



MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Financial Statements, Required Supplementary Information and
Supplementary Information

June 30, 2019

(With Independent Auditors' Report Thereon)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Table of Contents

	Page(s)
Independent Auditors' Report	1–2
Management's Discussion and Analysis (Unaudited)	3–9
Financial Statement as of and for the year ended June 30, 2019:	
Statement of Net Position	10–11
Statement of Revenue, Expenses, and Changes in Net Position	12
Statement of Cash Flows	13
Notes to Financial Statements	14–51
Required Supplementary Information – Pension and OPEB Plans (Unaudited):	
Schedule of Changes in Net Pension Liability and Related Ratios	52–54
Schedule of Pension Contributions	55–56
Schedule of Changes in Total OPEB Liability and Related Ratios	57
Supplementary Information:	
Metropolitan Boston Transit Parking Corporation Schedule of Debt Service Coverage	58–59



KPMG LLP
Two Financial Center
60 South Street
Boston, MA 02111

Independent Auditors' Report

Fiscal and Management Control Board
Massachusetts Bay Transportation Authority:

Report on the Financial Statements

We have audited the accompanying financial statements of the Massachusetts Bay Transportation Authority, a component unit of the Massachusetts Department of Transportation, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Massachusetts Bay Transportation Authority's (the Authority) basic financial statements for the year then ended as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Massachusetts Bay Transportation Authority as of June 30, 2019, and the changes in its financial position and its cash flows for the year then ended, in accordance with U.S. generally accepted accounting principles.



Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis and required supplementary information – Pension and OPEB Plans as listed in the accompanying table of contents (collectively, the required supplementary information) be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the required supplementary information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The Supplementary Information – Metropolitan Boston Transit Parking Corporation Schedule of Debt Service Coverage Schedule listed in the accompanying table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The Supplementary Information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Supplementary Information is fairly stated in all material respects in relation to the basic financial statements as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 26, 2019 on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

KPMG LLP

Boston, Massachusetts
November 26, 2019

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Management's Discussion and Analysis (Unaudited)
June 30, 2019

Introduction

The following discussion and analysis of the financial performance and activity of the Massachusetts Bay Transportation Authority (the Authority) is intended to provide an introduction to and an overview and analysis of the basic financial statements of the Authority for the fiscal year ended June 30, 2019 (FY19) with selected comparative information for the fiscal year ended June 30, 2018 (FY18). The management of the Authority prepared this discussion, and it should be read in conjunction with the financial statements and the notes thereto, which follow this section.

Chapter 127 of the Acts of 1999 of the Commonwealth, as amended (Chapter 127) or the "Forward Funding Legislation", the Commonwealth repealed and restated the Prior Act effective July 1, 2000. The Prior Act as restated by Section 151 of Chapter 127, together with Section 35T of Chapter 10 of Massachusetts General Laws, also enacted as part of Chapter 127, as amended, are collectively referred to herein as the "Enabling Act".

The Authority receives a dedicated revenue stream consisting of the Assessments and the Dedicated Sales Tax (collectively, the Dedicated Revenues). The Dedicated Sales Tax is equal to the greater of the base revenue amount (as defined in the Enabling Act) and the amount raised by a 1% statewide sales tax, plus \$160,000 annually, all to be funded from existing sales tax receipts, subject to upward adjustment under certain circumstances set forth in the Enabling Act.

Aggregate Assessments are adjusted annually for inflation but will not be permitted to increase by more than 2.5% per year. Under the Enabling Act, the Authority is required to meet all of its operating and capital expenditures from Dedicated Revenues, federal assistance and revenues generated from operation of the Authority's system, including without limitation fare revenues and nonfare revenues (e.g., parking and advertising). However, under the Enabling Act, the Authority's failure to provide transportation services at current levels would not affect the Commonwealth's or the assessed cities' and towns' obligation or ability to provide the Dedicated Revenues.

Financial Statements

The financial statements are prepared using proprietary fund (enterprise fund) accounting that uses the same basis of accounting as private-sector business enterprises. The Authority is operated under one enterprise fund. Under this method of accounting, an economic resources measurement focus and an accrual basis of accounting is used.

Revenue is recorded when earned and expenses are recorded when incurred. The financial statements include statements of net position, statement of revenues, expenses and changes in net position, and statement of cash flows. These are followed by notes to the financial statements. In addition to the financial statements, this report also contains required supplementary information pertaining to the retirement and other postemployment benefit plans (OPEB) of the Authority.

The Statement of Net Position presents information on the Authority's assets and deferred outflows of resources and liabilities and deferred inflows of resources, with the difference between the two reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Authority is improving or weakening.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Management's Discussion and Analysis (Unaudited)

June 30, 2019

The Statement of Revenue, Expenses and Changes in Net Position reports the operating revenues and expenses and nonoperating revenues and expenses of the Authority for the fiscal year with the difference – the change in net position – being combined with any capital grants and contributions to determine the net change in position for the fiscal year. That change combined with the net position from the end of the previous year equals the net position at the end of the fiscal year.

The Statement of Cash Flows report cash and cash equivalent activities for the fiscal year resulting from operating activities, capital and related financing activities, noncapital and related financing activities and investing activities. The net result of these activities added to the beginning of the year balance of cash and cash equivalents total to the cash and cash equivalent balance at the end of the fiscal year.

(a) Financial Highlights – 2019 to 2018

- The Authority's net position at June 30, 2019 was \$2,473,146, an increase from the prior year of \$459,658. The Authority's net position increased by \$408,523 for the fiscal year ended at June 30, 2018. The \$51,135 net position increase year over year is primarily the result of an increase in operating revenue of \$12,770, an increase in operating expenses of \$123,393, and an increase in capital grants and contributions of \$190,769 in fiscal 2019 .
- Total bonds and notes payable outstanding at June 30, 2019 and 2018 were \$5,493,515 and \$5,728,840, respectively. During fiscal 2019, the Authority issued Senior Subordinated Sales Tax Variable Rate Demand Obligation Bond Subseries 2018 A-1 in the amount of \$95,610 and Subseries 2018 A-2 in the amount of \$95,615.
- During the year, the Authority's operating revenues, principally transportation revenues, totaled \$777,191 as compared to operating revenues of \$764,421, in fiscal year 2018, an increase of \$12,770.
- Total nonoperating revenues and capital grants and contributions, which consists of sales tax receipts and federal and state operating grants, increased by \$161,758 from \$1,768,725 in FY18 to \$1,930,483 in FY19. The increase was due to a decrease in nonoperating revenue of \$29,011, and an increase of \$190,769 in capital grants and contributions. Interest expense decreased slightly, by \$8,001, to \$235,721 for FY2019.
- Total operating expenses of \$2,248,016 in FY19 increased \$123,393 as compared with FY18. The increase in operating expenses from FY18 to FY19 is primarily attributable to an increase in wages and benefits of \$80,905 and materials, supplies and services expenses of \$41,338.
- As of June 30, 2019, the Authority's capital assets had a depreciated value of \$10,607,504 made up of \$18,345,581 in historical cost offset by \$7,738,077 in accumulated depreciation and amortization. During FY19 the Authority spent \$1,239,501 for additions to the system.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Management's Discussion and Analysis (Unaudited)
June 30, 2019

Condensed Financial Information

Condensed financial information as of and for the years ended June 30, 2019 and 2018 is as follows:

Condensed Statements of Net Position:

	June 30	
	2019	2018
Current and other assets and deferred outflows	\$ 2,349,998	2,233,739
Capital assets, net	<u>10,607,504</u>	<u>9,931,906</u>
Total assets and deferred outflows	<u>\$ 12,957,502</u>	<u>12,165,645</u>
Current liabilities	\$ 946,039	882,596
Long-term liabilities and deferred inflows	<u>9,538,317</u>	<u>9,269,561</u>
Total liabilities and deferred inflows	<u>\$ 10,484,356</u>	<u>10,152,157</u>
Net position:		
Net investment in capital assets	\$ 5,984,296	5,384,327
Restricted	20,524	20,024
Unrestricted	<u>(3,531,674)</u>	<u>(3,390,863)</u>
Total net position	<u>\$ 2,473,146</u>	<u>2,013,488</u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Management's Discussion and Analysis (Unaudited)
June 30, 2019

Condensed Statements of Revenue, Expenses and Changes in Net Position:

	<u>June 30</u>	
	<u>2019</u>	<u>2018</u>
Operating revenue:		
Revenue from transportation	\$ 671,701	661,055
Other	105,490	103,366
Total operating revenues	<u>777,191</u>	<u>764,421</u>
Operating expenses:		
Transportation services	1,001,762	920,857
Other operating expenses	882,025	816,345
Total operating expenses, excluding depreciation	<u>1,883,787</u>	<u>1,737,202</u>
Depreciation and amortization	<u>364,229</u>	<u>387,421</u>
Total operating expenses, including depreciation and amortization	<u>2,248,016</u>	<u>2,124,623</u>
Operating loss	(1,470,825)	(1,360,202)
Nonoperating revenue, net	<u>1,246,208</u>	<u>1,275,219</u>
Loss before capital grants and contributions	(224,617)	(84,983)
Capital grants and contributions	<u>684,275</u>	<u>493,506</u>
Increase in net position	459,658	408,523
Beginning of year, net position	<u>2,013,488</u>	<u>1,604,965</u>
End of year, net position	<u>\$ 2,473,146</u>	<u>2,013,488</u>

The information contained in the condensed financial information table is used as the basis for the following discussion regarding the Authority's financial activities for the fiscal years ended June 30, 2019 and 2018.

Financial Highlights for the fiscal years ended June 30, 2019 and 2018

- The Authority ended the years June 30, 2019 and 2018 with a net position of \$2,473,146 and \$2,013,488 of which \$5,984,296 and \$5,384,237 represented the Authority's net investment in capital assets, and \$(3,531,674) and \$(3,390,863) was unrestricted, respectively. The net position increased by \$459,658 and \$408,523 in FY19 and FY18, respectively. The increase in net position in FY19 is attributable to increased operating and nonoperating revenue growth, cost control management of controllable expenses, and an increase in capital grants.
- The Authority incurred an operating loss for the year ended June 30, 2019 of \$1,470,825. The operating loss was offset in accordance with the Enabling Act which provides the Authority a dedicated revenue stream consisting of the assessments on the communities in the Authority's service area and a Dedicated

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Management's Discussion and Analysis (Unaudited)

June 30, 2019

Sales Tax. For year ended June 30, 2019 the Authority recognized \$1,053,201 of dedicated sales tax revenues from the Commonwealth of Massachusetts. Dedicated local assessments on cities and towns within the Authority's service area accounted for \$170,145 in nonoperating revenue in FY19. The increase in loss before capital grants and contributions of \$136,634 was due to a decrease of \$70,055 in other income offset by an \$8,001 decrease interest expense plus a \$12,778 increase in interest income in FY19

- The Authority ended the years June 30, 2019 and 2018 with cash and investments of \$1,253,586 and \$1,441,593, respectively. Only \$296,900 and \$256,492 of this amount at June 30, 2019 and 2018, respectively, is available for operations as the bulk of these assets are restricted for specific purposes and unavailable for the Authority's general use.
- The statement of cash flows identifies the sources and uses of cash for each fiscal year. Cash and cash equivalents decreased by \$202,477 in FY19.

Operating Revenue

The following charts show the major sources of operating revenue for the fiscal years ended June 30, 2019 and 2018:

	<u>2019</u>	<u>Percent of total</u>	<u>2018</u>	<u>Percent of total</u>
Bus	\$ 109,131	14 %	\$ 117,594	15 %
Subway	306,120	39	313,738	41
Commuter rail	238,755	31	212,503	28
Other passenger	17,695	2	16,860	2
Other operating	<u>105,490</u>	<u>14</u>	<u>103,726</u>	<u>14</u>
	<u>\$ 777,191</u>	<u>100 %</u>	<u>\$ 764,421</u>	<u>100 %</u>

Passenger revenues make up 86% and 86% of the total operating revenues in FY19 and FY18, respectively. The Authority continues to work on increasing ridership through new equipment purchases, station upgrades and system expansion and will continue to pursue its policy of maximizing nonfare revenue opportunities.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Management's Discussion and Analysis (Unaudited)
June 30, 2019

Operating Expenses

The following chart shows the major sources of operating expenses for the fiscal years ended June 30, 2019, and 2018:

	<u>2019</u>	<u>Percent of total</u>	<u>2018</u>	<u>Percent of total</u>
Wages and benefits	\$ 1,001,762	45 %	\$ 920,857	43 %
Commuter rail	549,600	24	518,329	25
Depreciation and amortization	364,229	16	387,421	18
Material and supplies	307,996	14	266,658	13
Other operating	24,429	1	31,358	1
	<u>\$ 2,248,016</u>	<u>100 %</u>	<u>\$ 2,124,623</u>	<u>100 %</u>

Consistent with previous years, wages and benefits make up the largest portion of operating expenses. This is common in the public transportation industry as the provision of service is extremely labor intensive. Due to the significant investments the Authority has in capital assets, depreciation and amortization continues to be a significant operating expense. Unlike the other expenses listed, depreciation and amortization is not a cash expense. The Authority has and continues to pursue ways to reduce costs without impacting service.

