

In the opinion of Foley & Lardner LLP, Co-Bond Counsel, based upon an analysis of existing laws, regulations, rulings, and court decisions and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the 2019A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), except for interest on any 2019A Bond for any period during which such 2019A Bond is held by a person who is a "substantial user" of facilities financed with the proceeds of the 2019A Bonds or a "related person" of such a substantial user (within the meaning of Section 147(a) of the Code). In addition, interest on the 2019A Bonds is a specific preference item for purposes of the federal alternative minimum tax. In the opinion of Kaplan Kirsch & Rockwell, Co-Bond Counsel, the 2019A Bonds, their transfer and the income therefrom (including any profit made from their sale) will be exempt from taxation within The Commonwealth of Massachusetts. Co-Bond Counsel express no opinion as to whether the 2019A Bonds or the interest thereon will be included in the measure of Massachusetts estate and inheritance taxes and certain Massachusetts corporation excise and franchise taxes. Co-Bond Counsel express no opinion regarding any other federal or Massachusetts tax consequences, or regarding tax consequences of states other than The Commonwealth of Massachusetts. See "TAX MATTERS" herein.



\$315,240,000

**MASSACHUSETTS PORT AUTHORITY
Revenue Bonds, Series 2019-A (AMT)**

Dated: Date of Delivery

Due: July 1, as shown on page (i) hereof

The Massachusetts Port Authority (the "Authority") is issuing its Revenue Bonds, Series 2019-A (referred to herein as the "2019A Bonds") (i) to currently refund all of its outstanding Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001-A (AMT), its Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001-B (Auction Rate Securities) and its Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001-C (Auction Rate Securities), (ii) to finance a portion of the Reserve Account requirement applicable to the 2019A Bonds and (iii) to finance costs of issuing the 2019A Bonds, all as described herein. The 2019A Bonds will be secured on a parity basis with the Authority's outstanding senior revenue bonds, as more fully described herein. **The 2019A Bonds will be payable solely from Revenues of the Authority which are pledged under the 1978 Trust Agreement, from passenger facility charges ("PFCs") irrevocably committed to such payment by the Authority from time to time, and from certain funds and accounts held by the Trustee, all as described herein. The Authority has no taxing power. The 2019A Bonds will not constitute a debt, or a pledge of the faith and credit of The Commonwealth of Massachusetts or of any political subdivision thereof.**

The 2019A Bonds will be issued as fully registered bonds and, when issued, will be registered in the name of Cede & Co., as registered owner and nominee for The Depository Trust Company, New York, New York ("DTC"). Purchasers will acquire beneficial ownership interests in the 2019A Bonds in denominations of \$5,000 or integral multiples thereof and will not receive physical delivery of bond certificates. So long as Cede & Co. is the registered owner of the 2019A Bonds, principal, premium, if any, and interest will be payable by U.S. Bank National Association, Boston, Massachusetts, as trustee (the "Trustee"), to Cede & Co., as nominee for DTC. See "THE 2019A BONDS – Book-Entry Only Method."

The 2019A Bonds will bear interest from their date of original delivery, payable each January 1 and July 1, commencing July 1, 2019.

The 2019A Bonds are subject to optional redemption prior to maturity as described herein.

See page (i) hereof for maturities, principal amounts, interest rates and yields.

The 2019A Bonds are offered when, as and if issued by the Authority and received by the Underwriters, subject to the receipt of an unqualified approving opinion as to legality of Kaplan Kirsch & Rockwell LLP, Boston, Massachusetts, and Foley & Lardner LLP, Chicago, Illinois, Co-Bond Counsel, and certain other conditions. Certain legal matters will be passed upon for the Authority by its Disclosure Counsel, Locke Lord LLP, Boston, Massachusetts, and for the Underwriters by their counsel, Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts. PFM Financial Advisors LLC, San Francisco, California, serves as Financial Advisor to the Authority. Delivery of the 2019A Bonds to DTC or its custodial agent is expected in New York, New York on or about February 13, 2019.

Goldman Sachs & Co. LLC

Ramirez & Co., Inc.

Raymond James



Massachusetts Port Authority
 Capital Programs Department
 January 2019

Approximate Massport Property

Massport Properties Harborwide

Notes:
 This drawing is intended for informational purposes only and no use may be made of the same without the express written permission of the Massachusetts Port Authority ("Massport"). Massport does not certify the accuracy, information or title to the properties contained in this plan nor make any warranties of any kind, express or implied, in fact or by law, with respect to any boundaries, easements, restrictions, claims, overlaps or other encumbrances affecting such properties.



Massachusetts Port Authority

\$315,240,000

Revenue Bonds, Series 2019-A (AMT)

<u>Maturity (July 1)</u>	<u>Amount</u>	<u>Interest Rate</u>	<u>Yield</u>	<u>CUSIP[†]</u>	<u>Maturity (July 1)</u>	<u>Amount</u>	<u>Interest Rate</u>	<u>Yield</u>	<u>CUSIP[†]</u>
2019	\$3,310,000	3.00%	1.73%	575896SR7	2030	\$14,225,000	5.00%	2.77%*	575896TC9
2020	8,735,000	5.00	1.84	575896SS5	2031	14,935,000	5.00	2.89*	575896TD7
2021	9,170,000	5.00	1.89	575896ST3	2032	15,685,000	5.00	2.97*	575896TE5
2022	9,630,000	5.00	1.94	575896SU0	2033	16,465,000	5.00	3.04*	575896TF2
2023	10,110,000	5.00	2.02	575896SV8	2034	17,290,000	5.00	3.10*	575896TG0
2024	10,615,000	5.00	2.10	575896SW6	2035	18,155,000	5.00	3.16*	575896TH8
2025	11,145,000	5.00	2.20	575896SX4	2036	19,060,000	5.00	3.20*	575896TJ4
2026	11,705,000	5.00	2.31	575896SY2	2037	20,015,000	5.00	3.26*	575896TK1
2027	12,290,000	5.00	2.42	575896SZ9	2038	21,015,000	5.00	3.31*	575896TL9
2028	12,905,000	5.00	2.53	575896TA3	2039	22,065,000	5.00	3.34*	575896TM7
2029	13,545,000	5.00	2.64	575896TB1	2040	23,170,000	5.00	3.38*	575896TN5

[†] Copyright, American Bankers Association. CUSIP data herein are provided by CUSIP Global Services, managed by S&P Capital IQ on behalf of The American Bankers Association. The CUSIP numbers listed above are being provided solely for the convenience of Bondholders only at the time of issuance of the 2019A Bonds and the Authority does not make any representation with respect to such numbers or undertake any responsibility for their accuracy now or at any time in the future.

* Priced at the stated yield to the July 1, 2029 optional redemption date at a redemption price of 100%.

No dealer, broker, salesperson or other person has been authorized by the Authority or any of its agents or the Underwriters to give any information or to make any representations other than those contained in this Official Statement, and, if given or made, such other information or representations must not be relied upon as having been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the 2019A Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information set forth herein has been furnished by the Authority and The Depository Trust Company and includes information from other sources that are believed to be reliable but, as to information from sources other than the Authority, is not to be construed as a representation of the Authority. The information and expressions of opinion contained herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Authority since the date hereof.

The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

This Official Statement contains forecasts, projections and estimates that are based on current expectations. In light of the important factors that may materially affect the financial condition of the Authority and the aviation industry generally and other economic and financial matters, the inclusion in this Official Statement of such forecasts, projections and estimates should not be regarded as a representation by the Authority or the Underwriters that such forecasts, projections and estimates will occur. Such forecasts, projections and estimates are not intended as representations of fact or guarantees of results.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE 2019A BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

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OFFICIAL STATEMENT
of the
MASSACHUSETTS PORT AUTHORITY
Relating to its
\$315,240,000 Revenue Bonds, Series 2019-A (AMT)

INTRODUCTION

General

This Official Statement of the Massachusetts Port Authority (the “*Authority*”) sets forth certain information concerning the Authority and its \$315,240,000 Revenue Bonds, Series 2019-A (AMT) (the “*2019A Bonds*”).

The Authority

The Authority, created pursuant to Chapter 465 of the Massachusetts Acts of 1956, as amended to date (the “*Enabling Act*”), is a body politic and corporate and a public instrumentality of The Commonwealth of Massachusetts (the “*Commonwealth*” or “*Massachusetts*”). The Authority owns, operates and manages the “*Airport Properties*,” consisting of Boston-Logan International Airport (the “*Airport*,” “*Logan*” or “*Logan Airport*”), Laurence G. Hanscom Field (“*Hanscom Field*”) and Worcester Regional Airport (“*Worcester Regional Airport*”); and the “*Port Properties*,” consisting of certain facilities in the Port of Boston (the “*Port*”) and other properties. APPENDIX A – Information Statement of the Authority sets forth additional information concerning the Authority, the Airport Properties, the Port Properties, other activities of the Authority, its capital program, revenues and selected financial data of the Authority.

The 2019A Bonds

The 2019A Bonds are to be issued under and pursuant to the Enabling Act, a Trust Agreement by and between the Authority and U.S. Bank National Association (successor-in-interest to State Street Bank and Trust Company), as trustee (the “*Trustee*”), dated as of August 1, 1978, as amended and supplemented (the “*1978 Trust Agreement*”), and a resolution of the Authority pertaining to the issuance of the 2019A Bonds (the “*Bond Resolution*”) adopted by the Authority on January 17, 2019. The 2019A Bonds are being issued (i) to currently refund all of the Authority’s outstanding Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001-A (AMT) (the “*2001-A Bonds*”), its Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001-B (Auction Rate Securities) (the “*2001-B Bonds*”) and its Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001-C (Auction Rate Securities) (the “*2001-C Bonds*” and, together with the 2001-A Bonds and the 2001-B Bonds, the “*Terminal A Bonds*”), (ii) to finance a portion of the Reserve Account requirement applicable to the 2019A Bonds and (iii) to finance costs of issuing the 2019A Bonds. See “PLAN OF FINANCE” and “SECURITY FOR THE 2019A BONDS – Reserve Account.”

The 2019A Bonds and the outstanding Bonds that have been previously issued by the Authority under the 1978 Trust Agreement on a parity therewith, and any additional parity Bonds that may be issued hereafter under the 1978 Trust Agreement are collectively referred to herein as the “*Bonds*.” For a description of the outstanding Bonds of the Authority and the pledge of Revenues of the Authority under the 1978 Trust Agreement, see “SECURITY FOR THE 2019A BONDS.”

