	-	18,005	34,151	52,156
6/30/2029	-	-	-	18,340	33,300	51,640
6/30/2030	-	-	-	21,900	32,383	54,283
6/30/2031	-	-	-	19,800	31,445	51,245
6/30/2032	-	-	-	20,860	30,455	51,315
6/30/2033	-	-	-	21,965	29,412	51,377
6/30/2034	-	-	-	23,120	28,313	51,433
6/30/2035	-	-	-	27,655	27,157	54,812
6/30/2036	-	-	-	28,745	25,960	54,705
6/30/2037	-	-	-	25,770	24,523	50,293
6/30/2038	-	-	-	31,460	23,234	54,694
6/30/2039	-	-	-	32,665	21,669	54,334
6/30/2040	-	-	-	34,150	20,052	54,202
6/30/2041	-	-	-	35,650	18,361	54,011
6/30/2042	-	-	-	36,435	16,692	53,127
6/30/2043	-	-	-	38,275	15,072	53,347
6/30/2044	-	-	-	38,505	13,366	51,871
6/30/2045	-	-	-	145,435	11,656	157,091
6/30/2046	-	-	-	105,015	5,426	110,441
6/30/2047	-	-	-	21,000	1,050	22,050
Totals (1)	\$128,270	\$17,444	\$145,715	\$944,540	\$807,664	\$1,752,204

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 2018 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>
2018	\$57,952	\$125,000	\$ 8,067	\$ 6,451	\$197,470
2019	46,489	125,000	9,838	9,100	190,427
2020	40,782	125,000	9,838	24,200	199,820
2021	33,714	125,000	9,844	4,435	172,993
2022	24,305	125,000	9,843	400	159,548
2023	24,468	125,000	9,838	50	159,356
2024	16,192	125,000	9,837	-	151,029
2025	12,015	125,000	9,845	-	146,860
2026	9,636	125,000	9,840	-	144,476
2027 through 2050	<u>46,320 (1)</u>	<u>1,900,000 (2)</u>	<u>178,342</u>	<u>-</u>	<u>2,099,662</u>
Total (4)	<u>\$311,873</u>	<u>\$3,125,000</u>	<u>\$265,132</u>	<u>\$ 44,636</u>	<u>\$3,746,641</u>

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

- (1) Current contract assistance payments end in fiscal 2047.
- (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. 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.

The following table sets forth the Commonwealth's budgetary contract assistance requirements. These figures are as of June 30, 2017.

Budgetary Contract Assistance Liabilities (in thousands)

<u>Fiscal Year</u>	<u>Leases (1)</u>
2018	\$226,548
2019	146,537
2020	113,370
2021	79,506
2022	59,877
2023	47,916
2024	42,146
2025	31,305
2026	21,266
2027	15,421
2028 through 2051	<u>197,124</u>
Total	<u>\$981,016</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>
2013	\$13,762,257
2014	26,255,768
2015	29,071,339
2016	26,145,997
2017	22,716,302

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 billion 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 2018 is \$22.875 billion. 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 2013</u>	<u>Fiscal 2014 (4)</u>	<u>Fiscal 2015</u>	<u>Fiscal 2016</u>	<u>Fiscal 2017</u>	<u>Fiscal 2018 (5)</u>
Total principal balance	\$21,513,039	\$22,419,852	\$23,826,301	\$25,079,591	\$26,445,665	\$27,016,369
Less: principal of direct debt excluded from the statutory debt limit:						
Special obligation debt (1)	(935,095)	(888,405)	(829,340)	(768,365)	(703,690)	(680,380)
Accelerated bridge program	(988,605)	(1,403,850)	(1,495,150)	(1,535,890)	(1,642,730)	(1,679,155)
Rail enhancement program (2)	-	-	-	-	(644,540)	(944,540)
Federal grant anticipation notes (1)	(449,100)	(530,935)	(699,855)	(657,040)	(738,010)	(797,355)
Assumed county debt	-	-	-	-	-	-
MBTA forward funding	(207)	(207)	(207)	(207)	(207)	(207)
Transportation Infrastructure Fund	(1,303,013)	(1,241,263)	(1,197,127)	(1,150,296)	(1,110,195)	(1,092,519)
School Building Assistance (SBA)	<u>(764,338)</u>	<u>(723,917)</u>	<u>(689,446)</u>	<u>(652,197)</u>	<u>(632,348)</u>	<u>(598,985)</u>
Outstanding direct debt, principal (3)	<u>\$17,072,681</u>	<u>\$17,631,275</u>	<u>\$18,915,176</u>	<u>\$20,315,596</u>	<u>\$20,973,945</u>	<u>\$21,223,229</u>
Statutory Debt Limit	<u>\$17,923,500</u>	<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>