Capital Assets

The Authority's capital assets as of June 30, 2019 and 2018 amounted to \$10,607,504 and \$9,931,906, (net of accumulated depreciation and amortization), respectively. This investment in capital assets includes land, construction work in progress, ways and structures, buildings and equipment, and leases.

Net capital assets consisted of the following for the fiscal years ended June 30, 2019 and 2018:

	<u>2019</u>	<u>2018</u>
Land	\$ 393,845	390,431
Construction work in progress	2,977,084	2,040,030
Ways and structures	5,878,209	6,044,099
Buildings and equipment	1,252,169	1,340,868
Capital leases	106,197	116,478
	<u>\$ 10,607,504</u>	<u>9,931,906</u>

The Authority primarily acquires its assets with the proceeds from federal capital grants and revenue bonds. Station improvements, new equipment purchases and system expansion are all part of the Authority's capital investment program. Commitments on approved capital asset construction projects were \$1,319,789 and \$875,573, for the years ended June 30, 2019 and 2018, respectively. Commitments to invest in new transportation equipment were \$955,474 and \$199,841, as of June 30, 2019 and 2018, respectively.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Management's Discussion and Analysis (Unaudited)
June 30, 2019

Debt

Bonds and notes outstanding for the fiscal years ended June 30, 2019 and 2018:

	<u>2019</u>	<u>2018</u>
General Transportation System bonds	\$ 160,680	179,520
Revenue bonds	4,203,101	4,436,177
MBTPC bonds	304,585	304,585
Commercial paper	50,000	—
BAB's	<u>428,300</u>	<u>428,300</u>
	<u>\$ 5,146,666</u>	<u>5,348,582</u>

The total amount for these categories of debt decreased by \$201,916 for the fiscal year ended June 30, 2019.

During fiscal 2019, the Authority issued Senior Subordinated Sales Tax Variable Rate Demand Obligation Bond Subseries 2018 A-1 in the amount of \$95,610 and Subseries 2018 A-2 in the amount of \$95,615.

Requests for Information

This financial report is intended to provide an overview of the finances of the Authority for those with an interest in this organization. Questions concerning any information within this report may be directed to the General Manager, the Chief Administrator or the Chief Financial Officer of the Authority.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Statement of Net Position

June 30, 2019

(Dollars in thousands)

Assets and Deferred Outflows of Resources	2019
Current assets:	
Unrestricted cash and temporary cash investments (note 3)	\$ 296,900
Restricted cash and temporary cash investments (note 3):	
Bond construction accounts	114,861
Stabilization accounts	20,524
Other cash and temporary investments	35,703
Accounts receivable:	
Commonwealth of Massachusetts	109,015
Federal grants	40,869
Other trade, net	54,391
Materials and supplies	62,886
Prepaid expenses	3,725
Total current assets	738,874
Noncurrent assets:	
Restricted cash and investments accounts (note 3):	
Forward delivery agreements (note 3h)	51,398
Lease deposits	65,727
Bond reserve accounts (note 8)	668,473
Total restricted cash and investments accounts	785,598
Net investment in direct financing lease (note 5)	27,984
Capital assets, at cost (notes 6, 7, and 9):	
Transportation property, being depreciated	14,974,652
Transportation property, not being depreciated	3,370,929
Less accumulated depreciation and amortization	(7,738,077)
Capital assets, net	10,607,504
Total noncurrent assets	11,421,086
Total assets	12,159,960
Deferred outflows of resources:	
Debt refundings	160,302
Derivative related amounts	4,878
Pension related amounts (note 12)	366,496
OPEB related amounts (note 13)	265,866
Total deferred outflows of resources	797,542
Total assets and deferred outflows of resources	\$ 12,957,502

See accompanying notes to financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Statement of Net Position

June 30, 2019

(Dollars in thousands)

Liabilities and Deferred Inflows of Resources	2019
Current liabilities:	
Current maturities of bonds and notes payable (note 8)	\$ 396,985
Accounts payable	313,550
Accrued liabilities:	
Payroll and vacation	47,617
Interest	116,834
Injuries and damage claims, workers' compensation claims, and other (note 10)	71,053
Total current liabilities	<u>946,039</u>
Noncurrent liabilities, less current maturities:	
Bonds payable, net (note 8)	5,096,530
Obligations under capital leases (note 6)	65,774
Accrued liabilities (note 10)	103,680
Pension liability (note 12)	1,584,967
Other postemployment benefits (note 13)	2,458,432
Liability for derivative instruments	5,606
Unearned revenue	22,403
Total noncurrent liabilities	<u>9,337,392</u>
Total liabilities	<u>10,283,431</u>
Deferred inflows of resources:	
Debt refundings	164
Pension related amounts (note 12)	6,357
OPEB related amounts (note 13)	194,404
Total deferred inflows of resources	<u>200,925</u>
Total liabilities and deferred inflows of resources	<u>10,484,356</u>
Net Position	
Net investment in capital assets	5,984,296
Restricted	20,524
Unrestricted	<u>(3,531,674)</u>
Total net position	<u>\$ 2,473,146</u>

See accompanying notes to financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Statement of Revenue, Expenses, and Changes in Net Position

Year ended June 30, 2019

(Dollars in thousands)

	2019
Operating revenue:	
Revenue from transportation	\$ 671,701
Other	105,490
Total operating revenue	777,191
Operating expenses:	
Wages and related employee benefits:	
Wages	486,762
Medical and dental insurance	56,819
Other postemployment benefits	154,385
Health and welfare expenditures	12,500
Pensions	251,471
Social security taxes	42,521
Workers' compensation	14,529
Other	969
Capitalized costs	(18,194)
Total wages and related employee benefits	1,001,762
Other operating expenses:	
Depreciation and amortization	364,229
Materials, supplies, and services	307,996
Injuries and damages	16,279
Commuter railroad and local subsidy expenses (note 11)	549,600
Other	8,150
Total other operating expenses	1,246,254
Total operating expenses	2,248,016
Operating loss	(1,470,825)
Nonoperating revenue (expense):	
Dedicated sales tax revenue (note 4)	1,053,201
Contract assistance – Commonwealth of Massachusetts	172,102
Dedicated local assessments (note 4)	170,145
Other nonoperating income	46,844
Interest income	39,637
Interest expense	(235,721)
Nonoperating revenue, net	1,246,208
Loss before capital grants and contributions	(224,617)
Capital grants and contributions	684,275
Increase in net position	459,658
Beginning of year, net position	2,013,488
End of year, net position	\$ 2,473,146

See accompanying notes to financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Statement of Cash Flows

Year ended June 30, 2019

(Dollars in thousands)

	2019
Cash flows from operating activities:	
Receipts from transit customers	\$ 675,547
Receipts from other operations	112,690
Payments to suppliers and vendors	(1,058,495)
Payments to employees	(567,460)
Net cash used in operating activities	(837,718)
Cash flows from capital and related financing activities:	
Additions to transportation property	(1,055,786)
Interest paid	(239,890)
Change in deferred credits/charges	7,168
Commercial paper receipt	50,000
Payments on debt	(448,940)
Proceeds from capital asset sales	119
Proceeds from bond and note issuances	191,225
Bond construction and reserve account receipts	8,842
Capital grants	670,680
Other	(8,186)
Net cash used in capital and related financing activities	(824,768)
Cash flows from noncapital and related financing activities:	
Sales tax and local assessment	1,389,500
Net cash provided by noncapital and related financing activities	1,389,500
Cash flows from investing activity:	
Interest and other income	70,509
Net cash provided by investing activity	70,509
Net change	(202,477)
Cash, restricted cash and temporary cash investments, beginning of year	670,465
Cash, restricted cash and temporary cash investments, end of year	\$ 467,988
Adjustments to reconcile operating loss to net cash used in operating activities:	
Operating loss	\$ (1,470,825)
Changes not requiring current expenditure of cash:	
Depreciation and amortization	364,229
Increase in pension amounts	141,157
Increase in other postemployment benefits	104,716
Changes in all other working capital accounts except cash, temporary cash investments, and short-term debt	23,005
Net cash used in operating activities	\$ (837,718)

See accompanying notes to financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(1) The Reporting Entity

The Massachusetts Bay Transportation Authority (the Authority or MBTA) was originally created in 1964 as a body politic and corporate and a political subdivision of the Commonwealth of Massachusetts (the Commonwealth) to finance and operate mass transportation facilities within, and, to a limited extent, outside of its territorial area of 176 cities and towns and is authorized to enter into agreements for providing mass transportation service by private companies, including railroads. The 176 cities and towns are grouped into three categories, based upon the weighting of each member's allocable percentage of population and assessments: (i) the inner 14 cities and towns; (ii) the outer 51 cities and towns; and (iii) the other 111 served communities.

Chapter 161A is referred to herein, together with Section 35T of Chapter 10 of Massachusetts General Laws, as the "Enabling Act."

The Authority is governed and its corporate powers exercised by the board of directors (the Board of Directors or Board) of the Massachusetts Department of Transportation (MassDOT). However, during its existence, the Fiscal and Management Control Board (the Control Board or the FMCB) is afforded all the powers, responsibilities, and obligations relative to the Authority that are vested in the Board with the exception of authorizing the issuance of debt, which remains the responsibility of the Board. Furthermore, the General Manager is hired and retained by the Secretary of Transportation (the Secretary). The FMCB reports to the Secretary.

The Control Board may (i) establish separate operating and capital budgets each with clearly designated revenue sources and uses and establish policies and procedures to ensure that no funds are commingled between operating and capital budgets; (ii) establish one-year and five-year operating budgets which are balanced primarily through a combination of internal cost controls and increased own-source revenues and which facilitate the transfer of MBTA employees from the capital budget to the operating budget; (iii) establish five-year and twenty-year capital plans that include a phased program for the complete restoration of the physical assets of the Authority including its vehicle fleet, a plan to address failings within the existing capital program and funding recommendations to meet the region's transit needs; (iv) establish a rigorous performance management system and performance metrics and targets that address, among other things, maximizing of own-source revenues, increasing ridership, reducing absenteeism, addressing vacancies and attrition, improving employee morale, achieving procurement and contracting improvements and improving customer focus and orientation; (v) review any contract for the provision of services entered into by the Authority, including contracts entered into before the establishment of the Control Board, including, but not limited to, commuter rail and paratransit service contracts, and amend those contracts, as necessary, in accordance with their terms; and (vi) establish, increase, or decrease any fare, fee, rate, or charge for any service, license or activity within the scope of the MBTA. The Control Board may: (i) reorganize or consolidate MBTA departments, divisions or entities, in whole or in part, except the Metropolitan Boston Transit Parking Corporation; (ii) establish any new departments, divisions, or entities as it considers necessary; and (iii) transfer the duties, powers, functions and appropriations of a department, division or entity, except the duties, powers, functions and appropriations of the Metropolitan Boston Transit Parking Corporation, to another. Any reorganization or consolidation that affects MassDOT shall be approved by the Board.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

The Control Board consists of five members appointed by the Governor. Three members shall be members of the MassDOT Board, one shall have experience in transportation finance and one shall have experience in mass transit operation. On May 25, 2017, the Governor accepted the FMCB's recommendation to extend its governance by two years, and will continue until June 30, 2020, as allowed under the authorizing statute. The Governor may not extend the Control Board term beyond June 30, 2020.

The Control Board shall appear before and provide updates to the Board not less than once per month.

Following the dissolution of the Control Board, the MassDOT Board will resume sole governance of the Authority. The Board consists of 11-members. The Secretary of Transportation shall serve ex-officio as Chair and ten other members appointed by the Governor, one of whom shall be a rider, as defined in the Enabling Act; one of whom shall have experience in the field of public or private finance; one of whom shall have experience in transportation planning and policy; one of whom shall have experience in civil engineering; one of whom shall have experience in the field of public or private finance or transportation planning and policy; one of whom shall have municipal government experience in one of the fourteen cities and towns, as defined in the Enabling Act; one of whom shall have municipal government experience in one of the fifty-one cities and towns, as defined in the Enabling Act; one of whom shall have municipal government experience in one of the other served communities, as defined in the Enabling Act; one of whom shall have municipal government experience in a city or town not part of the area constituting the authority, as defined in the Enabling Act; and one of whom shall be a representative of a labor organization selected from a list of three nominees provided by the Massachusetts State Labor Council, AFL-CIO. Four of the members, other than the Chair, shall serve for terms that are coterminous with the Governor; provided, however, that at least three of the coterminous members shall have experience in transportation policy, public finance or civil engineering and at least one of the coterminous members shall be a rider. The six remaining members appointed by the Governor shall serve for terms of four years. No more than six of the eleven directors, except the ex-officio director, shall be members of the same political party.