Additional Information

This Official Statement includes a description of the Authority, its facilities and certain financial and operational factors relating to the Authority, and a description of the 2019A Bonds and the security therefor. Except where noted, all information presented in this Official Statement has been provided by the Authority. The following

appendices are included as part of this Official Statement: APPENDIX A – Information Statement of the Authority; APPENDIX B – Financial Statements of the Authority for the fiscal years ended June 30, 2018 and 2017; APPENDIX C – Review of Airport Properties Net Revenues Forecasts (the “*Review of Revenue Forecasts*”) of LeighFisher Inc., Burlingame, California (“*LeighFisher*”) dated January 17, 2019; APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement; APPENDIX E – Authority Request for Written Consent to Proposed Amendments; APPENDIX F – Form of Continuing Disclosure Certificate; and APPENDIX G – Form of Opinion of Co-Bond Counsel. APPENDIX A has been provided by the Authority. APPENDICES D and E have been prepared by Kaplan Kirsch & Rockwell LLP, Co-Bond Counsel to the Authority. APPENDIX F has been prepared by Locke Lord LLP, Disclosure Counsel to the Authority. APPENDIX G has been prepared by Kaplan Kirsch & Rockwell LLP and Foley & Lardner LLP, Co-Bond Counsel to the Authority.

Certain defined terms that are capitalized but not defined herein are defined in the 1978 Trust Agreement. See APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Certain Definitions. All references in this Official Statement to the 1978 Trust Agreement, the Bond Resolution, the 2019A Bonds, the Continuing Disclosure Certificate and all other agreements, statutes and instruments are qualified by reference to the complete document. Copies of the 1978 Trust Agreement and the Bond Resolution are available for examination at the offices of the Authority and the Trustee.

The Authority’s principal office is located at One Harborside Drive, Suite 200S, East Boston, Massachusetts 02128-2909. Its telephone number is (617) 568-5000. Questions may be directed to Anna M. Tenaglia, Acting Director of Administration and Finance/Secretary-Treasurer, at atenaglia@massport.com. Copies of certain documents, including the Authority’s Comprehensive Annual Financial Report for fiscal year 2018, are available electronically at the investors’ page of the Authority’s website at:

<http://www.massport.com/massport/finance/investor-relations>

However, no information on the Authority’s website is a part of or incorporated into this Official Statement, except to the extent such information is expressly disclosed herein.

THE 2019A BONDS

General Provisions

The 2019A Bonds will be issued as fully registered bonds in the aggregate principal amounts as set forth on page (i) hereof, will be dated their date of initial delivery and will bear interest from that date to their respective maturities as set forth on page (i) hereof, subject to optional redemption prior to maturity as described below. Ownership interests in the 2019A Bonds will be available in denominations of \$5,000 and integral multiples thereof. Interest on the 2019A Bonds will be payable on July 1, 2019 and on each January 1 and July 1 thereafter.

So long as Cede & Co. is the registered owner of the 2019A Bonds, all payments of principal, premium, if any, and interest on the 2019A Bonds are payable by wire transfer by the Trustee to Cede & Co., as nominee for DTC, which will, in turn, remit such amounts to the DTC Participants (as defined herein) for subsequent disposition to Beneficial Owners (as defined herein). See “Book-Entry Only Method” below.

Redemption

Optional Redemption. The 2019A Bonds maturing on or prior to July 1, 2029 will not be subject to optional redemption prior to their respective maturity dates. The 2019A Bonds maturing after July 1, 2029 will be redeemable at the option of the Authority, in the order of maturity as directed by the Authority, on or after July 1, 2029, in whole or in part on any date, by lot within any single maturity, at 100% of the principal amount to be redeemed, together with accrued interest to the purchase or redemption date.

Selection of 2019A Bonds to Be Redeemed. If fewer than all the 2019A Bonds of any maturity are to be redeemed, the Trustee will select the 2019A Bonds of such maturity to be redeemed by lot; provided, however, that so long as DTC or its nominee is the Bondholder, the particular portions of the 2019A Bonds to be redeemed within

a maturity shall be selected by DTC in such manner as DTC may determine. For this purpose, each 2019 Bond in a denomination larger than the minimum Authorized Denomination permitted by the Bond Resolution at the time will be considered to be separate 2019A Bonds each in the minimum Authorized Denomination.

Notice of Redemption. During the period that DTC or DTC's partnership nominee is the registered owner of the 2019A Bonds, the Trustee shall not be responsible for mailing notices of redemption to the Beneficial Owners (as defined herein) of the 2019A Bonds. See "Book-Entry Only Method" below. Not less than 30 nor more than 60 days before any redemption date, notice of the redemption will be filed with the Paying Agents of the 2019A Bonds and mailed to the holders of the 2019A Bonds (DTC or DTC's partnership nominee, as long as the 2019A Bonds are so registered) to be redeemed in whole or in part at their address as shown on the registration books of the Trustee. Failure to mail any notice of redemption, however, will not affect the validity of the proceedings for such redemption. If at the time of notice of any optional redemption of 2019A Bonds moneys sufficient to redeem all of such 2019A Bonds shall not have been deposited or set aside as provided in the 1978 Trust Agreement, then the notice of redemption may state that it is conditional on the deposit of sufficient moneys by not later than one business day prior to the redemption date, and if the deposit is not timely made the notice shall be of no effect. The Trustee may make other arrangements with respect to the manner of giving notices of redemption to Bondholders of record or Beneficial Owners of the 2019A Bonds, as provided in the Bond Resolution.

Book-Entry Only Method

The Depository Trust Company ("*DTC*"), New York, New York, will act as securities depository for the 2019A Bonds. The 2019A Bonds will be issued in fully-registered form registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully registered certificate will be issued for each maturity of the 2019A Bonds, each in the aggregate principal amount of such maturity, and each such certificate will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("*Direct Participants*") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("*DTCC*"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("*Indirect Participants*"). The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of 2019A Bonds deposited with DTC must be made by or through Direct Participants, which will receive a credit for such 2019A Bonds on DTC's records. The ownership interest of each actual purchaser of each 2019A Bond deposited with DTC ("*Beneficial Owner*") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in 2019A Bonds deposited with DTC are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in 2019A Bonds deposited with DTC, except in the event that use of the book-entry system for such 2019A Bonds is discontinued.

To facilitate subsequent transfers, all 2019A Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of 2019A Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2019A Bonds deposited with it; DTC's records reflect only the identity of the Direct Participants to whose accounts such 2019A Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of a maturity of 2019A Bonds is being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to 2019A Bonds deposited with it unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority or the Trustee as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the 2019A Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on 2019A Bonds deposited with DTC will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Authority or the Trustee, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with 2019A Bonds held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC (nor its nominee), the Authority or the Trustee, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Authority or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to 2019A Bonds held by it at any time by giving reasonable notice to the Authority or the Trustee. Under such circumstances, in the event that a successor depository is not obtained, physical certificates are required to be printed and delivered to Beneficial Owners.

The Authority may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, 2019A Bond certificates will be printed and delivered to DTC.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the Authority believes to be reliable, but the Authority takes no responsibility for the accuracy thereof.

So long as Cede & Co. is the registered owner of the 2019A Bonds as nominee of DTC, references herein to the holders or registered owners of the 2019A Bonds shall mean Cede & Co. and shall not mean the Beneficial Owners of the 2019A Bonds.

Neither the Authority nor the Trustee will have any responsibility or obligation to the Participants of DTC or the persons for whom they act as nominees with respect to (i) the accuracy of any records maintained by DTC or by any Participant of DTC, (ii) payments or the providing of notice to the Direct Participants, the Indirect

Participants or the Beneficial Owners, (iii) the selection by DTC or by any Participant of DTC of any Beneficial Owner to receive payment in the event of a partial redemption of the 2019A Bonds or (iv) any other action taken by DTC or its partnership nominee as owner of the 2019A Bonds.

Transfer of 2019A Bonds

So long as Cede & Co., as nominee for DTC (or other nominee of DTC), is the Bondholder of record of the 2019A Bonds, beneficial ownership interests in the 2019A Bonds may be transferred only through a Direct Participant or Indirect Participant and recorded on the book-entry system operated by DTC. In the event the book-entry-only system is discontinued, 2019A Bond certificates will be delivered to the Beneficial Owners as described in the Bond Resolution. Thereafter, the 2019A Bonds, upon surrender thereof at the principal office of the Trustee with a written instrument of transfer satisfactory to the Trustee, duly executed by the holder thereof or such holder's duly authorized attorney, may be exchanged for an equal aggregate principal amount of 2019A Bonds of the same maturity and of any Authorized Denominations.

In all cases in which the privilege of exchanging or transferring 2019A Bonds is exercised, the Authority shall execute and the Trustee shall authenticate and deliver the 2019A Bonds in accordance with the provisions of the 1978 Trust Agreement. For every such exchange or transfer of 2019A Bonds, the Authority or the Trustee may make a charge sufficient to reimburse it for any tax, fee or other governmental charge required to be paid with respect to such exchange or transfer but may impose no other charge therefor. Neither the Authority nor the Trustee shall be required to make any such exchange or transfer of 2019A Bonds during the 15 days next preceding an Interest Payment Date or, in the case of any proposed redemption, during the 15 days next preceding the first publication or mailing of notice of redemption.

ESTIMATED SOURCES AND USES OF FUNDS

The estimated sources and uses of funds in connection with the issuance of the 2019A Bonds are summarized below:

Sources of Funds	
Principal of the 2019A Bonds	\$315,240,000.00
Plus: Original Issue Premium	49,505,687.00
Amounts Available under the 2001 Trust Agreement	13,885,504.48
Other Available Amounts of the Authority	<u>6,300,000.00</u>
Total	\$384,931,191.48
Uses of Funds	
Deposit to Reserve Account	\$24,250,344.50
Refund Terminal A Bonds	358,863,092.90
Costs of Issuance ¹	937,857.40
Underwriters' Discount	<u>879,896.68</u>
Total	\$384,931,191.48

¹ Includes Trustee fees, the Authority's legal fees, rating agency fees, printing expenses and other miscellaneous fees and expenses.

PLAN OF FINANCE

The proceeds of the 2019A Bonds, plus available funds held under the 2001 Trust Agreement (defined below) and other available amounts of the Authority, will be used to currently refund all of the Terminal A Bonds, each as described in more detail in the table captioned "Terminal A Bonds" below. The Terminal A Bonds were issued as special, limited obligations of the Authority payable solely from and secured by a pledge of certain receipts and rights of the Authority under a Trust Agreement dated as of August 1, 2001, as amended (the "2001 Trust

Agreement”), by and between the Authority and The Bank of New York, as trustee (the “*Terminal A Bonds Trustee*”). Proceeds of the Terminal A Bonds were used to finance the redevelopment of Terminal A, one of the Airport’s four passenger terminals for commercial operations, including the demolition and removal of the previous Terminal A and the replacement thereof with a modern air passenger terminal. The Terminal A project was substantially completed and placed into service in March 2005.

By refunding the Terminal A Bonds, the Authority expects to achieve several goals, including (i) realizing significant interest rate savings compared to rates on the Terminal A Bonds, thus reducing rental rates for airline space in Terminal A, (ii) eliminating interest rate risk associated with the auction rates on the 2001-B Bonds and 2001-C Bonds, and (iii) increasing Revenues paid to the Authority, since all rental revenues from Terminal A will be paid to the Authority, rather than allocating a portion to debt service on the Terminal A Bonds. See APPENDIX A – Information Statement of the Authority – Authority Revenues – Airport Properties Revenues.