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 (BANs) 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, 2018 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, 2018.

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 2/28/2018	Counterparty
<i>General Obligation Bonds:</i>								
Series 2001B & C Refunding	280,510	VRDB	4.150%	Cost of Funds	2/20/2001	1/1/2021	(15,948,763)	Morgan Stanley Capital Services
Series 2015B, 2015C, 2017A & 2017B (refunding)	433,855	SIFMA	3.769%-4.004%	SIFMA	3/15/2005	2/1/ 2028	(52,276,545)	Wells Fargo Bank
Series 2006C (refunding)	99,510	CPI	3.78%-3.85%	CPI-based formula	1/1/2007	11/1/2020	(2,042,562)	Wells Fargo Bank
Series 2007A (refunding)	31,665	LIBOR	3.936%	67% 3-Month LIBOR + 0.46%	10/8/2008	11/1/2020	(1,836,892)	Wells Fargo Bank
Series 2007A (refunding)	414,130	LIBOR	3.936%-4.083%	67% 3-Month LIBOR + 0.46-0.55%	10/8/2008	11/1/2025	(42,711,102)	Bank of NY Mellon
Series 2000A	13,492	VRDB	3.942%	SIFMA - 3 basis points	8/16/2007	8/1/2018	(250,626)	Merrill Lynch Capital Services
Series 2000A	6,583	VRDB	3.942%	SIFMA - 3 basis points	8/16/2007	8/1/2018	(126,839)	JP Morgan formerly Bear Stearns
Series 2006B, Series 2016C	<u>\$293,985</u>	VRDB	4.515%	67% 3-Month LIBOR	4/2/2009	6/15/2033	<u>(67,350,049)</u>	Barclays Bank PLC
Subtotal	<u>\$1,573,730</u>						<u>(\$182,543,378)</u>	

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 2/28/2018	Counterparty
<i>Special Obligation Dedicated Tax Revenue Bonds</i>								
Series 2005A (Gas Tax)	<u>54,025</u>	CPI	4.771%-5.059%	CPI-based formula	1/12/2005	6/1/2022	<u>(2,262,467)</u>	Merrill Lynch Capital Services
<u>Subtotal</u>	<u>\$54,025</u>						<u>(\$2,262,467)</u>	
<u>Total</u>	<u>\$1,627,755</u>						<u>(\$184,805,845)</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, 2018.

Variable Rate Bonds	Outstanding Principal Amount (in thousands)	Bank	Termination Date
2000 Series A	\$200,000	Citibank	4/24/2018
2000 Series B	75,590	Bank of America	4/24/2018
2001 Series C (Refunding)	140,255	Barclays Bank	1/01/2021
2006 Series A	136,880	Barclays Bank	8/03/2020

SOURCE: Office of the Treasurer and Receiver General.

The Commonwealth also has liquidity support for three series of commercial paper totaling \$400 million.

Commercial Paper Series	Outstanding Principal Amount (in thousands)	Bank	Termination Date
Series I (tax-exempt) and Series K (taxable) ⁽¹⁾	\$200,000	TD Bank	4/17/2018
Series L (tax-exempt)	200,000	State Street Bank	1/29/2019

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.