Under the Enabling Act, the Advisory Board, consisting of a representative of each of the cities and towns paying assessments, shall have certain specified powers, including the power to review the Authority's long term capital program and annual operating budget. The Enabling Act does not provide for the Authority to be a debtor under the federal bankruptcy code.

On May 4, 2011, the Authority approved the establishment of Metropolitan Boston Transit Parking Corporation (MBTPC) a private Massachusetts nonprofit corporation organized under the provisions of Chapter 180 of Massachusetts General Laws, for the limited purpose of taking action necessary to provide for issuance of bonds on behalf of the Authority secured by the revenues from the parking system of the Authority. The MBTPC Systemwide Senior Lien Parking Revenue Bonds, Series 2011 were issued on June 22, 2011. The Authority is the sole member of MBTPC and the Board of Directors consists of three ex officio management employees of the Authority. MBTPC has no employees. MBTPC is authorized under the Systemwide Parking Revenue Bonds Resolution (the General Resolution) to issue debt payable and has assumed certain rights to receive gross revenues from the parking system of the Authority under a Transfer and Disposition Agreement. The obligations of the corporation, the bonds and Transfer and Disposition Agreement are limited obligations, payable solely from the assets of MBTPC, which are

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

pledged under the General Resolution and recourse shall be limited to such assets. Due to its relationship with the Authority, the MBTPC is considered a blended component of the Authority.

In accordance with the requirements of Governmental Accounting Standards Board (GASB), the financial statements must present the Authority (the primary government) and its component units. Pursuant to this criterion, no component units, other than the MBTPC, were identified for inclusion in the accompanying financial statements. Additionally, the accompanying financial statements are incorporated into the financial statements of MassDOT, as the Authority is a component unit of MassDOT.

(2) Summary of Significant Accounting Policies

(a) Basis of Financial Reporting

The Authority applies U.S. generally accepted accounting principles (GAAP) as prescribed by GASB. The accompanying financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting and reflect transactions on behalf of the Authority, the reporting entity. The Authority accounts for its operations as an enterprise fund. Operating revenues and expenses result from providing transportation services to member communities. All other revenues and expenses are reported as nonoperating revenues and expenses.

(b) Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

(c) Cash

Cash and cash equivalents include cash on deposit and money market funds.

(d) Investments

Investments are generally presented at fair value, other than certain investments that are recorded at amortized cost. The MBTA uses an independent pricing source to determine the fair value of investments at quoted market prices. Changes in fair value are included in nonoperating interest income in the Statement of Revenues, Expenses and Changes in Net Position. The investments recorded at amortized cost are those outlined by GASB standards and include: Investments held by the Authority in nonparticipating interest-earning investment contracts and money market investments and participating interest-earning contracts that have a remaining maturity at the time of purchase of one year or less. The Authority also records its investments in state & local government series obligations at cost due to prohibition of transferability of the obligations. The Authority invests in the Massachusetts Municipal Depository Trust (MMDT), which is an external investment pool and is not SEC-registered. MMDT is state-regulated and is valued at amortized cost.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(e) Statement of Cash Flows

For purposes of the statement of cash flows, the Authority considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents, which are reported as temporary cash investments.

(f) Cash and Investment Accounts

Certain cash and investments are segregated from operating cash and investments and labeled restricted due to certain external restrictions as follows:

Bond Construction Accounts – represent unexpended bond proceeds.

Stabilization Accounts – represent funds held in accordance with statutory requirements to be used when annual revenues are projected to be less than annual expenses, or if the Authority has insufficient funds on hand to pay current expenses.

Lease Deposits – represent investments (Treasury STRIPS and a collateralized investment agreement) held by trustees that will be used to make scheduled equity payments on the Authority's capital leases.

Bond Reserve Accounts – represent funds required to be maintained by trust agreements and bond resolutions. Amounts also reflect the fair value of forward delivery agreements.

Unrestricted cash and temporary investments are free of any internal or external restrictions. Other cash and temporary investments represent internally restricted funds held for capital maintenance, debt service, and other expenses.

(g) Capital Assets

All capital assets exceeding \$5, with a useful life of greater than one year, are stated at historical cost. These costs include the Authority's labor costs for employees working on capital projects, related fringe benefits, and an allocated share of general and administrative costs. Ordinary maintenance and repairs are charged to expense as incurred.

Depreciation of capital assets is computed using the straight-line method over the estimated useful life of the asset. The major categories of transportation property in service and their estimated useful lives are as follows at June 30, 2019:

	Estimated useful life
Ways and structures	10–60 years
Building and equipment	3–25 years

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(h) Construction in Progress

For the year ended June 30, 2019, \$1,122,684 was expended towards the completion of major construction projects and improvements in progress. The projects and improvements completed were transferred to the appropriate transportation property accounts. Major projects included transit service extensions, right of way improvements, and purchases of new rolling stock and other equipment.

The Authority does not capitalize interest.

(i) Materials and Supplies

Materials and supplies are stated at average cost and include items to support the Authority's operations.

(j) Self-Insurance

The Authority is fully self-insured for various risks including workers' compensation, and injuries and damages claims. The Authority also self-insures a portion of casualty, liability claims, and property losses.

(k) Revenue Recognition

The Authority realizes revenue from a variety of different sources including but not limited to dedicated sales tax revenue and dedicated assessment revenue (collectively referred to as Dedicated Revenues, state contract assistance appropriated funds, fare revenue, and nonfare revenue such as real estate, parking, and advertising revenues.

Under the Enabling Act, the Dedicated Revenues are impressed with a trust for the benefit of Authority bondholders. Furthermore, the Commonwealth covenants that while any Authority bonds or notes secured by the Dedicated Revenues are outstanding and remain unpaid, the Dedicated Revenues shall not be diverted, and, so long as the Dedicated Revenues are necessary for the purpose for which they have been pledged. The Authority recognizes the Dedicated Revenues as nonoperating revenue.

The Dedicated Sales Tax is equal to the greater of the base revenue amount (as defined in the Enabling Act) and the amount raised by a 1% statewide sales tax to be funded from existing sales tax receipts, subject to adjustment under certain circumstances set forth in the Enabling Act, plus \$160,000 annually. The dedicated assessment revenue consists of the obligation of 176 cities and towns in the Authority's expanded district to pay assessments for transportation services and benefits rendered. The Commonwealth deducts the assessments from each municipality's local aid payments; as such, these payments are received from the Commonwealth.

The dedicated assessments shall be adjusted each July 1 by the growth rate of the inflation index over the preceding 12 months not to exceed 102.5% of the previous year's assessment.

The Transportation Reform Act established the Commonwealth Transportation Fund (CTF), a budgetary fund of the Commonwealth for transportation related purposes, to receive essentially the same revenue previously deposited into the Highway Fund, including gasoline tax receipts and registry fee revenue. The Transportation Finance Act also provided funding for various transportation services

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

and infrastructure needs within the various units of MassDOT. The Commonwealth appropriated the amount of \$127,000 from the CTF to the Authority for FY19. In addition, in the Commonwealth made \$60,000 available to the Authority in the FY19 capital budget for pay-go capital purposes. These amounts are subject to appropriation by the Commonwealth in future years. The Authority recognizes the state appropriated funds from the CTF on an accrual basis as nonoperating revenue.

The Authority generates significant revenue from the operation of its transportation system, including both fare revenue and nonfare revenue such as those derived from real estate, parking, and advertising. Fare revenue is recorded on an accrual basis as operating revenue when fare media is purchased by riding customers through fare vending equipment and pass programs administered by the Authority. Real estate, parking, and advertising revenue is recorded on an accrual basis as operating revenue upon reporting of independent contractors managing these revenue streams on behalf of the Authority. Such activity is reflected as operating revenue in the accompanying financial statements

(l) Capital Grants and Contributions

The Authority receives capital grants from certain governmental agencies to be used for various purposes connected with the planning, modernization, and expansion of transportation facilities and equipment.

(m) Compensated Absences

The Authority accrues for vacation pay when it is earned by employees. The amount of vacation pay accrued as of June 30, 2019 was \$19,668.

(n) Postemployment Benefits

The Authority sponsors three defined benefit pension plans, including the MBTA Retirement Fund, the MBTA Police Association Retirement Plan and the MBTA Deferred Compensation Plan. The Authority measures and records a net pension liability on its statement of net position which represents its unfunded pension plans' obligation. For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the MBTA Retirement Fund, the MBTA Police Association Retirement Plan, and the MBTA Deferred Compensation Plan, and additions to/deductions from the Plans' fiduciary net position have been determined on the same basis as they are reported by the Plans. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments held by the plans are measured at fair value.

The Authority also sponsors an unfunded other post-employment benefit (OPEB) plan which is more fully described in note 13.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(o) Environmental and other Remediation Obligations

The Authority recognizes pollution remediation liabilities in accordance with GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations* and GASB Statement No. 83, *Certain Asset Retirement Obligations*. At June 30, 2019 the Authority recorded a long-term liability of \$6,483 related to certain underground storage tanks and for the removal of Polychlorinated Biophenyls (PCB) at one of its facilities.

(p) Derivatives

The Authorities derivative activities included various forward delivery agreements (FDA) and various interest rate swaps which are recorded at fair value. At June 30, 2019, the fair value of the FDA which are considered investment derivatives totaled \$51,398. At June 30, 2019, the fair value of the interest rate swaps which are considered as hedge instruments totaled (\$5,606).

Derivative instruments are reported as assets or liabilities at fair value on the statement of net position. Fair value is determined using a market approach that considers benchmark interest rates.

Changes in fair value may be reported in the statement of revenue, expenses, and changes in net position, or as deferred inflows or deferred outflows of resources in the statement of net position depending upon whether the derivative instrument qualifies for hedge accounting.

(q) Available Unrestricted Resources

The Authority's policy is to utilize available unrestricted resources prior to restricted resources.

(r) Deferred Inflows and Outflows

The Authority accounts for certain transactions that result in the consumption or acquisition of one period that are applicable to future periods as deferred outflows and deferred inflows, respectively, to distinguish them from assets and liabilities. Deferred outflows of resources increase net position, similar to assets and deferred inflows of resources decrease net position similar to liabilities.

(s) Statement of Net Position

The statement of net position presents all of the Authority's assets, deferred outflows of resources, liabilities and deferred inflows of resources, with the difference reported as net position. Net position is reported in three categories:

Net investment in capital assets consists of capital assets, net of accumulated depreciation and amortization and reduced by outstanding balances for bonds, notes and other debt that are attributed to the acquisition, construction or improvement of those assets.

Restricted net position result when constraints placed on net position use are either externally imposed by creditors, grantors, contributors, and the like, or imposed by law through enabling legislation.

Unrestricted net position consists of net position which does not meet the definition of the two preceding categories.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(3) Deposits and Investments

The Authority's investment policy is to only invest in securities named in the respective trust agreements.

The Authority is authorized by its board of directors to make deposits into checking and savings accounts and to invest in direct obligations of the U.S. Treasury, its agencies and instrumentalities, bankers' acceptances, investment agreements, municipal bonds, repurchase agreements secured by U.S. government and agency obligations, and certain other investments permitted under the trust indentures.

Obligations of any agency or instrumentality of the United States of America including, but not limited to, the following may be acceptable as collateral to secure certificates of deposit or other instruments:

- (A) Federal Home Loan Banks
- (B) Federal Land Banks
- (C) Federal Intermediate Credit Banks
- (D) Bank for Cooperatives
- (E) Federal National Mortgage Association
- (F) Federal Farm Credit Banks

The Authority may invest in prime commercial paper of corporate issuers with a minimum quality rating of P 1 by Moody's Investors Service (Moody's) or A 1 by Standard and Poor's (S&P). These instruments can vary in maturity; however, no more than 10% of the investment funds shall be invested in the commercial paper of a single corporation.

Additionally, the Authority is authorized to invest in the Massachusetts Municipal Depository Trust (MMDT), a pooled money market like investment fund, established under General Laws, Chapter 29, Section 38A. MMDT is an external investment pool that meets the criteria established by GASB 79 to report its investments at amortized cost. As such, the Authority reports its investment in MMDT at amortized cost which approximates the net asset value of \$1.00 (one dollar) per share. MMDT has a maturity of less than one year and is not rated.