The proceeds of the 2019A Bonds being used to current refund the 2001-A Bonds will be deposited in the Series 2001A Debt Service Account established under the 2001 Trust Agreement and will be applied to the payment of the principal or redemption price of and interest on the 2001-A Bonds on the first business day after the issuance of the 2019A Bonds as may be permissible under the 2001 Trust Agreement. The proceeds of the 2019A Bonds being used to current refund the 2001-B Bonds and the 2001-C Bonds will be deposited to a refunding escrow fund (the “*Refunding Escrow Fund*”) held under a Refunding Escrow Agreement (the “*Refunding Escrow Agreement*”) to be entered into upon the issuance of the 2019A Bonds between the Authority and the Terminal A Bonds Trustee for the benefit of the holders of the 2001-B Bonds and the 2001-C Bonds, and applied to the payment of principal or redemption price of and interest on the 2001-B Bonds on February 28, 2019 and to the payment of the principal or redemption price of and interest on the 2001-C Bonds on March 7, 2019.

Upon the deposit of the proceeds of the 2019A Bonds and additional Authority Funds with the Terminal A Bonds Trustee as described above and the satisfaction of certain conditions relating thereto specified in the 2001 Trust Agreement, the Terminal A Bonds will be legally defeased pursuant to the 2001 Trust Agreement. The refunding of the Terminal A Bonds is contingent upon delivery of the 2019A Bonds.

Funds deposited in the Series 2001A Debt Service Account and the Series 2001B and 2001C Debt Service Account may be, and funds deposited in the Refunding Escrow Fund will be, applied immediately upon receipt to purchase non-callable direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America (“*Escrow Government Obligations*”) and to fund cash deposits in such funds. The maturing principal of and interest on the Escrow Government Obligations, plus any initial cash deposit, held in the Series 2001A Debt Service Account, the Series 2001B and 2001C Debt Service Account and the Refunding Escrow Fund, as applicable, will be held therein and applied solely for the payment of the principal of and redemption premium and accrued interest on the applicable Terminal A Bonds. Any amounts remaining in the Series 2001A Debt Service Account, the Series 2001B and 2001C Debt Service Account or the Refunding Escrow Fund after the payment of the Terminal A Bonds shall be remitted to the Authority and applied as the Authority shall direct.

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Terminal A Bonds

<u>Series</u>	<u>Original Maturity January 1</u>	<u>CUSIP[†]</u>	<u>Amount to Be Refunded</u>	<u>Redemption Date</u>	<u>Redemption Price</u>
2001-A	2020	575898 AJ0	\$22,300,000	02/14/2019	100%
	2021	575898 AK7	23,485,000	02/14/2019	100
	2022	575898 AM3	24,680,000	02/14/2019	100
	2027	575898 AL5	<u>127,310,000</u>	02/14/2019	100
			\$197,775,000		
2001-B	2031	575895 2W6	<u>\$79,550,000</u> \$79,550,000	02/28/2019	100%
2001-C	2031	575895 2X4	<u>\$79,550,000</u> \$79,550,000	03/07/2019	100%

[†] The CUSIP numbers listed above are being provided solely for the convenience of Bondholders. The Authority does not make any representation with respect to such numbers or undertake any responsibility for their accuracy now or at any time in the future.

SECURITY FOR THE 2019A BONDS

General

The principal of, premium, if any, and interest on the 2019A Bonds and each of the 2008 Bonds, the 2010 Bonds, the 2012 Bonds, the 2014 Bonds, the 2015 Bonds, the 2016 Bonds and the 2017 Bonds, and any additional Bonds that may be issued hereafter under the 1978 Trust Agreement, are payable from, and secured by a pledge of, the Authority's Revenues, which include all tolls, rates, fees, rentals and other charges from its Projects (subject to limited exclusions) and certain investment income and other revenues, all as more fully described in APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement. For information about historical Revenues, see APPENDIX A – Information Statement of the Authority – Selected Financial Data. The pledge of the Revenues is subject to the provisions of the 1978 Trust Agreement regarding the application of Revenues. See “Flow of Funds” below. Exclusions from Revenues pledged to secure the Bonds include (i) passenger facility charges (“PFCs”) assessed by the Authority on eligible enplaning passengers at the Airport, (ii) customer facility charges (“CFCs”) charged to rental car patrons and (iii) certain revenues derived from facilities financed by debt that has limited recourse to the Authority. See below under “Other Revenues of the Authority Not Pledged as Security for the Bonds – Passenger Facility Charges” and “– Customer Facility Charges” and APPENDIX A – Information Statement of the Authority – Other Obligations – PFC Revenue Bonds, – CFC Revenue Bonds and – Special Facilities Revenue Bonds. Historically, the Authority has applied a portion of the PFCs collected to pay the debt service on the Terminal A Bonds allocable to certain public areas within Terminal A, and the Authority anticipates that it will annually irrevocably commit PFCs to pay a portion of the principal of and interest on the 2019A Bonds. There can be no assurance, however, that the Authority will make such irrevocable allocation, or that sufficient PFCs will be available, to pay such amounts of principal of and interest on the 2019A Bonds. See APPENDIX A – Information Statement of the Authority under the headings “Capital Programs – Funding Sources – Passenger Facility Charges” and “Management’s Discussion of Forecast Assumptions.”

As of July 1, 2018, the Authority had outstanding under the 1978 Trust Agreement 14 Series of Bonds in the aggregate principal amount of \$1,363,075,000, consisting of the Series listed in the following table.

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BONDS OUTSTANDING UNDER THE 1978 TRUST AGREEMENT
as of July 1, 2018

<u>Series</u>	<u>Issued</u>	<u>Amount Outstanding</u>
Revenue Refunding Bonds, Series 2008-C (Non-AMT)	July 2008	\$2,555,000
Revenue Bonds, Series 2010-A (Non-AMT)	August 2010	85,805,000
Revenue Refunding Bonds, Series 2010-B (Non-AMT)	August 2010	124,390,000
Revenue Bonds, Series 2012-A (AMT)	July 2012	88,770,000
Revenue Refunding Bonds, Series 2012-B (Non-AMT)	July 2012	149,255,000
Revenue Bonds, Series 2014-A (Non-AMT)	July 2014	43,785,000
Revenue Bonds, Series 2014-B (AMT)	July 2014	46,485,000
Revenue Refunding Bonds, Series 2014-C (Non-AMT)	July 2014	129,440,000
Revenue Bonds, Series 2015-A (Non-AMT)	July 2015	104,480,000
Revenue Bonds, Series 2015-B (AMT)	July 2015	67,005,000
Revenue Refunding Bonds, Series 2015-C (Non-AMT)	June 2015	128,525,000
Revenue Refunding Bonds, Series 2016-A (Non-AMT)	July 2016	48,360,000
Revenue Bonds, Series 2016-B (AMT)	July 2016	180,285,000
Revenue Bonds, Series 2017-A (AMT)	July 2017	<u>163,935,000</u>
Total		<u>\$1,363,075,000</u>

The Bonds on the foregoing list are the only Bonds currently outstanding under the 1978 Trust Agreement. All of the Bonds on the foregoing list are fixed rate bonds. See Note 5 to the Authority's financial statements attached hereto as APPENDIX B. For a description of the Authority's subordinated obligations, also issued under the 1978 Trust Agreement but not on parity with the Bonds, including its Subordinated Obligations, Series 2018A (the "*Series 2018 Subordinated Obligations*"), which were issued on November 20, 2018, see APPENDIX A – Information Statement of the Authority – Other Obligations – Subordinated Indebtedness. For a description of other obligations of the Authority not issued on parity with the Bonds, see APPENDIX A – Information Statement of the Authority – Other Obligations.

The Authority has no power to levy any taxes or pledge the credit or create any debt of the Commonwealth or any political subdivision thereof. The Authority's Bonds and certain other obligations are payable only out of Revenues of the Authority as described herein or the proceeds of Bonds subsequently issued, and are not debts of the Commonwealth or of any such subdivision, nor are they guaranteed by any of them. Under the Enabling Act and the 1978 Trust Agreement, the Authority does not have the power to mortgage the Airport Properties or the Port Properties, or any additional revenue-producing facilities hereafter acquired or constructed by the Authority or extensions, enlargements and improvements of the foregoing. Under its Enabling Act, the Authority has the power to acquire improvements to its Projects and, in certain instances, to sell property included in the Projects. Acquisitions of new facilities unrelated to the Projects and sales of all or substantially all of any existing Project would require authorizing legislation.

Flow of Funds

The Authority's pledge of its Revenues to secure the Bonds is subject to the provisions of the 1978 Trust Agreement regarding the application of Revenues. A brief description of the flow of funds of the Revenues is presented below. For a more detailed summary, see APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Application of Revenues.

The 1978 Trust Agreement provides that all Revenues are deposited daily in the Revenue Fund and are then transferred to the credit of the Operating Fund as soon and as often as practicable. The Authority shall pay when due all Operating Expenses from the Operating Fund and, once each month, shall transfer from the Operating Fund amounts, if any, to be deposited to its pension, post-retirement health benefits and self-insurance accounts. Any amounts deposited in the pension and post-retirement health benefit accounts will, upon the occurrence of an event of default under the 1978 Trust Agreement, first be applied to present and accrued pension benefits and post-retirement health benefits of the Authority's employees. See APPENDIX A – Information Statement of the

Authority – General Operational Factors – Financial Considerations – Authority Pension Funding and APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Pledge Effected by the 1978 Trust Agreement.

The Authority retains in the Operating Fund as working capital such amounts as the Authority may determine necessary, provided that the balance therein shall not exceed 15% of the annual Operating Expenses established in the Authority's current annual budget. The balance of the Operating Fund is transferred monthly to the Trustee and applied as follows:

(a) First, to deposit to the credit of the Bond Service Account of the Interest and Sinking Fund, the amount required to make the balance of the Bond Service Account equal to the sum of the interest accrued and to accrue until the first day of the next month on all outstanding Bonds and the principal accrued and to accrue until the first day of the ensuing month of all serial Bonds, if any, which will become payable within the next twelve (12) months.

(b) Second, to deposit to the credit of the Redemption Account of the Interest and Sinking Fund, the amount, if any, required to make the amounts deposited in the Redemption Account for the current fiscal year equal to the portion of the Amortization Requirement, if any, for such fiscal year for the outstanding term Bonds of each Series, accrued and to accrue until the first day of the next month.