Marketable securities, which consist primarily of U.S. government instruments, are carried at fair value based upon quoted market prices. Nonparticipating interest earning contracts, including certificates of deposit, guaranteed investment contracts, and state and local government series obligations, are carried at cost.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

Deposits and investments consisted of the following amounts presented in the accompanying statement of net position at June 30, 2019:

	2019
Restricted:	
Bond construction accounts	\$ 114,861
Bond reserve accounts	668,473
Stabilization accounts	20,524
Forward delivery agreements	51,398
Lease deposits	65,727
Subtotal	920,983
Unrestricted cash and temporary cash investments	332,603
Total	\$ 1,253,586

Included in bond reserve, stabilization, and unrestricted cash and temporary investments at June 30, 2019 are investments in Commonwealth debt instruments with a fair value of \$44,850.

The Board approved the establishment of a Lockbox Capital Maintenance Fund (the Fund) that is to be funded by the increase in fare revenue generated by the fare changes. Resources deposited in the Fund will be used for pay-as-you-go capital improvements. Spending from the Fund for any purpose other than capital improvements requires at least a two-thirds vote of the FMCB. The Fund had a balance of \$118,092 as part of the unrestricted cash balance as of June 30, 2019.

(a) Custodial Credit Risk – Deposits

The custodial credit risk for deposits is the risk that, in the event of a bank failure, the Authority's deposits may not be recovered. The deposits in the bank in excess of the insured amount and collateralized amount are uninsured and uncollateralized. The carrying amount of the Authority's deposits at June 30, 2019 was \$149,709. The bank balances at June 30, 2019 were \$151,909. Of this amount, \$0 was exposed to custodial credit risk as uninsured and uncollateralized. These amounts reflect the Federal Deposit Insurance Corporation limit of \$250 per institution at June 30, 2019.

(b) Interest Rate Risk – Investments

Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of an investment. The Authority follows the guidelines in the Authority's trust agreements, and does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

The Authority's fixed income investments at June 30, 2019 are presented below. All investments are presented by investment type and maturity.

Investment type	Amount	2019			
		Investment maturities (in years)			
		Less than 1 year	1-3	4-8	More than 8
Money market funds	\$ 347,835	347,835	—	—	—
MMDT	318,279	318,279	—	—	—
Guaranteed investment contracts	1,325	—	—	—	1,325
U.S. Treasury STRIPS	65,727	—	—	—	65,727
U.S. Treasury securities	13,334	13,334	—	—	—
U.S. government-sponsored enterprises	198,204	172,285	—	—	25,919
Municipal bonds	44,850	—	—	16,066	28,784
State and Local Government	62,926	—	—	12,180	50,746
Investments	<u>\$ 1,052,480</u>	<u>851,733</u>	<u>—</u>	<u>28,246</u>	<u>172,501</u>

(c) Credit Ratings

The Authority has \$347,835 invested in money market funds as of June 30, 2019. These investments are not rated.

The Authority has \$318,279 invested in MMDT as of June 30, 2019, a state investment pool managed by Fidelity Investments as agent for the Commonwealth and shareholders of the MMDT. MMDT is unrated.

The Authority holds guaranteed investment contracts with a fair value of \$1,325 at June 30, 2019. These investments are not rated.

The Authority had \$186,837 in U.S. Treasury STRIPS, U.S. Treasury securities, State and local government series and municipal bonds as of June 30, 2019. The investments in Treasury STRIPS, U.S. Treasury Securities and State and local government series obligations are backed by the full faith and credit of the U.S. government. The municipal bonds have an implied credit rating of Aaa/AA+.

The Authority has \$198,204 invested in U.S. government-sponsored enterprises as of June 30, 2019. These investments have an implied credit rating of AAaa/AA+ or they have been collateralized to AAA.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(d) Concentration of Credit Risk – Investments

Concentration of credit risk is the risk of loss attributable to the magnitude of the Authority's investment in a single issuer. The issuers where securities at year-end exceeded 5% of the total investments, other than U.S. government obligations and mutual funds, are as follows:

	Credit rating by Moody's/S&P	2019	Percentage of portfolio
Federal Home Loan Banks	Aaa/AA+	\$ 115,863	7.23 %
Federal National Mortgage Association	Aaa/AA+	76,054	11.01

(e) Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The Authority was not exposed to foreign currency risk as of June 30, 2019.

(f) Fair Value Hierarchy

Investments are measured at fair value on a recurring basis. Recurring fair value measurements are those that are required to be made at the end of each reporting period. Fair value measurements are categorized based on the valuation inputs used to measure the fair value.

- Level 1 inputs are quoted market prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.
- Level 2 inputs are other than quoted prices in Level 1 that are observable for the asset or liability or similar assets or liabilities either directly or indirectly through corroboration with the observable market data.
- Level 3 inputs are significant unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes in the methodologies used at June 30, 2019.

Institutional Money Market Funds – Valued at fair value, which is represented by the quoted price for the fund generally \$1.00 (one dollar). Institutional Money market funds are generally classified as Level 1.

U.S. Treasury Strips – Treasury strips are typically valued based on pricing sources with reasonable level of price transparency or derived from a treasury curve. Treasury strips are generally categorized as Level 2 of the fair value hierarchy.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

U.S. Treasury Securities – Securities issued by the U.S. Government, its agencies, authorities and instrumentalities are valued using quoted prices, documented trade history in the security and a pricing model maximizing the use of observable inputs determined by investment managers.

- U.S. Treasury Securities consist principally of U.S. Treasury bills, notes and bonds are generally classified as Level 2 of the fair value hierarchy
- U.S. Government sponsored enterprises securities consist principally of U.S. Government agency obligations including agency-issued debt, agency mortgage pass-through securities, and agency collateralized mortgage obligation are generally categorized in Level 2 of the fair value hierarchy.

Municipal Bonds – State and municipal bonds are generally valued based on the independent prices obtained from third party valuation services. Where prices of recently executed market transactions of similar securities and of comparable size are easily observed, those are taken into consideration for arriving at the fair value. When independent prices are available for state and municipal bonds, these are categorized as Level 2 of the fair value hierarchy.

Derivative Instruments – The Authority’s interest rate swaps and forward delivery agreements are classified as Level 2 as valued using a market approach that considers benchmark interest rates.

The Authority has no securities classified as Level 3.

(g) Fair Value and Amortized Cost Measurements

The Authority categorizes its investments within the fair value hierarchy as of June 30, 2019 as follows:

	2019		
	Total	Fair value Level 1	Fair value Level 2
Investments by fair value level:			
Money market funds	\$ 347,835	347,835	—
U.S. Treasury STRIPS	65,727	—	65,727
U.S. Treasury securities	13,334	—	13,334
U.S. government sponsored enterprises	198,204	—	198,204
Municipal bonds	44,850	—	44,850
Total Investments by fair value level	<u>669,950</u>	<u>347,835</u>	<u>322,115</u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

		2019		
		Total	Fair value Level 1	Fair value Level 2
Investments measured at amortized cost:				
MMDT	\$	318,279	—	—
State & Local Government Series		62,926	—	—
Guaranteed investment contracts		1,325	—	—
Total Investments measured at amortized cost		382,530	—	—
Total investments		1,052,480	347,835	367,907
Interest rate swaps	\$	(5,606)	—	(5,606)
Forward delivery agreements	\$	51,398	—	51,398

(h) Forward Delivery Agreements

The Authority has entered into several forward delivery agreements (FDAs) with various counterparties related to its debt service and debt service reserve funds (collectively, the Funds). These FDAs provide for the counterparties to pay the Authority a fixed rate of return on the amounts on deposit in the Funds in exchange for the Authority's obligation to purchase securities at specified dates in the future. Under the FDAs, the Authority receives fixed return rates ranging from 4.000% to 6.765% and commits to purchase the securities at their market value on the specified future dates through June 30, 2037. The credit ratings of the counterparties to the FDAs as of June 30, 2019, as determined by Standard and Poor's, were from "A-" to "AA".

(4) Pledged Revenues

The Authority has pledged, as security for Sales Tax Series Bonds issued and Assessment Bonds issued, a portion of the Commonwealth sales tax (excluding meals tax) that is restricted for purposes of providing a dedicated revenue source to the Authority and a portion of the assessments obligated to be paid by cities and towns for which the Authority provides specified transportation services. Such bonds, issued by the Authority, provide financing for a portion of the capital improvement projects included in the Authority's approved Capital Investment Program (CIP), and are payable through fiscal year ended June 30, 2046. The pledge of dedicated sales tax receipts and assessments from local communities remains in place until all bonds outstanding are retired and paid. The Authority generally issues bonds annually to fund its CIP, and these funds will continue to be pledged as security for the bonds until such time as the Authority no longer finances its CIP through the issuance of bonds secured by such pledged revenues and all such Authority bonds issued and outstanding have been retired. The total amount of dedicated sales tax revenues and local assessment revenues received in fiscal year 2019 was \$1,053,201 and \$170,145, respectively, a total of \$1,223,346. Total annual debt service (principal and interest) paid during fiscal year 2019 on outstanding Sales Tax Series, Assessment and Prior Obligation Bonds was \$688,830, representing 39.9% of pledged revenues.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

The MBTPC pledge of dedicated parking receipts of the parking system of the Authority remains in place until all bonds outstanding are retired and paid. The debt service requirement in fiscal year 2019 was \$15,373, which represents 34.11% of \$45,067 revenue in the fiscal year 2019.

Total principal and interest remaining on Sales Tax Series Bonds, Assessment Bonds, Prior Obligation Bonds, and MBTPC Bonds outstanding as of June 30, 2019 are \$7,820,068.

(5) Net Investment in Direct Financing Lease

The Authority entered into a direct financing lease related to the underground parking garage structure located at Nashua Street and Legends Way in the city of Boston effective on June 6, 2012. The lease is for a subsurface building area with five levels of parking with a capacity for 1,275 automobiles (unaudited). The lease agreement is for a 75 year term with an initial rent payment of \$50,000 paid on the commencement date of the lease. Future annual base rent payments will commence on the tenth anniversary of the lease, June 6, 2022, and continue for a 30 year period.

The following lists the components of the net investment in direct financing lease as of June 30, 2019:

		<u>2019</u>
Total minimum lease payments receivable	\$	68,981
Less unearned income		<u>(40,997)</u>
Net investment in direct financing lease	\$	<u>27,984</u>

(6) Lease Obligations

(a) Capital Lease Arrangements

Transportation property and facilities under capital leases are summarized in the capital assets note 7.

In fiscal 2006, the Authority entered in a Sale - in/Lease – out (SILO) transaction involving 80 commuter rail cars. The agreement provides for the lease of rolling stock for a period of 11 years for 48 cars and 17 years for the remaining 32 cars. Because the transaction did not meet the “in-substance defeasance” criteria, the lease liability and the related refunding trust established to pay off the lease payments as they come due are included in the accompanying financial statements. As of June 30, 2019, the outstanding lease liabilities were \$65,774.

(b) Operating Leases

As of June 30, 2019, the Authority leased approximately 37,000 square feet of office space and equipment within a property in Somerville, Massachusetts. This lease requires minimum lease payments of \$802 and \$687 in fiscal years 2019 and 2020, respectively. The lease terminates as of June 30, 2020.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

In 2017, the Authority entered into a 99-year lease for space at South Station and will receive \$1,000 per year plus contractual increases over the life of the lease.

(7) Capital Assets

A summary rollforward of capital assets at June 30, 2019 are as follows:

	Restated beginning balance <u>June 30, 2018</u>	<u>Increases</u>	<u>Decreases</u>	Ending balance <u>June 30, 2019</u>
Capital assets not being depreciated				
Land	\$ 390,431	3,533	(119)	393,845
Construction work in progress	<u>2,040,030</u>	<u>1,122,684</u>	<u>(185,630)</u>	<u>2,977,084</u>
Total capital assets no being depreciated	<u>2,430,461</u>	<u>1,126,217</u>	<u>(185,749)</u>	<u>3,370,929</u>
Capital assets being depreciated:				
Ways and structures	10,946,642	57,475	(443)	11,003,674
Buildings and equipment	3,587,940	55,809	(11,747)	3,632,002
Service vehicles	2,422	—	—	2,422
Capitalized interest	150,704	—	—	150,704
Capital Lease-SILO	148,704	—	—	148,704
Capital Lease-MBB#2	27,622	—	—	27,622
Capital Lease Assets-Other	<u>9,524</u>	<u>—</u>	<u>—</u>	<u>9,524</u>
Total capital assets being depreciated	<u>14,873,558</u>	<u>113,284</u>	<u>(12,190)</u>	<u>14,974,652</u>
Less accumulated depreciation for:				
Ways and structures	4,902,543	222,922	—	5,125,465
Buildings and equipment	2,247,072	144,951	(12,190)	2,379,833
Service vehicles	1,171	455	—	1,626
Capitalized interest	69,231	4,963	—	74,194
Capital Lease-SILO	129,839	2,933	—	132,772
Capital Lease-MBB#2	15,845	1,682	—	17,527
Capital Lease Assets-Other	<u>6,412</u>	<u>248</u>	<u>—</u>	<u>6,660</u>
Total	<u>7,372,113</u>	<u>378,154</u>	<u>(12,190)</u>	<u>7,738,077</u>
Other capital assets, net	<u>7,501,445</u>	<u>(264,870)</u>	<u>—</u>	<u>7,236,575</u>
Capital assets, net	<u>\$ 9,931,906</u>	<u>861,347</u>	<u>(185,749)</u>	<u>10,607,504</u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(8) Long-Term Debt

(a) Bonds Payable

Debt issued by the Authority prior to and outstanding as of July 1, 2000 (the Prior Obligations) is backed by the full faith and credit of the Commonwealth to the extent revenues collected by the Authority are insufficient to pay the debt, until the debt is paid off. Principal and interest payments on that debt were subsidized by the Commonwealth prior to June 30, 2000. As of June 30, 2019, Prior Obligations in the amount of \$160,680, are outstanding.