(c) Third, to deposit to the credit of the Reserve Account of the Interest and Sinking Fund (i) an amount, if any, equal to one-sixtieth (1/60th) of the difference, if any, between (x) the maximum annual Principal and Interest Requirements for all Bonds then outstanding at the time of issuance of each Series of additional Bonds, less (y) the amount deposited into the Reserve Account as of the issuance of such Series of Bonds until the balance in the Reserve Account is equal to the maximum annual Principal and Interest Requirements for all outstanding Bonds, (ii) any amount which may have been withdrawn from the Reserve Account for paying interest, maturing principal or meeting Amortization Requirements or deposits to any Term Bond Investment Account and not theretofore replenished and (iii) any outstanding deficiency in deposits to the Reserve Account.

(d) Fourth, to deposit to the credit of the Maintenance Reserve Fund, the amount required to make the deposit in the Fund during such month equal to one-twelfth (1/12) of one percent (1%) of the Replacement Cost of all Projects of the Authority as determined by the Consulting Engineer for the then-current fiscal year, or a greater amount as may have been specified by the Authority in its annual budget for the fiscal year (not to exceed in any fiscal year five percent (5%) of the Replacement Cost of all Projects).

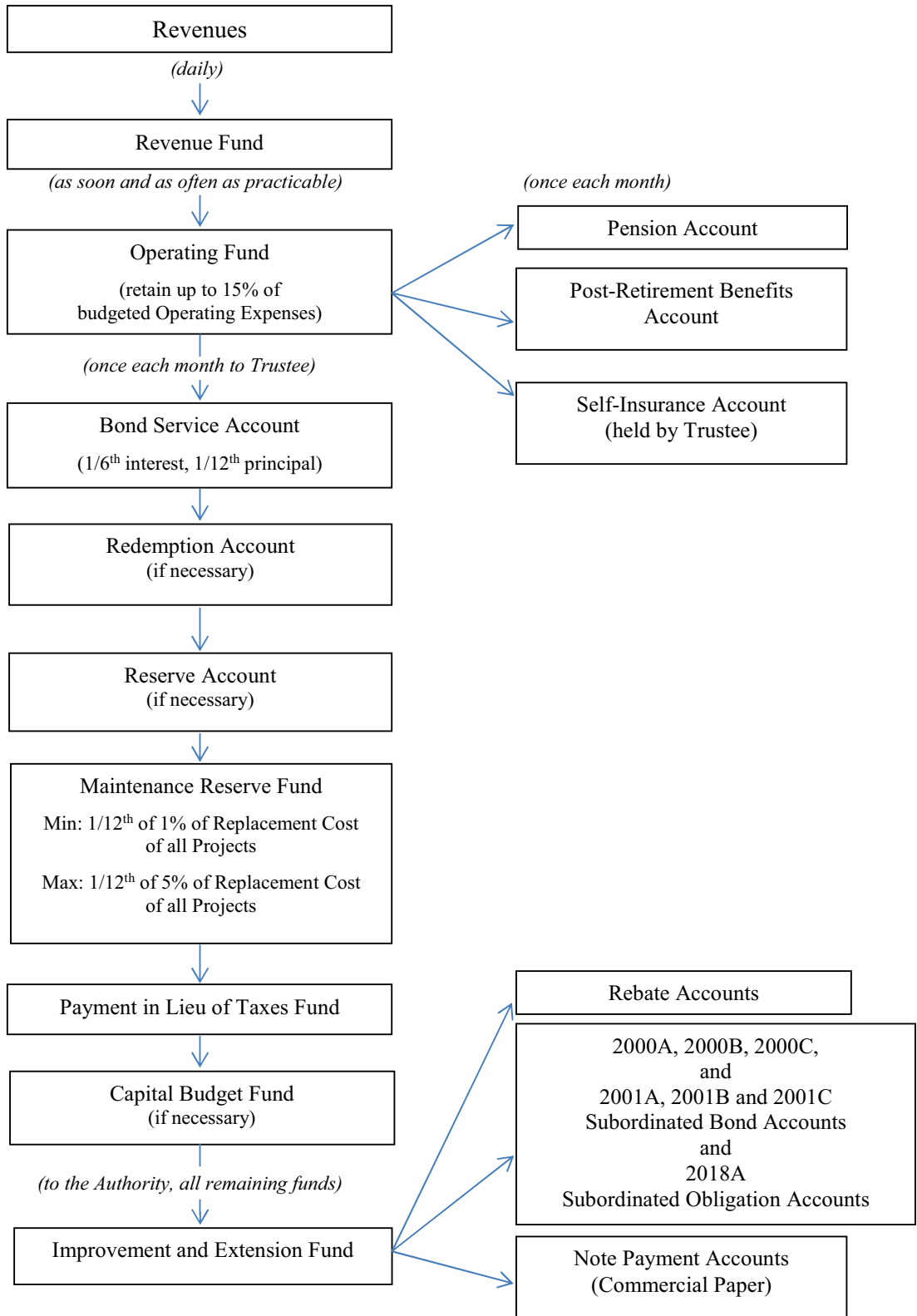
(e) Fifth, to deposit to the credit of the Payment in Lieu of Taxes Fund, the amount, if any, required to make the balance of the Payment in Lieu of Taxes Fund equal to the amount that should be on deposit therein, assuming that the amounts payable on the respective next following payment dates pursuant to the in-lieu-of tax agreements referred to in the 1978 Trust Agreement were paid in equal monthly installments from each respective preceding payment date.

(f) Sixth, to deposit to the credit of the Capital Budget Fund, the amount, if any, required to make the balance of the Capital Budget Fund equal to the sum of the remaining portion of the Capital Budget for the then-current fiscal year budgeted to be paid from the Capital Budget Fund plus all amounts in the Capital Budget Fund obligated with respect to prior fiscal years but not yet expended; provided, that the Authority by resolution may increase or reduce the amount otherwise required to be deposited in the Capital Budget Fund.

(g) Seventh, to the Authority for deposit to the credit of the Improvement and Extension Fund any amounts remaining in the Operating Fund after compliance with the above provisions. The 1978 Trust Agreement provides that moneys held in the Improvement and Extension Fund may be used for any lawful purpose of the Authority.

A chart summarizing the foregoing flow of funds is set forth on the following page.

APPLICATION OF REVENUES



Covenants as to Fees and Charges

The Authority covenants under the 1978 Trust Agreement to fix and revise as necessary the tolls, rates, fees, rentals and other charges for use of its Projects. The 1978 Trust Agreement requires that in each fiscal year Revenues be at least equal to the greater of (i) Operating Expenses plus 125% of debt service requirements for such year on all outstanding Bonds, and (ii) the sum of (A) Operating Expenses and debt service and reserve requirements on all outstanding Bonds, plus (B) amounts, if any, required to be deposited to the Maintenance Reserve Fund, the Payment in Lieu of Taxes Fund and the Capital Budget Fund, plus (C) amounts required to be deposited to the credit of the Improvement and Extension Fund pursuant to the Twelfth Supplemental Agreement and the Twenty-Second Supplemental Agreement, each between the Authority and the Trustee (which were entered into in connection with the issuance of Subordinated Indebtedness). See APPENDIX A – Information Statement of the Authority – Other Obligations – Subordinated Indebtedness. In addition, the Authority has covenanted to set tolls, rates, fees, rentals and other charges sufficient to reimburse the letter of credit provider under the Authority’s commercial paper program, if necessary. If in any year Revenues are less than the amount required, the Authority is required to cause recognized experts to recommend revised schedules of rates and charges and, if the Authority shall comply with all such recommendations, the failure of Revenues to equal the amount specified will not, of itself, constitute a default under the 1978 Trust Agreement. See APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Covenants as to Fees and Charges. See “SECURITY FOR THE 2019A BONDS – Modifications of the 1978 Trust Agreement” for certain proposed amendments to the 1978 Trust Agreement affecting the calculation of the debt service requirements on all outstanding Bonds.

Reserve Account

The 1978 Trust Agreement establishes a Reserve Account within the Interest and Sinking Fund that secures all Bonds on a parity basis. Such Reserve Account shall be used to pay debt service on the Bonds secured thereby to the extent of deficiencies in the applicable Bond Service Account. As a result of the deposits previously made to the Reserve Account upon the issuance of Bonds under the 1978 Trust Agreement, plus subsequent monthly deposits, the balance in such Reserve Account as of October 31, 2018 was approximately \$113.3 million. The balance in the Reserve Account is currently held in cash and Investment Securities (as that term is defined in the 1978 Trust Agreement). It is the Authority’s policy to fund its reserve funds with cash, cash equivalents and Investment Securities; the Authority has not used any surety policies to fund the debt service reserve funds for any of its Bonds. Upon issuance of any additional Bonds (other than certain refunding Bonds), the 1978 Trust Agreement requires that there be deposited to the Reserve Account an amount at least equal to one-half of the difference between (a) the amount of the increase in the maximum annual debt service requirement on such Bonds and all then-outstanding Bonds and (b) the amount, if any, in the Reserve Account in excess of the maximum annual debt service requirement on all then-outstanding Bonds.

A portion of the Reserve Account requirement applicable to the 2019A Bonds will be funded with proceeds of the 2019A Bonds. At the time of issuance of the 2019A Bonds, the Reserve Account is expected to be fully funded with respect to all outstanding Bonds (including the 2019A Bonds). See APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Application of Revenues.

See “SECURITY FOR THE 2019A BONDS – Modifications of the 1978 Trust Agreement” for certain proposed amendments to the 1978 Trust Agreement affecting the Reserve Account.

Permitted Investments

Moneys held for the credit of the funds and accounts established under the 1978 Trust Agreement may, with certain exceptions, be invested only in “Investment Securities” as defined in the 1978 Trust Agreement. See APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Certain Definitions. The exceptions are that moneys held for the credit of any special separate pension account in the Operating Fund may be invested in such manner as provided in the resolution of the Authority establishing such account, and that moneys held for the credit of certain other accounts may be invested solely in Government Obligations. See APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Investments in Funds and Accounts. For a description of the Authority’s investment policy, see APPENDIX A – Information Statement of the Authority – General Operational Factors – Investment Policy.

Additional Bonds

Under the 1978 Trust Agreement the Authority may, on the fulfillment of certain conditions, issue additional Bonds. The Enabling Act does not limit the amount of additional Bonds that may be issued by the Authority. Bonds may be issued under provisions of the 1978 Trust Agreement to finance, among other things, the cost of acquiring and constructing Additional Facilities and Additional Improvements and to refund outstanding Bonds, Subordinated Obligations or other obligations not issued under the provisions of the 1978 Trust Agreement, such as the Terminal A Bonds. These provisions of the 1978 Trust Agreement permit the issuance of a series of additional Bonds if, among other conditions, the Authority complies with one or more tests based on historical or projected Net Revenues and debt service requirements. See APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Issuance of Additional Bonds.

In connection with the issuance of the 2019A Bonds, the following test will be applicable: that the Net Revenues of the Authority (the excess of Revenues over Operating Expenses during the applicable period) for any 12 consecutive months of the last 18 months have been at least 125% of the maximum annual Principal and Interest Requirements on all Outstanding Bonds, after giving effect to the issuance of the 2019A Bonds (and any subsequent additional Bonds estimated to be issued under the 1978 Trust Agreement to complete Additional Improvements or Additional Facilities partially financed by Bonds now Outstanding). For the purpose of this calculation, annual Principal and Interest Requirements on Outstanding Bonds means, for any fiscal year of the Authority, interest accrued on such Bonds during such fiscal year, excluding interest for such period paid or to be paid from the Construction Fund, and maturing principal and mandatory amortization requirements due and payable on the July 1 immediately following such fiscal year. In the case of Bonds that bear interest at a variable rate, the interest component of maximum annual Principal and Interest Requirements is computed at the rate estimated by a nationally known investment banking firm selected by the Authority as the rate at which such Bonds would bear interest if issued at par with a fixed rate of interest and the same maturity. See “SECURITY FOR THE 2019A BONDS – Modifications of the 1978 Trust Agreement” for certain proposed amendments to the 1978 Trust Agreement affecting the calculation of Principal and Interest Requirements on all outstanding Bonds.

Coverage for purposes of the additional Bonds test described in the preceding paragraph was 302%, based upon (i) Net Revenues for the 12 months ended October 31, 2018 of \$415.7 million and (ii) maximum annual Principal and Interest Requirements of approximately \$137.5 million, determined as described above, after giving effect to the issuance of the 2019A Bonds.

Other Revenues of the Authority Not Pledged as Security for the Bonds

Passenger Facility Charges. Under the 1978 Trust Agreement, PFCs assessed by the Authority on eligible enplaning passengers at the Airport have been excluded from Revenues at the election of the Authority, and the proceeds of PFCs are collected, held and expended outside the Funds and Accounts established under the 1978 Trust Agreement, and are not security for the Bonds. See APPENDIX A – Information Statement of the Authority – Capital Program – Funding Sources. For a description of certain revenue bonds that may be issued by the Authority and secured by PFCs (collectively, the “*PFC Revenue Bonds*”), see APPENDIX A – Information Statement of the Authority – Other Obligations – PFC Revenue Bonds. No PFC Revenue Bonds are currently outstanding. The Authority plans to continue to leverage its PFC revenue stream in the future and is currently studying alternatives for accomplishing this objective in the most efficient and effective way. The current capital program assumes that the Authority will issue additional debt that will be paid from PFC revenues to finance \$211.6 million of project costs. See APPENDIX A – Information Statement of the Authority – Capital Program – Funding Sources – Passenger Facility Charges. See “SECURITY FOR THE 2019A BONDS – Modifications of the 1978 Trust Agreement” for certain proposed amendments to the 1978 Trust Agreement affecting application of PFCs to pay Bonds issued under the 1978 Trust Agreement. The Authority has received FAA approval to pay a portion of the debt service on the Terminal A Bonds allocable to the cost of certain public areas within Terminal A with PFCs and has been doing so. Upon the issuance of the 2019A Bonds, the Authority expects to continue to authorize the irrevocable application of PFCs annually to pay a portion of the principal of and interest on the 2019A Bonds, but no assurance can be given that the Authority will in any future fiscal year irrevocably allocate PFCs for such purpose. See APPENDIX A – Information Statement of the Authority under the headings “Capital Programs – Funding Sources – Passenger Facility Charges” and “Management’s Discussion of Forecast Assumptions.”

Customer Facility Charges. In December 2008, the Authority instituted a CFC for each transaction day that a car is rented at Logan Airport. The purpose of the CFC is to fund the evaluation, design, financing and development of the Rental Car Center (“RCC”) and related facilities at the Airport, which opened in September 2013. On June 8, 2011, the Authority issued its first series of special facilities revenue bonds (the “CFC Revenue Bonds”) under a Trust Agreement dated as of May 18, 2011 (the “CFC Trust Agreement”) by and between the Authority and U.S. Bank National Association, as trustee, for the purpose of providing funds sufficient, together with other available funds, to finance the development and construction of the RCC and related improvements. Pursuant to the CFC Trust Agreement, the CFC revenues are pledged as security for the CFC Revenue Bonds, and the CFC revenues are not included in Revenues securing the 2019A Bonds and other Bonds issued under the 1978 Trust Agreement. For a further description of the RCC and the CFC Revenue Bonds, see (i) APPENDIX A – Information Statement of the Authority – Airport Properties – Airport Facilities – Service and Support Facilities and (ii) APPENDIX A – Information Statement of the Authority – Other Obligations – CFC Revenue Bonds. The CFC Revenue Bonds are not issued under or secured by the 1978 Trust Agreement. See “SECURITY FOR THE 2019A BONDS – Modifications of the 1978 Trust Agreement” for certain proposed amendments to the 1978 Trust Agreement affecting application of CFCs to pay Bonds issued under the 1978 Trust Agreement.

Other Obligations and Commitments. The Authority is permitted by the 1978 Trust Agreement to incur borrowings or issue other obligations, including bond anticipation notes issued in the form of commercial paper, that are generally subordinate to the rights of holders of the Bonds and are payable solely from moneys in the Improvement and Extension Fund, proceeds of borrowings or obligations subsequently incurred or issued and, in certain circumstances, Bonds subsequently issued. For a description of such borrowings, including the Authority’s commercial paper program, see APPENDIX A – Information Statement of the Authority – Other Obligations – Subordinated Indebtedness. The Authority has also issued special facilities revenue bonds, including the Terminal A Bonds, for various capital projects on a non-recourse basis. The principal of and interest on the special facilities revenue bonds issued by the Authority are special obligations of the Authority, payable solely from the sources provided; none of such special facilities revenue bonds is secured by the Revenues of the Authority. For a description of these bonds, see APPENDIX A – Information Statement of the Authority – Other Obligations – Special Facilities Revenue Bonds.

Additional Facilities. The Authority may acquire or construct revenue-producing facilities (in addition to Additional Improvements to the Airport Properties or the Port Properties) that serve a public purpose as may hereafter be authorized by the Legislature of the Commonwealth. Under the 1978 Trust Agreement, the Authority may not construct, acquire or operate any other building, structure or other facility financed other than by additional Bonds, unless the Consulting Engineer files a statement to the effect that in their opinion the operation of such facility will not materially adversely affect the Net Revenues or impair the operating efficiency of the Projects taken as a whole. Such a statement was delivered by the Consulting Engineer in connection with the issuance of each series of non-recourse bonds issued by the Authority. See “Other Obligations and Commitments” above and APPENDIX A – Information Statement of the Authority – Other Obligations.

Separately, the 1978 Trust Agreement permits the Authority to contract with any municipality or political subdivision of the Commonwealth, or with any public agency or instrumentality thereof or of the United States of America or the Commonwealth, to provide for the construction, operation and maintenance and/or administration of any facility or improvement, whether or not connected with or made a part of the Airport Properties or the Port Properties, if permitted by law. The Authority may expend or contribute moneys for such purpose from the Improvement and Extension Fund, but only, in the case of construction, if the construction of such facility or improvement (i) will result in increasing the average annual Net Revenues of the Authority, during the period of sixty (60) months immediately following the placing of such facility or improvement in operation, by an amount not less than 5% of the amount of moneys to be so expended or contributed by the Authority, and (ii) will not impair the operating efficiency or materially adversely affect the Revenues of any Project.

Modifications of the 1978 Trust Agreement

On several occasions commencing in 1988, the Authority has approved modifications to the 1978 Trust Agreement, which modifications either (i) were permissible under the terms of the 1978 Trust Agreement without Bondholder consent or (ii) took effect when approved by the holders of the requisite percentages of the outstanding Bonds. With respect to the modifications requiring Bondholder consent, the requisite percentage, in the case of

most modifications, is 51% of the outstanding Bonds or, if fewer than all Series of Bonds are affected, 51% of the outstanding Bonds of each affected Series. See APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement – Modifications of the 1978 Trust Agreement.

By resolution adopted June 23, 2016, the Authority approved the Twenty-first Supplemental Agreement, which provides for certain additional modifications to the 1978 Trust Agreement (the “*Consent Amendments*”), which will take effect when approved by the holders of 51% of the outstanding Bonds of the Authority. Each initial purchaser of the 2019A Bonds will be required to execute a written consent to the adoption of the Consent Amendments, the form of which is attached to this Official Statement as APPENDIX E – Authority Request for Written Consent to Proposed Amendments. Such consent is irrevocable and shall be binding on the initial purchaser and all successors in interest to such initial purchaser. Upon receipt by the Authority and the Trustee of the written consent to the Consent Amendments by the holders of at least 51% in aggregate principal amount of the Outstanding Bonds, the Consent Amendments will be deemed to be adopted and will become effective. As of the date hereof, approximately 28.8% in aggregate principal amount of Outstanding Bonds have consented to the Consent Amendments. The Authority currently projects, based upon its current schedule for the issuance of Additional Bonds, receiving the consent of the requisite percentage of holders of Outstanding Bonds of the Authority to the Consent Amendments in calendar year 2019. However, it is not possible to predict the actual timing for receipt of the consent of the necessary percentage of holders, which could occur earlier than or subsequent to the currently anticipated timing.

The modifications to the 1978 Trust Agreement set forth in the Twenty-first Supplemental Agreement consist of the following:

- Allowing the Authority to determine that a Series of Bonds issued on or after the date the Twenty-first Supplemental Agreement becomes effective (the “*Effective Date*”) (i) shall be secured by the “Pooled Reserve Subaccount” within the Reserve Account on a parity with all Bonds outstanding on the Effective Date and all other Bonds so secured, or (ii) shall be secured by another subaccount within the Reserve Account and the amount required to be held within such subaccount to secure such additional Series of Bonds, or (iii) shall not be secured by a reserve subaccount.
- Providing that “Bullet Maturities” shall be deemed to be amortized over a period of up to 30 years for purposes of calculating “Principal and Interest Requirements” unless such maturity is within 12 months of the date of calculation. “Bullet Maturities” is defined as that portion of any Series of Bonds, 25% or more of the principal of which matures on the same date or within a fiscal year (other than Term Bonds), that matures on a single date or within such fiscal year. If such maturity is within 12 months of the date of calculation, then either (1) such maturity shall be taken into account in such calculation, or (2) upon receipt of a certificate of an authorized officer of the Authority (i) stating that the Authority intends to refinance such maturity, (ii) setting forth the probable terms of such refinancing and (iii) certifying that the debt capacity of the Authority is sufficient to successfully complete such refinancing, such Bullet Maturities shall be assumed to be refinanced in accordance with the probable terms set out in such certificate and such terms shall be used for purposes of calculating Principal and Interest Requirements, provided that such assumption shall be amortized over a term of not more than thirty (30) years from the date of refinancing.
- Providing that if PFCs, CFCs or other revenues of the Authority that do not constitute Revenues (collectively, “*Available Funds*”) shall be pledged or irrevocably committed or are held by the Trustee or another fiduciary and are to be set aside exclusively to be used to pay principal of, interest or premium, if any, on specified Bonds pursuant to a resolution of the Authority (and are not otherwise required for payment of another Series of Bonds), then the principal, interest and/or premium to be paid from such Available Funds or from earnings thereon shall be disregarded and not included in calculating Principal and Interest Requirements.
- Allows the Authority, by adoption of a resolution, to designate as “Revenues” Available Funds in an amount, for the period and subject to such conditions as may be provided by such resolution.