Principal on GTS bonds, all issued prior to July 1, 2000, is payable in annual installments on March 1st and interest is payable semiannually on March 1st and September 1st. The GTS bonds were issued to provide funds for the financing of the Authority's transportation properties.

Debt issued by the Authority after June 30, 2000 (new debt) is not supported by the Commonwealth's guarantee. Additionally, the Authority is not expected to receive any principal or interest subsidies from the Commonwealth, for the repayment of the prior obligations and new debt of the Authority, unless authorized by special legislation.

On July 2, 2018, the Authority issued Subordinated Senior Sales Tax Variable Rate Demand Obligation Bonds, Subseries 2018 A-1 in the amount of \$95,610 and Subseries 2018 A-2 in the amount of \$95,615. Principal payments are made annually on July 1 through the maturity date of July 1, 2026.

On December 8, 2017, the Authority entered into a TIFIA loan and a RRIF loan with the United States Department Transportation in the amount of \$162,000 and \$220,000 respectively. The Authority can draw on either loan no later than December 1, 2021. Both the TIFIA and RRIF loan have an interest rate of 2.63%. Amortization commences on July 1 after the draw date and final maturities occur on January 1, 2039. Interest payments are made on January 1 and July 1. There was no outstanding loan balance on either loan as of June 30, 2019.

The Authority issued Commercial Paper Sales Tax Series B notes (CP) in the amount of \$50,000 during fiscal year 2019. As of June 30, 2019, \$50,000 in commercial paper was outstanding.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

The Authority's bonds payable outstanding at June 30, 2019 are as follows:

	<u>Final fiscal year of maturity</u>	<u>Interest rates</u>	<u>Outstanding principal as of June 30, 2019</u>	<u>Due in fiscal year 2020</u>
General transportation system bonds:				
1991 Series A dated November 1, 1991	2021	7.07%–7.15%	\$ 19,305	9,325
1998 Series C dated November 1, 1998	2022	5.50 %	2,970	1,000
2000 Series Variable Rate Demand Obligation dated March 10, 2000 ^(a)	2030	Variable	<u>138,405</u>	<u>8,770</u>
			<u>160,680</u>	<u>19,095</u>
Revenue bonds:				
2003 Series A Senior Sales Tax dated January 29, 2003	2022	5.25 %	62,310	17,730
2003 Series C Senior Sales Tax dated February 3, 2004 ^(b)	2024	Variable & Fixed	94,745	26,030
2004 Series B Senior Sales Tax dated March 9, 2004	2031	4.00%–5.25%	214,780	41,285
2004 Series C Senior Sales Tax dated December 22, 2004	2025	5.50 %	80,635	21,380
2005 Series A Senior Sales Tax dated March 24, 2005	2032	5.00 %	735,450	12,015
2005 Series B Senior Sales Tax dated December 21, 2005	2030	4.25%–5.50%	91,765	70
2006 Series A Senior Sales Tax dated March 2, 2006	2035	5.25 %	238,850	—
2006 Series B Senior Sales Tax dated December 5, 2006	2024	5.25 %	123,370	24,070
2006 Series A Assessment dated September 13, 2006 ^(c)	2035	Variable & Fixed	161,340	—
2007 Series A-1 Senior Sales Tax dated May 24, 2007	2035	5.25 %	205,675	—
2008 Series B Senior Sales Tax dated April 30, 2008	2034	5.00%–5.25%	32,375	1,490

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

	<u>Final fiscal year of maturity</u>	<u>Interest rates</u>	<u>Outstanding principal as of June 30, 2019</u>	<u>Due in fiscal year 2020</u>
2009 Series D Senior Sales Tax dated October 29, 2009	2020	3.00%–5.00%	\$ 7,400	7,400
2010 Series A Senior Sales Tax dated February 17, 2010(d)	2031	Variable	80,255	80,255
2010 Series B Senior Sales Tax dated April 6, 2010	2036	4.00%–5.00%	68,060	1,600
2010 Series C Senior Sales Tax dated December 8, 2010	2021	5.00 %	46,450	23,180
2012 Series A Assessment dated June 21, 2012	2042	4.00%–5.00%	370,435	31,840
2014 Series A Senior Sales Tax dated April 23, 2014	2045	3.00%–5.00%	184,545	5,515
2015 Series A Senior Sales Tax dated October 14, 2015	2046	2.00%–5.00%	177,855	—
2015 Series B Senior Sales Tax dated October 14, 2015	2036	4.00%–5.00%	180,550	11,455
2016 Series A Senior Sales Tax dated July 19, 2016	2034	Zero Coupon	288,195	—
2016 Series A Assessment dated July 19, 2016	2029	2.00%–5.00%	119,260	—
2017 Series A-1 Subordinated Sales Tax dated October 12, 2017	2047	5.00 %	99,170	—
2017 Series A-2 Subordinated Sales Tax dated October 12, 2017	2047	5.00 %	130,930	—
2017 Bond Anticipation Notes Subordinated Sales Tax dated October 12, 2017	2022	4.00 %	271,095	—
2018 Senior Series A, Subordinated Sales Series A-1 dated October 12, 2018(e)	2027	Variable	95,610	11,285
2018 Senior Series A, Subordinated Sales Series A-2 dated October 12, 2018(e)	2027	Variable	95,615	11,290
			<u>4,256,720</u>	<u>327,890</u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

	Final fiscal year of maturity	Interest rates	Outstanding principal as of June 30, 2019	Due in fiscal year 2020
Metropolitan Boston Transit Parking (MBTPC) Bonds:				
2011 Series A MBTPC dated June 22, 2011	2042	4.00%–5.25%	\$ 304,585	—
			304,585	—
Revenue Build America (BABs) Bonds				
2009 Series C Senior Sales Tax dated October 29, 2009	2040	4.75%–5.569%	218,300	—
2010 Series D Senior Sales Tax dated December 8, 2010	2041	4.546%–5.869%	210,000	—
			428,300	—
Commerical Paper	2020		50,000	50,000
Total outstanding principal			5,200,285	\$ 396,985
Unamortized capital appreciation			(53,619)	
Total bonds and note payable			5,146,666	
Less current maturities			(396,985)	
Plus unamortized bond premiums/discounts, net			346,849	
Total long-term bonds and note payable			\$ 5,096,530	

- (a) The bonds were issued as variable rate demand obligations (VRDO) and their variable interest is based on a weekly reset tied to SIFMA. As of September 28, 2011, the 2000 Series VRDO was split into 2000 Series A-1 VRDO and 2000 Series A-2 VRDO. The Authority classifies these bonds as long term and has a standby purchase agreement providing liquidity support from Barclays Bank PLC.
- (b) The 2020 maturity in the amount of \$25,005 is variable rate debt based on the MUNI CPI rate, plus 79 basis points.
- (c) The 2024 maturity in the amount of \$19,260 and the 2025 maturity in the amount of \$5,000 is variable debt based on the MUNI CPI rate, plus 123 basis points.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

- (d) This bond was issued as a windows VRDO and its variable interest is based on the SIFMA rate, plus 9 basis points. As of June 30, 2019 the variable interest is based on the SIFMA rate, plus 30 basis points. The Authority classifies these bonds short term, as it does not have a standby purchase agreement and/or a letter of credit providing liquidity support for the remarketing window. The Authority does not currently anticipate the bond being called.
- (e) These bonds were issued as VRDOs and their variable interest is based on a weekly reset tied to SIFMA. The Authority classifies these bonds as long term and has a standby purchase agreement providing liquidity support from State Street Bank and Trust Company.

The contractual principal and interest maturities of the bonds and notes payable as of June 30, 2019 are as follows:

Fiscal year(s):	Principal	Interest
2020	\$ 396,985	232,367
2021	295,076	218,971
2022	562,753	201,714
2023	212,181	184,630
2024	283,334	171,150
2025–2029	1,273,284	674,494
2030–2034	986,653	381,759
2035–2039	618,535	194,306
2040–2044	418,665	60,693
2045–2049	99,200	6,469
Total	\$ 5,146,666	2,326,553

A summary rollforward of bonds payable for the year ended June 30, 2019 is as follows:

2019						
	Balance 2018	Bonds issued	Principal payments	Refunded/ redeemed principal	Capital appreciation bond accretion	Balance 2019
GTS	\$ 179,520	—	(18,840)	—	—	160,680
Revenue	4,436,177	191,225	(238,875)	(191,225)	5,799	4,203,101
BABs	428,300	—	—	—	—	428,300
Commercial Paper	—	50,000	—	—	—	50,000
MBTPC	304,585	—	—	—	—	304,585
	\$ 5,348,582	241,225	(257,715)	(191,225)	5,799	5,146,666

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

During FY19, there was no activity on either the TIFIA loan or RRIF loan; as a result, each has an outstanding balance of \$0 as of June 30, 2019.

A rollforward of the 2016A capital appreciation bonds for the year ended June 30, 2019 is as follows:

	<u>Due at maturity</u>	<u>Unamortized appreciation</u>	<u>Outstanding balance</u>
June 30, 2018	\$ 288,195	(59,418)	228,777
Accretion	—	5,799	5,799
June 30, 2019	<u>\$ 288,195</u>	<u>(53,619)</u>	<u>234,576</u>

The following funds are included in restricted assets at June 30, 2019 in connection with the Authority's revenue bond trust agreements and bond resolutions:

	<u>Assessment bonds</u>	<u>Sales tax bonds</u>	<u>MBTPC bonds</u>	<u>Outstanding balance</u>
Debt service	\$ 76,378	327,580	8,675	412,633
Debt service reserve	29,252	213,510	13,078	255,840
	<u>\$ 105,630</u>	<u>541,090</u>	<u>21,753</u>	<u>668,473</u>

The minimum required balances in the debt service reserve funds at June 30, 2019 were \$164,882 for the Sales Tax Series Bonds and \$27,200 for the Assessment Bonds. The minimum required balances in the debt service reserve funds at June 30, 2019 for MBTPC Bonds were \$12,294. The Authority has complied with its financial bond covenants by maintaining sufficient cash and investments in the debt service reserve funds.

In order to take advantage of low interest rates and easily accessible short term capital markets, the Authority has the ability to issue commercial paper to raise funds in order to meet its capital needs. The Authority has a \$250,000 commercial paper program in total of which \$150,000 is administered by JP Morgan and \$100,000 by Barclays Capital Inc. The Authority's commercial paper program has been assigned short term ratings of P-1 and A-1+ by Moody's and S&P, respectively. The Authority had \$50,000 outstanding commercial paper as of June 30, 2019.

(b) Debt Refundings

The 2018 A-1 and 2018 A-2 Senior Sales Tax Variable Rate Demand Obligation bonds were issued in the amount of \$95,610 and \$95,615 respectively, on July 2, 2018. The first interest payment was made on January 1, 2019. The final maturity is July 1, 2026. Proceeds were used to refund the Authority's 2017 Series A Senior Sales Tax Multi-Modal Obligation Bonds of \$190,650.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

In prior years, the Authority defeased in substance several GTS, Sales Tax Series, and Assessment Series Bonds by placing the proceeds of new bonds or available cash in an irrevocable trust fund to provide for future debt service payments on the old debt. As of June 30, 2019, 100% of all previously defeased in-substance debt has been retired.

(c) Standby Purchase Agreements

The GTS 2000 Series Bonds issued March 10, 2000 were issued as a Variable Rate Demand Obligation. The Authority's obligation to purchase these Bonds in the event of a failed remarketing is secured by a Standby Bond Purchase Agreement (SBPA) with Barclays Bank PLC, a nationally recognized financial institution. The SBPA was renewed on September 14, 2018 and will expire on September 21, 2022.