- Creating a new category of Consultant to the Authority and allowing such Consultant to perform certain duties currently delegated to the Authority’s Accountants, Consulting Engineers or Airport Consultants. The “Consultant” is defined as any Independent consultant, consulting firm (including the Airport Consultants), engineer (including the Consulting Engineers), architect, engineering firm, architectural firm, accountant or accounting firm (including the Accountants), financial advisory or investment banking firm, or other expert recognized to be well-qualified for work of the character required and retained by the Authority to perform acts and carry out the duties provided for such consultant in the Agreement, where “Independent” means a firm or individual (a) that does not have any direct financial interest or any material indirect financial interest in the operations of the Authority, other than the payment to be received under a contract for services to be performed, and (b) is not connected with the Authority as an official, officer or employee.
- Substituting notice posted on EMMA for publishing notice of redemption, defeasance, amendment of the 1978 Trust Agreement and resignation or replacement of the Trustee.
- Allowing notice to the Authority or Trustee to be delivered by courier or by hand.
- Permitting payments from the Construction Fund to be made by wire or ACH transfer.

By their acceptance of the 2019A Bonds, the owners thereof agree to all of the terms of the 1978 Trust Agreement as currently in effect and shall be required to execute a written consent to the adoption of the Consent Amendments. Copies of the 1978 Trust Agreement, marked to show the Consent Amendments authorized by the Twenty-first Supplemental Agreement are available on the Municipal Securities Rulemaking Board’s Electronic Municipal Market Access (“EMMA”) system or from the Authority’s Acting Director of Administration & Finance and from the Trustee. See “INTRODUCTION – Additional Information” above.

No proposed but unapproved modifications of the 1978 Trust Agreement other than the Consent Amendments are pending. The descriptions of provisions of the 1978 Trust Agreement contained in this Official Statement, including APPENDIX D – Summary of Certain Provisions of the 1978 Trust Agreement, are inclusive of all modifications and amendments that have taken effect to date.

TAX MATTERS

In the opinion of Foley & Lardner LLP, Co-Bond Counsel (“Foley”), based on existing laws, regulations, rulings and court decisions, and assuming, among other matters, compliance with certain covenants, as described herein, interest on the 2019A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”), except for interest on any 2019A Bond for any period during which such 2019A Bond is held by a person who is a “substantial user” of facilities financed with the proceeds of the 2019A Bonds or a “related person” of such a substantial user (within the meaning of Section 147(a) of the Code). In addition, interest on the 2019A Bonds is a specific preference item for purposes of the federal alternative minimum tax. A copy of the proposed form of the opinion of Foley, as Co-Bond Counsel, is set forth in APPENDIX G.

The Code imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the 2019A Bonds. The Authority has covenanted to comply with certain restrictions and requirements designed to assure that the interest on the 2019A Bonds will not be included in gross income for federal income tax purposes. Failure to comply with these covenants may result in such interest being included in gross income for federal income tax purposes, possibly from the original issuance date of the 2019A Bonds. The opinion of Foley assumes compliance with these covenants. Foley has not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) after the issuance of the 2019A Bonds may adversely affect the tax status of the interest on the 2019A Bonds. Accordingly, the opinion of Foley is not intended to, and may not, be relied upon in connection with any such actions, events or matters.

The opinion of Foley relies on factual representations made by the Authority and other persons. These factual representations include but are not limited to certifications by the Authority regarding its reasonable expectations regarding the use and investment of bond proceeds. Foley has not verified these representations by independent investigation. Foley does not purport to be an expert in asset valuation and appraisal, financial analysis, financial projections or similar disciplines. Failure of any of these factual representations to be correct may result in interest on the 2019A Bonds being included in gross income for federal income tax purposes, possibly from the original issuance dates of such 2019A Bonds.

Although Foley is of the opinion that interest on the 2019A Bonds is excluded from gross income for federal income tax purposes, the ownership or disposition of, or the accrual or receipt of interest on, the 2019A Bonds may otherwise affect a Beneficial Owner's federal tax liability. The nature and extent of these other tax consequences will depend upon the particular tax status of the Beneficial Owner or the Beneficial Owner's other items of income or deduction. Foley expresses no opinion regarding any such other tax consequences.

Current and future legislative proposals, if enacted into law, clarification of the Code or court decisions may cause interest on the 2019A Bonds to be subject, directly or indirectly, to federal income taxation or otherwise prevent the Beneficial Owners from realizing the full current benefit of the tax status of such interest. For example, from time to time, legislative proposals have been advanced which generally would limit the exclusion from gross income of interest on obligations like the 2019A Bonds to some extent for taxpayers who are individuals and whose income is subject to higher marginal tax rates. Other proposals have been made that could significantly reduce the benefit of, or otherwise affect, the exclusion from gross income of interest on obligations like the 2019A Bonds. The introduction or enactment of any such legislative proposals, clarification of the Code or court decisions may also affect, perhaps significantly, the market price for, or marketability of, the 2019A Bonds. Such future legislation, if enacted, possibly could apply to obligations issued before such legislation is enacted and some or all of the 2019A Bonds possibly could be treated for purposes of such future legislation as issued on one or more dates after the dates of original issuance of the 2019A Bonds. Prospective purchasers of the 2019A Bonds should consult their own tax advisors regarding any pending or proposed federal or state legislation, regulations or litigation, and regarding the impact of future legislation, regulations or litigations, as to which Foley expresses no opinion.

The opinion of Foley speaks only as of its date and is based on current legal authorities, covers certain matters not directly addressed by such authorities, and represents Foley's judgment regarding the proper treatment of the 2019A Bonds for federal income tax purposes. It is not binding on the Internal Revenue Service (the "IRS") or the courts, and it is not a guarantee of result. Furthermore, Foley cannot give and has not given any opinion or assurance about the future activities of the Authority or about the effect of changes to the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the IRS. The Authority has covenanted, however, to comply with the applicable requirements of the Code.

Foley is not obligated to defend the Authority regarding the tax-exempt status of the 2019A Bonds in the event of an examination by the IRS. Under current IRS procedures, the Beneficial Owners and parties other than the Authority would have little, if any, right to participate in an IRS examination of the 2019A Bonds. Moreover, because obtaining judicial review in connection with an IRS examination of tax-exempt bonds is difficult, obtaining independent review of IRS positions with which the Authority legitimately disagrees may not be practicable. Any action of the IRS, including but not limited to selection of the 2019A Bonds for examination, or the course or result of such an examination, or an examination of bonds presenting similar tax issues may affect the market price, or the marketability, of the 2019A Bonds, and may cause the Authority or the Beneficial Owners to incur significant expense.

Payments of interest on tax-exempt obligations, including the 2019A Bonds, are generally subject to IRS Form 1099-INT information reporting requirements. If a Beneficial Owner of a 2019A Bond is subject to backup withholding under those requirements, then payments of interest will also be subject to backup withholding. Those requirements do not affect the exclusion of such interest from gross income for federal income tax purposes.

Premium. 2019A Bonds purchased, whether at original issuance or otherwise, for an amount greater than their principal amount payable at maturity (or, in some cases, at their earlier call date) ("*Tax-Exempt Premium Bonds*") will be treated as having amortizable bond premium. No deduction is allowable for the amortizable bond premium in the case of bonds, like the Tax-Exempt Premium Bonds, the interest on which is excluded from gross

income for federal income tax purposes. However, the amount of tax exempt interest received, and a Beneficial Owner's basis in a Tax-Exempt Premium Bond, will be reduced by the amount of amortizable bond premium properly allocable to such Beneficial Owner. Beneficial Owners of Tax-Exempt Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

State Tax Exemption

In the opinion of Kaplan Kirsch & Rockwell LLP, Co-Bond Counsel ("*Kaplan Kirsch*"), under the Enabling Act, the 2019A Bonds, their transfer and the income therefrom (including any profit made on the sale thereof) are exempt from taxation within the Commonwealth. Kaplan Kirsch expresses no opinion as to whether the 2019A Bonds or the interest thereon will be included in the measure of Massachusetts estate and inheritance taxes and certain Massachusetts corporation excise and franchise taxes. Kaplan Kirsch expresses no opinion regarding any other Massachusetts tax consequences, or regarding tax consequences of states other than The Commonwealth of Massachusetts.

ELIGIBILITY FOR INVESTMENT

The Enabling Act provides that the 2019A Bonds are eligible for investment by all Massachusetts insurance companies, trust companies in their commercial departments, banking associations, executors, trustees and other fiduciaries.

RATINGS

The 2019A Bonds have been assigned ratings of "AA" (outlook: stable) by Fitch, Inc. ("*Fitch*"), "Aa2" (outlook: stable) by Moody's Investors Service ("*Moody's*") and "AA" (outlook: stable) by S&P Global Ratings ("*S&P*"), respectively. Such ratings reflect only the respective views of Fitch, Moody's and S&P, and an explanation of the significance of such ratings may be obtained from the rating agency furnishing the same. There is no assurance that such ratings will continue for any given period of time or that they will not be revised or withdrawn entirely by any or all of such rating agencies if, in its or their judgment, circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an adverse effect on the market price of the 2019A Bonds.

FORWARD-LOOKING STATEMENTS

If and when included in this Official Statement, the words "expects," "forecasts," "projects," "intends," "anticipates," "estimates" and analogous expressions are intended to identify forward-looking statements as defined in the Securities Act of 1933, as amended, and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include, among others, general economic and business conditions, changes in political, social and economic conditions, regulatory initiatives and compliance with governmental regulations, litigation and various other events, conditions and circumstances affecting airports and the airline industry, seaports, maritime and commercial real estate, many of which are beyond the control of the Authority. These forward-looking statements speak only as of the date of this Official Statement. The Authority disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the Authority's expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

CERTAIN LEGAL MATTERS

The unqualified approving opinions of Kaplan Kirsch & Rockwell LLP, Boston, Massachusetts, and Foley & Lardner LLP, Chicago, Illinois, Co-Bond Counsel to the Authority, will be furnished upon delivery of the 2019A Bonds; the proposed forms of such opinions are set forth in APPENDIX G. Certain legal matters will be passed on for the Authority by Catherine M. McDonald, Esquire, its Chief Legal Counsel, and by Locke Lord LLP, Boston,

Massachusetts, its Disclosure Counsel. Certain legal matters will be passed on for the Underwriters by their counsel, Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts.