The 2018 Subseries A-1 and 2018 Subseries A-2 Series Bonds were issued on July 2, 2018 as Variable Rate Demand Obligations. The Authority's obligation to purchase these Bonds in the event of a failed remarketing is secured by a Standby Bond Purchase Agreement (SBPA) with State Street Bank and Trust Company, a nationally recognized financial institution. The SBPA will expire on July 2, 2023.

(9) Commitments and Contingencies

(a) Capital Investment Program (CIP)

The Authority's continuing CIP for mass transportation has projects in service and in various stages of approval, planning, and implementation. The following tables show, as of June 30, 2019, capital project costs approved, expenditures against these projects, and estimated costs to complete these projects, as well as the major funding sources:

<u>Funding source</u>	<u>Approved project costs</u>	<u>Expenditures through June 30, 2019</u>	<u>Unexpended costs</u>
Federal grants	\$ 9,374,780	8,606,283	768,497
State and local sources	4,762,752	3,734,284	1,028,468
Authority bonds	8,361,942	6,665,876	1,696,066
Total	\$ <u>22,499,474</u>	<u>19,006,443</u>	<u>3,493,031</u>

The terms of the federal grant contracts require the Authority to, in part, utilize the equipment and facilities for the purposes specified in the grant agreement, maintain these items in operation for a specified time period, which normally approximates the useful life of the equipment, and comply with the Equal Employment Opportunity and Affirmative Action programs required by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. Failure to comply with these terms

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

may jeopardize future funding and require the Authority to refund a portion of these grants to the Federal Transit Administration. In management's opinion, no events have occurred that would result in the termination of these grants or require the refund of a significant amount of funds received under these grants.

Other cases and claims include disputes with contractors and others arising out of the Authority's CIP. In the opinion of the general counsel to the Authority, amounts reasonably expected to be paid by the Authority would be within the scope of grant funds and other funds available to the Authority for the respective projects.

The Authority has entered into several long-term contracts to purchase coaches, locomotives, buses, rapid transit cars, and other transportation equipment. Unexpended amounts under these contracts total approximately \$955,474 at June 30, 2019.

(b) Legal and Other

The Authority is involved in numerous lawsuits, claims, and grievances arising in the normal course of business, including claims for personal injury and personnel practices, property damage, and disputes over eminent domain proceedings. In the opinion of the general counsel to the Authority, payments of claims by the Authority, for amounts not covered by insurance, in the aggregate, are not expected to have a material adverse effect on the Authority's financial position.

The Authority participates in a number of federally assisted grant programs. These programs are subject to financial and compliance audits by the grantors or their representatives. In the opinion of the Authority's management, liabilities resulting from such disallowed expenditures, if any, will not be material to the accompanying financial statements.

(10) Risk Management

The Authority is exposed to various risks of loss related to general liability, property and casualty, workers' compensation, and unemployment.

Buildings are fully insured to the extent that losses exceed the self-insured retention of \$2,500 for buildings valued over \$25,000 and the self-insured retention of \$1,000 for buildings valued under \$25,000 effective March 1, 2014. The Authority is self-insured for workers' compensation, unemployment claims and vehicle damage and loss. Beginning July 1, 2015, the Authority provided all its employees with health insurance through the health insurance plans administered by the Group Insurance Commission of the Commonwealth (GIC) and was no longer self-insured. Under GIC, the Authority pays 75% to 80% of all healthcare premiums for active employees within the health insurance plans administered by GIC; and pays 80% to 90% of all health premiums for retired employees within the health insurance plans administered by the GIC. Supplemental postemployment benefits for certain retirees are provided by the Authority as well. See note 13.

The Authority self-funds a \$7,500 per occurrence deductible for general liability. The Authority has a program of excess public liability insurance to provide for \$67,500 of layered coverage on a per occurrence

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

and annual aggregate basis. In the opinion of the general counsel to the Authority, payments of claims by the Authority for amounts not covered by insurance, in the aggregate, are not expected to have a material adverse effect on the Authority's financial position.

Expenditures for claims and judgments and workers' compensation were \$9,247 and \$14,529, respectively for the year ended June 30, 2019.

The requirements of GASB, Statements require that liabilities for self-insured claims be reported if it is probable that a loss has been incurred and the amount can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported. The Authority reserves such liabilities, which consist of workers' compensation, health claims (prior to June 30, 2015), and injuries and damages (legal claims) as accrued expenses as of June 30, 2019 and 2018. Changes in the self-insurance liabilities in FY19 were as follows:

	2019	2018
Liability, beginning of year	\$ 162,288	144,410
Provisions for claims	2,845	37,505
Payments	(23,776)	(19,627)
Liability, end of year	\$ 141,357	162,288

(11) Commuter Railroad

Under the Enabling Act, the Authority may enter into agreements with private transportation companies, railroads, and other concerns providing for joint or cooperative operation of any mass transportation facility and for operation and use of any mass transportation facility and equipment for the account of the Authority.

On February 5, 2014 the Authority and Keolis Commuter Services (Keolis) entered into an operating agreement effective July 1, 2014 to provide commuter railroad service over the Authority's rail lines. The contract is for a period of eight (8) years, through June 30, 2022. The Authority has a fixed base contract amount of \$2,686,342 over the eight year term of the agreement. The contract also has a provision for an extension period, comprised of the option to extend for no less than two, but no greater than four, year extension. The payments for all commuter rail costs incurred by Keolis totaled \$459,284 in FY19. The fixed base contract over the term of the contract and four year extension period termination date of June 30, 2026 is \$4,258,131.

(12) Retirement Plans

The Authority provides retirement benefits to employees through six defined benefit retirement plans and one defined contribution plan: The MBTA Retirement Fund, the MBTA Police Association Retirement Plan, the MBTA Deferred Compensation Plan, the MBTA Executive Deferred Compensation Plan, the MBTA Executive Deferred Compensation Annuity Plan, the MBTA Excess Benefit Annuity Plan and the MBTA Deferred Compensation Savings Plan.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

The MBTA Retirement Fund, a single employer plan, covers all employees except the MBTA police, who are covered separately, and certain executives who elect coverage under an alternate plan. The MBTA Retirement Fund and the MBTA Police Association Retirement Plan, a single employer plan, both provide retirement, disability, and death benefits to their members. The MBTA Retirement Fund issues separately audited financial statements that may be obtained by writing to One Washington Mall, Boston, Massachusetts 02108, or by calling (617) 316-3800. The MBTA Police Association Retirement Plan also issues separately audited financial statements that may be obtained by writing to the Board of Directors, MBTA Police Association Retirement Plan, P.O. Box 35, Grafton, Massachusetts 01519.

The MBTA Deferred Compensation Plan, a single employer plan, provides supplemental pension benefits for certain Local 453, Steelworkers, Transit Employee Administrators (collective bargaining units) and executive employees after retirement. Employees may participate in both the MBTA Retirement Fund and the MBTA Deferred Compensation Plan. The MBTA Deferred Compensation Plan is unfunded and does not issue separately audited financial statements.

The remaining defined benefit plans are single employer plans that are unfunded and do not issue separately audited financial statements. These plans collectively have less than ten active and retired participants. A copy of the actuarial report for any of these retirement plans can be obtained by writing to the Office of the Chief Financial Officer, MBTA, Ten Park Plaza, Boston, Massachusetts 02116.

Employees Covered by Benefit Terms

At December 31, 2018, the following employees were covered by the benefit terms:

	MBTA Retirement Fund	MBTA Police Association Retirement Fund	MBTA Deferred Compensation Plan
Retired employees or beneficiaries receiving benefits	6,841	110	941
Active employees	5,392	247	641
Inactive employees entitled to, but not yet receiving benefits	355	30	—
Total	<u>12,588</u>	<u>387</u>	<u>1,582</u>

(a) Funding Policy and Annual Pension Cost

The pension agreements between the Authority and Local 589, dated July 1, 2014 for the MBTA Retirement Fund and the MBTA Police Association dated June 30, 2003, designates that the board of trustees of each retirement plan establish the contribution requirements; however, the Authority may amend these requirements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

The historical MBTA Retirement Fund contribution rates are as follows:

<u>Valuation date</u>	<u>Effective date</u>	<u>Contribution percentage</u>		
		<u>Employer</u>	<u>Employee</u>	<u>Total</u>
12/31/2016	7/1/2017	20.0111 %	7.1189 %	27.1300 %
12/31/2017	7/1/2018	22.6811	8.0089	30.6900
12/31/2018	7/1/2019	25.1261	8.8239	33.9500

Actual contributions made were in accordance with these contribution requirements.

The historical MBTA Police Association Retirement Plan contribution rates are as follows:

<u>Valuation date</u>	<u>Effective date</u>	<u>Contribution percentage</u>		
		<u>Employer</u>	<u>Employee</u>	<u>Total</u>
12/31/2016	7/1/2017	14.18 %	8.79 %	22.97 %
12/31/2017	7/1/2018	14.18	8.79	22.97
12/31/2018	7/1/2019	14.18	8.79	22.97

Contributions are not required to be made for the MBTA Deferred Compensation Plan. Rather, benefit payments are made on a “pay as you go” basis.

(i) *Net Pension Liability*

The Authority’s June 30, 2019 net pension liability for each retirement plan was measured as of December 31, 2018, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of December 31, 2017 rolled forward to December 31, 2018.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

Actuarial assumptions. The total pension liability in the December 31, 2018 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

<u>Pension</u>	<u>MBTA Retirement Fund</u>	<u>MBTA Police Association Plan</u>	<u>MBTA Deferred Compensation Plan</u>
Actuarial assumptions			
Inflation rate	2.75 %	3.15 %	2.75 %
Salary increase	2.75 – 8	3.50	2.75 – 8
Investment rate of return *	7.50	7.00	3.64

* Net of pension plan investment expense, including inflation

For the December 31, 2018 MBTA Police Association Plan actuarial valuation, mortality rates are used for all active employees and were based on the RP-2000 Blue Collar Mortality Tables with generational projection using the Scale BB. The RP-2000 Blue Collar Tables for Health Males projected by Scale BB generationally are the basis for all retirees and deferred vested participants. The RP-2000 Blue Collar Tables for Health Females projected by Scale BB generationally are the basis for all beneficiary participants. The RP-2000 Tables for Disabled Lives projected by Scale BB generationally are used for the period after disability retirement.

For the December 31, 2018 MBTA Retirement Fund and MBTA Deferred Compensation Plan actuarial valuations, mortality rates are used for all active employees and were based on the RP-2014 Blue Collar Mortality Tables with generational projection using the Scale MP-2018. 94.5% of the RP-2014 Blue Collar Mortality Tables projected by Scale MP-2018 generationally are the basis for all retirees. 107.5% of the RP-2014 Blue Collar Mortality Tables projected by Scale MP-2018 generationally are the basis for all beneficiary participants. The RP-2014 Disabled Mortality Tables projected by Scale MP-2018 generationally are used for the period after disability retirement. Among pre-retirement deaths, 7.5% are assumed to qualify for accidental death benefits.

The actuarial assumptions used in the December 31, 2018 valuation for the MBTA Retirement Fund were based on the results of an actuarial experience study for the four-year period ending December 31, 2017. There was no separate experience study performed for the MBTA Police Association Plan or the MBTA Deferred Compensation Plan.