INDEPENDENT AUDITORS

The financial statements of the Authority as of and for the years ended June 30, 2018 and 2017 included in APPENDIX B of this Official Statement have been audited by Ernst & Young LLP, independent auditors, as stated in their report appearing therein.

The prospective financial information (forecasted Operating Results and Debt Service Coverage) included within this Official Statement and the appendices hereto was prepared by the Authority in accordance with accounting principles required by the 1978 Trust Agreement in order to show forecasted debt service coverage and ability to meet other required fund deposits; such information was not prepared with a view toward compliance with the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of prospective financial information. The prospective financial information included in this Official Statement has been prepared by and is the responsibility of the Authority's management. Neither Ernst & Young LLP nor any other independent auditor has examined, compiled, reviewed, audited or performed any procedures with respect to the accompanying forecast, and accordingly, neither Ernst & Young LLP nor any other independent auditor expresses an opinion or any other form of assurance with respect thereto.

REVIEW OF AIRPORT PROPERTIES NET REVENUES

The Review of Airport Properties Net Revenues Forecasts set forth in APPENDIX C was prepared by LeighFisher in connection with the issuance of the 2019A Bonds. The review should be read in its entirety for an understanding of the forecasts and the key assumptions therein. Such review is set forth herein in reliance upon the knowledge and experience of such firm as airport financial consultants. LeighFisher has consented to the inclusion of their report herein.

UNDERWRITING

The 2019A Bonds are being purchased by the underwriters listed on the cover page hereof (collectively, the "Underwriters"), for whom Goldman Sachs & Co. LLC is acting as representative. The Underwriters have agreed, subject to certain conditions, to purchase all of the 2019A Bonds from the Authority at an aggregate underwriters' discount from the initial public offering prices or yields set forth on page (i) hereof equal to \$879,896.68 and to reoffer such 2019A Bonds at public offering prices not higher than or at yields not lower than those set forth on page (i) hereof. The Underwriters are obligated to purchase all such 2019A Bonds if any are purchased. The obligation of the Underwriters to make each such purchase and any such reoffering will be subject to certain terms and conditions set forth in the purchase contract relating to the 2019A Bonds (the "Purchase Contract"), the approval of certain legal matters by counsel and certain other conditions.

The 2019A Bonds may be offered and sold by the Underwriters to certain dealers (including dealers depositing such 2019A Bonds in unit investment trusts or mutual funds, some of which may be managed by the Underwriters) and certain dealer banks and banks acting as agents at prices lower (or yields higher) than the public offering prices (or yields) set forth on page (i) of this Official Statement. Subsequent to such initial public offering, subject to the Purchase Contract, the Underwriters may change the public offering prices (or yields) as they may deem necessary in connection with the offering of such 2019A Bonds.

The following language has been provided by the Underwriters named therein. The Authority takes no responsibility as to the accuracy or completeness thereof.

Each of the Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking services for the Authority for which they received or will receive customary fees and

expenses. In the ordinary course of their various business activities, each of the Underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Authority.

One or more of the Underwriters may have from time to time entered into, and may in the future enter into, distribution agreements with other broker-dealers (that have not been designated by the Authority as Underwriters) for the distribution of the 2019A Bonds at the original issue prices. Such agreements generally provide that the relevant Underwriter will share a portion of its underwriting compensation or selling concession with such broker-dealers.

FINANCIAL ADVISOR

PFM Financial Advisors LLC (“*PFM*”) is serving as financial advisor to the Authority for the issuance of the 2019A Bonds. PFM is not obligated to undertake, and has not undertaken, either to make an independent verification of or to assume responsibility for, the accuracy, completeness, or fairness of the information contained in this Official Statement. PFM is an independent financial advisory firm and is not engaged in the business of underwriting, trading or distributing securities. PFM is a registered municipal advisor with the Securities and Exchange Commission and the Municipal Securities Rulemaking Board under the Dodd-Frank Act of 2010.

CONTINUING DISCLOSURE

1978 Trust Agreement Information

The Authority is required by the 1978 Trust Agreement to prepare, file with the Trustee and mail to all Bondholders of Record (DTC or DTC’s partnership nominee, as long as the 2019A Bonds are so registered), within 60 days of the end of each fiscal year, a report setting forth, among other things, the status of all funds and accounts created under the 1978 Trust Agreement, and to prepare, file with the Trustee and mail to all such Bondholders of Record within three months of the end of each fiscal year a report on the audit of the books and accounts of the Authority by the Authority’s independent public accountants. The Authority is also required by the 1978 Trust Agreement to send certain documents and reports to all Bondholders of Record. The Director of Administration and Finance of the Authority, or his or her designee from time to time, shall be the contact person on behalf of the Authority from whom the foregoing information, data and notices may be obtained. The name, address and telephone number of the initial contact person are Anna M. Tenaglia, Acting Director of Administration and Finance/Secretary-Treasurer, Massachusetts Port Authority, One Harborside Drive, Suite 200S, East Boston, Massachusetts 02128-2909, Tel: (617) 568-5000.

Continuing Disclosure Undertakings

The Authority has undertaken for the benefit of the owners of the 2019A Bonds to provide certain continuing disclosure pursuant to the provisions of Rule 15c2-12(b)(5) under the Securities Exchange Act of 1934 (as amended, the “*Rule*”). Specifically, the Authority executed and delivered a Continuing Disclosure Certificate dated as of July 19, 2012 (the “*Continuing Disclosure Certificate*”) for the benefit of the owners of all Bonds (including the 2019A Bonds) issued by or on behalf of the Authority that are designated by the Authority as subject to and having the benefits of the Continuing Disclosure Certificate. The Continuing Disclosure Certificate requires the Authority to provide, or cause to be provided, annual financial information and operating data and event notices with respect to the 2019A Bonds in accordance with the Rule. See APPENDIX F – Form of Continuing Disclosure Certificate.

In connection with the issuance of its CFC Revenue Bonds, the Authority has agreed to provide annual updated data with respect to certain other information regarding the Authority and the Airport pursuant to a Continuing Disclosure Certificate dated as of June 15, 2011 with respect to the CFC Revenue Bonds. The Authority has also previously undertaken for the benefit of the owners of its Bonds issued prior to the 2019A Bonds certain

continuing disclosure pursuant to a Continuing Disclosure Agreement dated as of August 1, 1997 between the Authority and U.S. Bank National Association (as successor-in-interest to State Street Bank and Trust Company).

In order to provide certain continuing disclosure with respect to its Bonds previously issued under the 1978 Trust Agreement and its CFC Revenue Bonds, the Authority entered into a Disclosure Dissemination Agent Agreement with Digital Assurance Certification, L.L.C. (“DAC”), dated as of January 8, 2010. The Authority shall amend the Disclosure Dissemination Agreement to include coverage of the 2019A Bonds by this agreement.

For fiscal year 2015, when the Annual Filing was filed as part of the Authority’s Comprehensive Annual Financial Report (“CAFR”), fiscal year 2015 data in one of the appendices pertaining to the CFC Revenue Bonds was available only from July 2014 through March 2015. The Authority supplemented such appendix when the information became available to include data from July 2014 through June 2015, which supplemental information was filed on April 22, 2016. Similarly, for fiscal year 2016, when the Annual Filing was filed as part of the CAFR, fiscal year 2016 data in one of the appendices pertaining to the CFC Revenue Bonds was available only from July 2015 through March 2016. The Authority supplemented such appendix when the information became available to include data from July 2015 through June 2016, which supplemental information was filed on April 10, 2017.

The execution and delivery of this Official Statement have been duly authorized by the Authority.

MASSACHUSETTS PORT AUTHORITY

By: /s/ Lewis Evangelidis
Lewis Evangelidis, Chairman

By: /s/ John P. Prankevicius
John P. Prankevicius, Acting Chief Executive Officer and Executive
Director

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APPENDIX A

INFORMATION STATEMENT OF THE AUTHORITY

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THE AUTHORITY

Purpose

This Information Statement provides certain information concerning the Massachusetts Port Authority (the “*Authority*”) in connection with the sale by the Authority of its Revenue Bonds, Series 2019-A (AMT) (the “*2019A Bonds*”). Capitalized terms not defined in this Appendix A are used as defined in the Official Statement, except as otherwise noted herein. The 2019A Bonds are being issued under the 1978 Trust Agreement and are secured solely by the Revenues pledged thereunder.

The Authority

The Authority, created pursuant to Chapter 465 of the Massachusetts Acts of 1956, as amended to date (the “*Enabling Act*”), is a body politic and corporate and a public instrumentality of The Commonwealth of Massachusetts (the “*Commonwealth*” or “*Massachusetts*”). The Authority owns, operates and manages the following two Projects (as defined in the Enabling Act): the “*Airport Properties*,” which consist of Boston-Logan International Airport (the “*Airport*,” “*Logan*” or “*Logan Airport*”), Laurence G. Hanscom Field (“*Hanscom Field*”) and Worcester Regional Airport (“*Worcester Regional Airport*”); and the “*Port Properties*,” which consist of certain facilities in the Port of Boston (the “*Port*”) and other properties further described herein.

Powers and Facilities

Under the Enabling Act, the Authority has general power, *inter alia* (a) to issue its revenue bonds and to borrow money in anticipation thereof, (b) to fix, revise, charge and collect tolls, rates, fees, rentals and charges for use of the Projects, (c) to maintain, repair and operate and to extend, enlarge and improve the Projects, and (d) to construct or acquire Additional Facilities (as defined in the Enabling Act) within the Commonwealth when authorized by the Legislature of the Commonwealth. The Authority has the power to acquire property by purchase or through the exercise of the right of eminent domain in certain circumstances. The Authority has no taxing power and generally receives no money from the Commonwealth’s budget.

The Authority’s facilities include the Airport Properties, consisting of the Airport, Hanscom Field and Worcester Regional Airport and the Port Properties, consisting of Moran Terminal, Hoosac Pier (site of Constitution Center and Marina), Mystic Piers 1, 48, 49 and 50 and the Medford Street Terminal, all of which are located in Charlestown; Conley Terminal, the North Jetty and Fargo Street Terminals, the former Army Base (including Flynn Cruiseport Boston), the Boston Fish Pier, Commonwealth Pier (site of World Trade Center Boston) and a portion of Commonwealth Flats, all of which are located in South Boston; and the East Boston Piers and the Boston Marine Works, both located in East Boston.

Members and Management

The Enabling Act provides that the Authority shall consist of seven Members (collectively, the “*Board*”). Six Members are appointed by the Governor of the Commonwealth, including the Secretary of Transportation of the Commonwealth; the seventh member is appointed by the Massachusetts Port Authority Community Advisory Committee. Four Members of the Board constitute a quorum and the affirmative vote of four Members is necessary for any action taken by the Board. With the exception of the Secretary of Transportation, the Members are appointed for staggered seven-year terms. Members completing a term in office are eligible for reappointment and remain in office until their successors are appointed, except that any Member appointed to fill a vacancy shall serve only for the unexpired term. The Members of the Board serve without compensation, although they are reimbursed for expenses they incur in carrying out their duties.