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

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target allocation as of December 31, 2018 are summarized in the following tables:

		MBTA Retirement Fund	
		2018	
		Target allocation	Long term expected real rate of return
	Equity	43 %	7.91 %
	Fixed income	25	2.36
	Alternatives	30	6.67
	Cash	2	1.06
	Total	100 %	

		MBTA Police Association Plan	
		2018	
		Target allocation	Long term expected real rate of return
	Equity	45 %	7.67 %
	Fixed income	36	2.07
	Alternatives	19	4.56
	Total	100 %	

Discount rate: The discount rate used to measure the total pension liability as of December 31, 2018 was 7.50% for the MBTA Retirement Fund while the discount rate for the MBTA Police Association Retirement Plan was 7.00%. The projection of cash flows used to determine the discount rate assumed that employee contributions will continue to be made in accordance with the current funding policy. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current MBTA Retirement Fund and MBTA Police Association Retirement Plan members. The discount rate used to measure the total pension liability for the MBTA Deferred Compensation Plan was 3.64%. Since this plan is unfunded, the assumed discount rate has been determined in accordance with the method prescribed by GASB No. 67 and is based on the S&P Municipal Bond 20 Year Grade Rate Index, whose yield to maturity was 3.64% as of December 31, 2018.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(ii) *Change in the Net Pension Liability – MBTA Retirement Fund*

	Increase (decrease)		
	Total pension liability (a)	Plan fiduciary net position (b)	Net pension liability (a)-(b)
Balances at December 31, 2017	\$ 2,829,386	1,603,176	1,226,210
Changes for the year:			
Service cost	46,101	—	46,101
Interest	207,498	—	207,498
Difference between expected and actual experience	11,599	—	11,599
Changes in assumptions	43,927	—	43,927
Contributions – employer	—	92,013	(92,013)
Contributions – employee	—	32,606	(32,606)
Net investment Income	—	(52,073)	52,073
Benefit payments, including refund of employee contributions	(221,710)	(221,710)	—
Administrative expense	—	(4,317)	4,317
Net changes	<u>87,415</u>	<u>(153,481)</u>	<u>240,896</u>
Balances at December 31, 2018	\$ <u><u>2,916,801</u></u>	<u><u>1,449,695</u></u>	<u><u>1,467,106</u></u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(iii) *Change in the Net Pension Liability – MBTA Police Association Retirement Plan*

	Increase (decrease)		
	Total pension liability	Plan fiduciary net position	Net pension liability
	(a)	(b)	(a)-(b)
Balances at December 31, 2017	\$ 102,230	86,816	15,414
Changes for the year:			
Service cost	2,019	—	2,019
Interest	7,137	—	7,137
Contributions – employer	—	2,727	(2,727)
Contributions – employee	—	1,702	(1,702)
Net investment income	—	(3,316)	3,316
Difference between expected and actual experience	1,346	—	1,346
Benefit payments, including refund of employee contributions	(4,675)	(4,675)	—
Administrative expense	—	(242)	242
Net changes	5,827	(3,804)	9,631
Balances at December 31, 2018	\$ 108,057	83,012	25,045

(iv) *Change in the Total Pension Liability – MBTA Deferred Compensation Plan*

	Increase (decrease)
	Total pension liability
Balances at December 31, 2017	\$ 92,193
Changes for the year:	
Service cost	2,099
Interest	2,887
Differences between expected and actual experience	2,155
Changes in assumptions	(578)
Benefit payments, including refund of employee contributions	(5,940)
Net changes	623
Balances at December 31, 2018	\$ 92,816

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

Sensitivity of Net Pension Liability to Changes in the Rate

The following presents the net pension liability of the Authority, calculated using the discount rates disclosed as well as what the Authority's net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate as of December 31, 2018:

	2019			
	Current rate	1% Decrease of current rate	Current discount rate	1% Increase of current rate
MBTA Retirement Fund	7.50 %	\$ 1,760,361	1,467,106	1,217,856
MBTA Police Assoc. Retirement Plan	7.00	38,808	25,045	13,606
MBTA Deferred Compensation	3.64	103,506	92,816	83,880

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2019 the Authority recognized pension expense of \$243,399; \$3,367; and \$8,964; for the MBTA Retirement Fund, the MBTA Police Association Retirement Plan and the MBTA Deferred Compensation Plan, respectively.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

At June 30, 2019, the Authority reported deferred outflows of resources and deferred inflows of resources related to pension amounts from the following sources:

	MBTA Retirement Fund	MBTA Police Assoc. Retirement Plan	MBTA Deferred Compensation Plan	Total
Deferred outflows of resources:				
Changes in assumptions	\$ 110,158	336	2,561	113,055
Net difference between projected and actual earnings on pension plan investments	109,849	5,996	—	115,845
Contributions subsequent to the measurement date	48,711	2,014	3,145	53,870
Differences between expected and actual experience	77,768	2,062	3,896	83,726
Total deferred outflows of resources	<u>346,486</u>	<u>10,408</u>	<u>9,602</u>	<u>366,496</u>
Deferred inflows of resources:				
Differences between expected and actual experience	—	(3,448)	—	(3,448)
Changes in assumptions	(1,353)	—	(1,556)	(2,909)
Total deferred inflows of resources	<u>(1,353)</u>	<u>(3,448)</u>	<u>(1,556)</u>	<u>(6,357)</u>
Less contributions subsequent to the measurement date	<u>(48,711)</u>	<u>(2,014)</u>	<u>(3,145)</u>	<u>(53,870)</u>
Net deferred outflows and inflows of resources exclusive of employer specific deferrals	<u>\$ 296,422</u>	<u>4,946</u>	<u>4,901</u>	<u>306,269</u>

Amounts reported as deferred outflows of resources related to pensions resulting from the Authority contributions subsequent to the measurement date will be recognized as a reduction in the net pension liability in the subsequent year.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

Other amounts reported as deferred outflows and inflows of resources related to pensions will be recognized/(amortized) into pension expense as follows:

	<u>MBTA Retirement Fund</u>	<u>MBTA Police Assoc. Retirement Plan</u>	<u>MBTA Deferred Compensation Plan</u>
Year ended June 30:			
2020	\$ 114,607	1,569	2,543
2021	85,973	637	2,358
2022	62,127	687	—
2023	33,715	2,082	—
2024	—	(29)	—
Totals	<u>\$ 296,422</u>	<u>4,946</u>	<u>4,901</u>

Payable to the Pension Plans

At June 30, 2019 the Authority reported a payable for \$267,000 for the outstanding amount of contributions to pension plans required for the year ended June 30, 2019.

(b) The MBTA Deferred Compensation Savings Plan

The Authority provides a defined contribution retirement plan for nonunion and certain grandfathered union management not participating in the MBTA Retirement Fund. Authority employee trustees administer the plan and recommend benefit amendments that require approval from the Authority's general manager. The plan requires members to contribute 8.009% of total covered payroll for the years ended June 30, 2019, with the Authority contributing 8%. The Plan had 444 members as of June 30, 2019. The cost of the Plan was \$1,582 for the years ended June 30, 2019. Member contributions vest to plan members immediately, while contributions made by the Authority vest to plan members as follows: 50% after three years, 75% after four years, and 100% after five years of credited service. The total asset balances of \$37,334 as of June 30, 2019, were held by a third party administrator who allocates the assets of fully funded member account balance at the direction of individual member discretion.

(13) Other Postemployment Benefits (OPEB)

In addition to providing the pension benefits described, the Authority provides OPEB for eligible retired employees under two arrangements. The Authority participates in the Commonwealth of Massachusetts' Group Insurance Commission (GIC) plan which provides health and other benefits to both Medicare and Non-Medicare eligible retirees. The Authority also provides eligible retirees with additional nonduplicative supplemental life insurance and Medicare Part B premium benefits through the Transit Employees Health and Welfare Fund. The benefits, benefit levels, employee contributions, and employer contributions are

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

governed by the Authority, collective bargaining agreements, and state statute. Plan membership as of July 1, 2018 is as follows:

Retirees or beneficiaries currently receiving	
benefits payments	6,104
Active employees	5,989
	12,093

Benefits Provided

Through the GIC, the Authority provides medical, prescription drug, mental health/substance abuse, and life insurance to retirees and their covered dependents. All active employees who retire from the Authority and meet the eligibility criteria can receive these benefits.

(a) Funding Policy

Retiree contributions to the GIC plan vary based on the date of retirement. Pre- and post-65 retirees with a retirement date on or before July 1, 1994 contribute 10% to the cost of the health plan. Retirees who retired after July 1, 1994 and filed for retirement prior to August 10, 2009 contribute 15% of the cost of the health plan. Retirees who retired after July 1, 1994 and filed for retirement on or after August 10, 2009 but on or before October 1, 2009 with a retirement date on or before January 31, 2010 contribute 15% of the cost of the health plan. Retirees who file for retirement after October 1, 2009 contribute 20% of the cost of the health plan. The Authority contributes the remainder of the health plan costs on a pay-as-you-go basis.

(b) Total OPEB Liability

The Authority's total OPEB liability of \$2,458,432 was measured as of June 30, 2018 and was determined by an actuarial valuation as of June 30, 2018.

Actuarial assumptions and other inputs: The total OPEB liability as of June 30, 2018 was determined using the following actuarial assumptions and other inputs, applied to all periods included in the measurement, unless otherwise specified:

Inflation	2.98 %
Salary increase	2.75 to 8.00

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

Actuarial Cost Method and Amortization Period. The entry age normal cost method based on level percentage of projected salary.

(i) *MBTA Retirement Fund*

Active and Deferred Mortality: The RP-2014 Blue Collar Mortality Tables with fully generational projection using Scale MP-2018 Improvement

Retired Mortality: 94.5% of the RP-2014 Blue Collar Mortality Tables with fully generational projection using Scale MP-2018 Improvement

Surviving Spouse Mortality: 107.5% of the RP-2014 Blue Collar Mortality Tables with fully generational projection using Scale MP-2018 Improvement

Disabled Mortality: The RP-2014 Disability Mortality Tables with fully generational projection using Scale MP-2018 Improvement

(ii) *MBTA Police Association Retirement Fund:*

Prior and Current Year:

Active Mortality: RP-2000 Pre-Commencement Blue Collar Adjusted – Fully Generational Scale BB Improvement

Retired and Deferred Mortality: 97.2% of RP-2000 Post-Commencement Male Blue Collar Adjusted – Fully Generational Scale BB Improvement

Surviving Spouse Mortality: 116.5% of RP-2000 Post-Commencement Female Blue Collar Adjusted – Fully Generational Scale BB Improvement

Disabled Mortality: RP-2000 Disabled Retiree – Fully Generational Scale BB Improvement

Discount Rate. The discount rate used to measure the total OPEB liability is 2.98% per annum, the 20 year S&P Municipal Bond 20 Year High Grade index at June 30, 2018. The discount rate used for June 30, 2017 was assumed to be 3.13% and is also based on the 20 year S&P Municipal Bond 20 Year High Grade index.

Healthcare cost trend rates. Trend rates begin with 6.6% and decrease to an ultimate rate of 5.0% after ten years.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from January 1, 2013 to December 31, 2017.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(iii) *Change in Total OPEB Liability*

	Increase (decrease)
Balances at June 30, 2017	\$ 2,208,769
Changes for the year:	
Service cost	71,286
Interest	70,435
Differences between expected and actual experience	(98,131)
Changes of assumptions	265,990
Benefit payments, including refund of employee contributions	(59,917)
Net changes	249,663
Balances at June 30, 2018	\$ 2,458,432

Sensitivity of the net OPEB liability to changes in the discount rate. The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (1.98%) or 1-percentage-point higher (3.98%) than the current discount rate (in thousands):

	1% Decrease	Discount rate	1% Increase
Total OPEB liability	\$ 2,978,643	2,458,432	2,061,767

Sensitivity of the total OPEB liability to changes in the healthcare cost trend rates. The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage point lower or cost trend rates that are 1-percentage point higher than the current healthcare cost trend rates (in thousands):

	1% Decrease	Discount rate	1% Increase
Total OPEB liability	\$ 2,052,569	2,458,432	3,036,244

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(iv) *OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB*

For the year ended June 30, 2019 the Authority recognized OPEB expense of \$144,747. At June 30, 2019, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB amounts from the following sources:

Differences between expected and actual results	\$ 216,365
Contributions subsequent to the measurement date	<u>49,501</u>
Total deferred outflows of resources	<u>265,866</u>
Deferred inflows of resources:	
Difference between expected and actual results	(79,823)
Changes in assumptions	<u>(114,581)</u>
Total deferred inflows of resources	<u>(194,404)</u>
Net deferred outflows and inflows of resources	71,462
Less contributions subsequent to the measurement date	<u>(49,501)</u>
Net deferred outflows and inflows of resources exclusive of employer specific deferrals	<u><u>\$ 21,961</u></u>

Amounts reported as deferred outflows of resources related to OPEB resulting from the Authority contributions subsequent to the measurement date will be recognized as a reduction in the net OPEB liability in the year ending June 30, 2019.

Other amounts reported as deferred outflows and inflows of resources related to OPEB will be recognized/(amortized) into OPEB expense as follows

Year ended June 30:	
2020	\$ 3,026
2021	3,026
2022	3,026
2023	3,026
2024	<u>9,857</u>
Totals	<u><u>\$ 21,961</u></u>

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Notes to Financial Statements

June 30, 2019

(Amounts in thousands)

(c) *Transit Employees Health and Welfare Trust*

In fiscal 2015 the Authority and Local 589 (Local Union 589, Amalgamated Transit union, AFL-CIO and CLC) as a result of an arbitration award established a separate trust fund, the Transit Employee Health and Welfare Trust Fund (the Trust Fund), to address legislative changes impacting healthcare and other coverage (medical, dental, vision and life insurance) for Local 589 active and retired employees (collectively, the employees). The Authority and the employees are required to make contributions to the Trust Fund based on the rates agreed to in the Collective Bargaining Agreement. Contributions, once received by the Trust Fund, must be used exclusively “to provide benefits to eligible participants and/or appropriate administrative or operating expenditures.” The Trust allows participation of any Authority employee or retiree and provides pre and post retiree benefits to those individuals through the Trust Fund. As such the Trust Fund does not meet the definition of a qualifying trust under the requirements of GASB 75 and its assets cannot be used to reduce the Authority’s total OPEB liability.

In fiscal 2019, the Authority made contributions to the Trust Fund of \$12,500. The liability for the Authority’s obligation for the benefits administered by this Trust Fund is recorded as part of the Authority’s total OPEB liability. All operating activities of the Trust Fund have been excluded from the accompanying financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Required Supplementary Information – MBTA Retirement Fund

Schedule of Changes in Net Pension Liability and Related Ratios

June 30, 2019

(Dollar amounts in thousands)

(Unaudited)

Total Pension Liability	December 31			
	2018	2017	2016	2015
Service cost	\$ 46,101	31,850	31,897	37,305
Interest	207,498	204,780	195,768	191,392
Differences between expected and actual experience	11,599	44,627	90,068	31,325
Change in assumptions	43,927	128,688	—	(6,762)
Benefit payments, including refunds of employee contributions	(221,710)	(212,815)	(197,562)	(188,906)
Net Change in total pension liability	87,415	197,130	120,171	64,354
Total pension liability – beginning	2,829,386	2,632,256	2,512,085	2,447,731
Total pension liability – ending	2,916,801	2,829,386	2,632,256	2,512,085
Plan Fiduciary Net Position				
Contributions – employers	92,013	83,383	77,239	73,374
Contributions – employees	32,606	29,775	27,792	26,511
Net investment income	(52,073)	221,691	86,782	4,712
Benefit payments, including refunds of employee contributions	(221,710)	(212,815)	(197,562)	(188,906)
Administrative expenses	(4,317)	(4,464)	(6,493)	(5,808)
Net change in plan fiduciary net position	(153,481)	117,570	(12,242)	(90,117)
Plan fiduciary net position – beginning	1,603,176	1,485,606	1,497,848	1,587,965
Plan fiduciary net position – ending	1,449,695	1,603,176	1,485,606	1,497,848
Authority's net pension liability	\$ 1,467,106	1,226,210	1,146,650	1,014,237
Plan fiduciary net position as a percentage of the total pension liability	49.7 %	56.7 %	56.4 %	59.6 %
Covered-employee payroll	\$ 425,862	428,830	446,741	443,238
Net pension liability as a percentage of covered employee payroll	345 %	286 %	257 %	229 %

Notes: Information provided for Required Supplementary Information will be provided for 10 years as it becomes available.

See accompanying independent auditors' report

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Required Supplementary Information – MBTA Police Retirement Plan
Schedule of Changes in Net Pension Liability and Related Ratios

June 30, 2019

(Dollar amounts in thousands)

(Unaudited)

Total Pension Liability	December 31			
	2018	2017	2016	2015
Service cost	\$ 2,019	2,042	2,177	1,879
Interest	7,137	6,958	6,538	6,490
Differences between expected and actual experience	—	(1,769)	1,646	(5,058)
Change in assumptions	1,346	—	—	784
Benefit payments, including refunds of employee contributions	(4,675)	(4,636)	(3,850)	(3,542)
Net Change in total pension liability	5,827	2,595	6,511	553
Total pension liability – beginning	102,230	99,635	93,124	92,571
Total pension liability – ending	108,057	102,230	99,635	93,124
Plan Fiduciary Net Position				
Contributions – employers	2,727	2,492	2,550	2,512
Contributions – employees	1,702	1,504	1,570	1,513
Net investment income	(3,316)	9,371	5,313	403
Benefit payments, including refunds of employee contributions	(4,675)	(4,636)	(3,850)	(3,542)
Administrative expenses	(242)	(180)	(184)	(138)
Net change in plan fiduciary net position	(3,804)	8,551	5,399	748
Plan fiduciary net position – beginning	86,816	78,265	72,866	72,118
Plan fiduciary net position – ending	83,012	86,816	78,265	72,866
Authority's net pension liability	\$ 25,045	15,414	21,370	20,258
Plan fiduciary net position as a percentage of the total pension liability	76.8 %	84.9 %	78.6 %	78.2 %
Covered-employee payroll	\$ 16,736	16,123	16,289	16,478
Net pension liability as a percentage of covered employee payroll	150 %	96 %	131 %	123 %

Notes: Information provided for Required Supplementary Information will be provided for 10 years as it becomes available.

See accompanying independent auditors' report

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)
Required Supplementary Information – MBTA Deferred Compensation Plan
Schedule of Changes in Total Pension Liability and Related Ratios

June 30, 2019

(Dollar amounts in thousands)

(Unaudited)

Total Pension Liability	December 31			
	2018	2017	2016	2015
Service cost	\$ 2,099	2,039	2,035	1,382
Interest	2,887	3,142	2,687	2,615
Differences between expected and actual experience	2,155	2,206	5,423	4,482
Change in assumptions	(578)	5,122	(4,681)	1,260
Changes in benefits	—	—	—	614
Other Changes	—	—	—	(809)
Benefit payments, including refunds of employee contributions	(5,940)	(5,889)	(5,679)	(5,648)
Net Change in total pension liability	623	6,620	(215)	3,896
Authority's total pension liability – beginning	92,193	85,573	85,788	81,892
Authority's total pension liability – ending	\$ 92,816	92,193	85,573	85,788
Covered-employee payroll	\$ 61,986	56,848	60,454	56,540
Total pension liability as a percentage of covered employee payroll	149.7 %	162.2 %	141.6 %	151.7 %

Notes: Information provided for Required Supplementary Information will be provided for 10 years as it becomes available.

The Deferred Compensation Plan has no assets accumulated in a trust for purposes of making future pension payments.

See accompanying independent auditors' report

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Required Supplementary Information – MBTA Retirement Fund

Schedule of Pension Contributions

June 30, 2019

(Dollar amounts in thousands)

(Unaudited)

	December 31			
	2018	2017	2016	2015
Actuarially determined contribution	\$ 92,013	83,383	77,239	73,359
Contributions in relation to the actuarially determined contribution	<u>92,013</u>	<u>83,383</u>	<u>77,239</u>	<u>73,374</u>
Contribution deficiency (excess)	\$ <u>—</u>	<u>—</u>	<u>—</u>	<u>(15)</u>
Covered employee payroll	\$ 425,862	428,830	446,741	443,238
Contributions as a percentage of covered employee payroll	21.6 %	19.4 %	17.3 %	16.6 %

Notes: Information provided for Required Supplementary Information will be provided for 10 years as it becomes available.

See accompanying independent auditors' report

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Required Supplementary Information – MBTA Police Retirement Plan

Schedule of Pension Contributions

June 30, 2019

(Dollar amounts in thousands)

(Unaudited)

	December 31			
	2018	2017	2016	2015
Sorry, LL. I just figured rrd can help with edits				
Actuarially determined contribution	\$ 2,727	2,492	2,550	2,512
Contributions in relation to the actuarially determined contribution	<u>2,727</u>	<u>2,492</u>	<u>2,550</u>	<u>2,512</u>
Contribution deficiency (excess)	\$ <u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Covered employee payroll	\$ 16,736	16,123	16,289	16,478
Contributions as a percentage of covered employee payroll	16.3 %	15.5 %	15.7 %	15.2 %

Notes: Information provided for Required Supplementary Information will be provided for 10 years as it becomes available.

See accompanying independent auditors' report

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Required Supplementary Information – MBTA OPEB Plan

Schedule of Changes in Total OPEB Liability and Related Ratios

June 30, 2019

(Dollar amounts in thousands)

(Unaudited)

Total OPEB Liability	2018	2017
Service cost	\$ 71,286	82,886
Interest	70,435	63,600
Difference between expected and actual experience	(98,131)	—
Change in assumptions	265,990	(171,163)
Benefit payments, including refunds of employee contributions	<u>(59,917)</u>	<u>(60,630)</u>
Net Change in total OPEB liability	249,663	(85,307)
Total OPEB liability – beginning	<u>2,208,769</u>	<u>2,294,076</u>
Total OPEB liability – ending	\$ <u>2,458,432</u>	<u>2,208,769</u>
Covered-employee payroll	\$ 462,807	460,328
Total OPEB liability as a percentage of covered employee payroll	531 %	480 %

Notes: Information provided for Required Supplementary Information will be provided for 10 years as it becomes available.

See accompanying independent auditors' report

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Supplementary Information

Metropolitan Boston Transit Parking Corporation
Schedule of Debt Service Coverage

June 30, 2019

	Number of spaces at facility (Unaudited)	2019 Gross revenues by facility	Revenue amount from facility to debt service	2019 Net revenue of facility after debt service	2019 Debt service percentage of gross revenue
Route 128	2,578	\$ 4,888,272	\$ (1,386,876)	3,501,396	28.37 %
Alewife	2,471	6,163,929	(2,142,628)	4,021,301	34.76
Quincy Adams	2,218	4,571,656	(1,592,431)	2,979,225	34.83
Wonderland & Lots	1,912	3,192,136	(1,098,424)	2,093,712	34.41
Hingham Boat	1,726	588,804	(208,552)	380,252	35.42
Braintree	1,510	3,344,425	(1,157,300)	2,187,125	34.60
Wellington	1,335	1,640,355	(573,463)	1,066,892	34.96
Kingston	1,030	374,182	(130,593)	243,589	34.90
Greenbush	1,000	135,435	(47,843)	87,592	35.33
Lynn	978	319,404	(106,432)	212,972	33.32
Riverside	935	1,255,847	(438,400)	817,447	34.91
Quincy Center (Garage)*	872	—	—	—	—
Norwood Center	781	525,842	(183,817)	342,025	34.96
Middleboro/Lakeville	769	470,441	(164,721)	305,720	35.01
Canton Junction	762	471,013	(164,895)	306,118	35.01
Oak Grove	729	1,540,675	(537,858)	1,002,817	34.91
Forge Park	718	475,115	(166,193)	308,922	34.98
Salem	712	813,666	(280,165)	533,501	34.43
Ashland	693	504,751	(176,187)	328,564	34.91
Newburyport	680	245,892	(85,381)	160,511	34.72
South Weymouth	636	225,900	(79,577)	146,323	35.23
Norfolk	630	416,136	(145,864)	270,272	35.05
Quincy Boat^	600	—	—	—	—
South Attleboro	579	696,836	(243,021)	453,815	34.87
Woodland	559	828,625	(283,052)	545,573	34.16
Campello	552	107,252	(37,802)	69,450	35.25
Bridgewater	499	251,229	(87,827)	163,402	34.96
Dedham	497	191,201	(67,378)	123,823	35.24
Beverly	494	433,049	(151,415)	281,634	34.96
Nantasket	490	68,968	(24,363)	44,605	35.33
Westborough	448	479,243	(167,495)	311,748	34.95
Hanson	428	234,897	(82,295)	152,602	35.03
Beachmont	416	380,230	(132,531)	247,699	34.86
Halifax	412	109,260	(38,678)	70,582	35.40
Orient Heights	411	418,482	(146,330)	272,152	34.97

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
(A Component Unit of the Massachusetts Department of Transportation)

Supplementary Information

Metropolitan Boston Transit Parking Corporation
Schedule of Debt Service Coverage

June 30, 2019

	Number of spaces at facility (Unaudited)	2019 Gross revenues by facility	Revenue amount from facility to debt service	2019 Net revenue of facility after debt service	2019 Debt service percentage of gross revenue
Abington	404	\$ 294,449	(103,200)	191,249	35.05 %
Wollaston	403	34,067	(11,329)	22,738	33.26
Cohasset	387	118,501	(41,811)	76,690	35.28
Grafton	386	296,186	(103,716)	192,470	35.02
Southborough	372	400,450	(140,201)	260,249	35.01
Holbrook	362	217,272	(76,112)	141,160	35.03
Stoughton	361	256,072	(89,383)	166,689	34.91
North Quincy Newport*	353	—	—	—	—
Readville	353	70,001	(24,629)	45,372	35.18
Montello	351	80,798	(28,367)	52,431	35.11
Lechmere#	347	—	—	—	—
Walpole	345	260,554	(91,597)	168,957	35.15
East Weymouth	335	310,514	(108,896)	201,618	35.07
Hersey	318	247,657	(86,932)	160,725	35.10
Lots with 150-300 spaces	4,647	4,451,639	(1,555,029)	2,896,610	34.93
Lots with less than 150 spaces	2,096	1,666,040	(582,324)	1,083,716	34.95
		<u>\$ 45,067,348</u>	<u>(15,373,313)</u>	<u>29,694,035</u>	<u>34.11 %</u>

* Garage was closed in FY19 for renovation.

The Lechmere garage was closed for both renovation and to allow for work on the Green Line Extension

^ Quincy Boat garage has been closed since 2017

See accompanying independent auditors' report