The Chairman of the Board is elected annually by the Members. The Members also annually elect a Vice Chairman and a Secretary-Treasurer (who need not be a Member of the Board), both of whom serve at the pleasure of the Members. The current Members of the Board and the expiration dates of their terms are as follows:

Members of the Board

Expiration of Term (June 30)

Stephanie Pollack Secretary of Transportation and Chief Executive Officer of the Massachusetts Department of Transportation ("MassDOT"), Commonwealth of Massachusetts	*
Lewis Evangelidis, Chairman Worcester County Sheriff	2020
Warren Q. Fields Chief Investment Officer, Pyramid Advisors, LLC	2025
Patricia A. Jacobs President, AT&T New England	2023
John A. Nucci Senior Vice President for External Affairs, Suffolk University	2022
Sean M. O'Brien President, Teamsters Local 25	2019
Laura J. Sen Board Member, Massachusetts Mutual Life Insurance Company	2024

* The Secretary of Transportation is an *ex officio* Member of the Board.

The management of the Authority and its operations is carried out by a staff headed by the Chief Executive Officer and Executive Director, who is appointed by and reports directly to the Board.

The Authority has two operating Departments – Aviation and Maritime – each of which is charged with profit and loss responsibility. The staff members overseeing the operation of the Authority’s facilities are charged with balancing financial performance with operational demands, customer service and community impacts, as well as forecasting the implications of any proposed capital programs or operating initiatives, and for the collection of accounts receivable.

The senior staff of the Authority currently includes the following persons, who are each aided by administrative, operating and maintenance personnel:

John P. Pranckevicius, Acting Chief Executive Officer and Executive Director, joined the Authority in May 2007 and previously served as the Authority’s Director of Administration and Finance/Secretary-Treasurer. As Acting CEO, he oversees the Authority’s operation of Boston Logan International Airport, Hanscom Field, Worcester Regional Airport, the Port of Boston’s Conley Container Terminal and Flynn Cruiseport Boston, and management of real estate holdings in South Boston, East Boston and Charlestown. In his 11 years as a senior executive at the Authority, Mr. Pranckevicius played a significant role in advancing the Authority’s transportation and economic development missions. He was a major contributor to the development of the Authority’s Strategic Plan, which focused on increasing international flights and reconfiguring the domestic terminals to manage growth at Logan Airport, as well as dredging Boston Harbor and modernizing Conley Terminal to ensure the long-term competitiveness of the Port of Boston. His financial acumen and negotiation skills were instrumental in advancing more than 3 million square feet of private development including the Omni Summer Street Hotel, Waterside Place, Gables Seaport and Parcel K. Further, under Mr. Pranckevicius’ leadership, the Authority’s bond ratings were raised to Aa2, one of the highest airport ratings in the country. Prior to joining the Authority, Mr. Pranckevicius served as the Chief Financial Officer for the City of Worcester, Massachusetts. He is licensed in the Commonwealth as a Certified Public Accountant, and holds a B.A. degree and a Masters in Public Administration from the University of Maine and an M.S. in Accountancy from Bentley University. Mr. Pranckevicius was appointed Acting Chief Executive Officer and Executive Director by the Board, effective November 16, 2018, upon the resignation of Thomas P. Glynn.

Anna M. Tenaglia, Acting Director of Administration and Finance/Secretary-Treasurer, joined the Authority in June 2008 and has served as the Authority's Director of Treasury since March 2015. In November 2018, she was appointed Acting Director of Administration and Finance/Secretary-Treasurer. As Acting Director of Administration and Finance/Secretary-Treasurer, Ms. Tenaglia oversees the Authority's financial responsibilities including treasury, budgeting, accounting, debt and investment management and administration, and serves as Treasurer-Custodian of the Massachusetts Port Authority Employees' Retirement System and Chair of the Authority's Retiree Benefits Trust. Prior to joining the Authority, Ms. Tenaglia was the Chief Financial Officer for the City of Gloucester, the Treasurer/Assistant Finance Director for the City of Chelsea and was also a former Vice President at State Street Bank's Institutional Investor Services Division. She holds a B.S. in finance from Suffolk University and an M.B.A. with a concentration in finance from the University of Southern New Hampshire. She is a designated Certified Treasury Professional (CTP).

Joel Barrera, Director of Strategic and Business Planning, joined the Authority in October 2018. He is responsible for overseeing the department charged with master planning, aviation planning, transportation planning, and environmental planning and permitting for the Authority. Prior to joining the Authority, he was Deputy Chief of Staff for Strategic Innovation in the Office of Governor Charlie Baker, and prior to that he served as Deputy Director for the Metropolitan Area Planning Council, the regional planning agency for metropolitan Boston. He has a B.A. from Princeton University and an M.A. from Worcester College, Oxford University.

Alaina Coppola, Director of Community Relations & Government Affairs, joined the Authority's Community Relations department in 2003 and was appointed to her current position in January 2019 after serving as Assistant Director of Administration and Community Giving since July 2017. She is responsible for directing the development and implementation of community and government relations and charitable giving initiatives designed to strengthen the relationship between the Authority and its neighboring communities. Ms. Coppola holds a B.S. degree from Suffolk University.

Brian M. Day, Director of Labor Relations/Labor Counsel, joined the Authority in September 2006. He is responsible for all matters related to each of the Authority's union collective bargaining agreements and all other union related matters affecting the Authority's mission and its tenants, customers, employees and the public. Mr. Day is responsible for negotiating and properly administering the Authority's union collective bargaining agreements, as well as overseeing the resolution of all union labor disputes. Prior to joining the Authority, he was a Senior Labor Relations Representative for the MBTA and prior to that was the Chief of Staff for the Massachusetts House of Representatives' Chairman of the Joint Committee on Transportation. He has a B.A. in Politics from Fairfield University and received his J.D. from Suffolk University Law School.

Thomas M. Domenico, Acting Chief Information Officer, joined the Authority in August 1997 and has more than 25 years' experience in the Information Technology Industry at both a technical and managerial level. He oversees the Authority's Information, Telecommunications and Public Safety systems for employees and members of the public who use the Authority's facilities. Prior to his appointment as Acting Chief Information Officer, Mr. Domenico served as the Authority's Chief Information Security Officer & Director of Public Safety Systems. In this role, he was responsible for the strategic leadership of the Authority's information security program as well as public safety and communications systems across the enterprise. Previously, Mr. Domenico served as the Authority's Director of Information Technology Operations.

Virginia Bennett Flynn, Director of Internal Audit, joined the Authority in December 2018. She is responsible for all activities within the Authority's Internal Audit function, which reviews the integrity and effectiveness of internal controls across Authority operations and services. Mrs. Flynn directly reports her findings to Senior Management and the Audit Committee of the Board to ensure the function's independence and objectivity. Prior to joining the Authority, she was the Head of Accreditation and Audit Services for the Global Legal Entity Identifier Foundation, and prior to that she served as the Senior Vice President of Audit Services for Interactive Data Corporation. She has a B.A. in Economics from Framingham State University and received her M.B.A from Suffolk University.

Edward C. Freni, Director of Aviation, joined the Aviation Division of the Authority in 2000 as the Deputy Director of Aviation Operations at Logan Airport, Hanscom Field and Worcester Regional Airport and was appointed to his current position in 2007. He is responsible for administering, coordinating and managing all airspace

and landside activities and operations at all three airports. Prior to joining the Authority, Mr. Freni worked for 23 years at American Airlines. He holds a B.S. degree from the University of New Hampshire.

David M. Gambone, Chief Human Resources Officer, joined the Authority in March 2004. He oversees all core functions of Human Resources, including recruitment, compensation, benefits, training and development, performance management, employee relations, health and wellness, leave management and human resources management systems. Mr. Gambone has over 25 years of human resources management experience having worked in the private sector as the head of human resources for consulting firms and training organizations focused on executive leadership development. He holds a B.A. in Philosophy from Boston College. He is also certified as a Senior Professional in Human Resources (SPHR).

Andrew G. Hargens, Chief Development Officer, joined the Authority in 1995 and has served in a variety of planning, asset management, and real estate development roles since that time. Prior to his designation as Chief Development Officer in June 2018, Mr. Hargens served as Deputy Director for Real Estate Development. Before joining the Authority, Mr. Hargens worked as an environmental consultant for TRC Corporation and Eastern Research Group. Mr. Hargens has a B.A. in Geology from Harvard University and a Masters in Public Policy and Planning from Tufts University.

José C. Massó, III, Director of Policy, joined the Authority in March 2013 and works closely with the Chief Executive Officer on establishing policies and procedures for innovative transportation-related technology devices. Mr. Massó has a long and distinguished career in government, community affairs, communications and consulting. He began his public service career in 1983 in the Governor's Office of Community Services and has held key posts at the MBTA, Northeastern University and the Puerto Rico Federal Affairs Administration. He is fluent in Spanish and skilled in cross-cultural communications, with a B.A. degree from Antioch College.

Joseph F. McCann, Comptroller, joined the Authority in 2010 and is responsible for coordinating all accounting activities throughout the Authority and administering the Authority's internal controls and financial reporting efforts. Prior to joining the Authority, Mr. McCann was the Chief Financial Officer for the Massachusetts Turnpike Authority. Mr. McCann is licensed in the Commonwealth as a Certified Public Accountant, and holds a B.S. degree from Northeastern University.

Catherine M. McDonald, Chief Legal Counsel, joined the Authority in 1999 and was appointed to her current position in January 2016, having served as Acting Chief Legal Counsel since July 2015. She also served as the Authority's Chief of Staff from October 2017 to November 2018. She oversees legal activity in all functional areas including real estate, construction, litigation, employment and ethics, maritime, aviation, security and public finance. Prior to joining the Authority, Ms. McDonald was an Assistant Chief of Staff in the Governor's Office, an Associate at McDermott, Will and Emery and a law clerk to the Honorable A. David Mazzone of the United States District Court for Massachusetts. Ms. McDonald holds degrees from Northeastern University and Suffolk University School of Law.

Jennifer B. Mehigan, Director of Media Relations, joined the Authority in June 2014 as the Assistant Director of Media Relations. Prior to joining the Authority, Ms. Mehigan was the Director of Media Relations for Boston EMS, and Deputy Press Secretary under former Mayor Thomas Menino. Ms. Mehigan has a master's degree in Journalism from American University in Washington, D.C. and a bachelor's degree from Wheaton College, Norton, Massachusetts.

Reed Passafaro, Acting Chief of Staff, joined the Authority in March 2014 and was appointed to his current position in November 2018 after serving as Senior Business and Policy Manager for the Authority's Maritime Division. Prior to joining the Authority, Mr. Passafaro worked for the City of Boston as the Director of Speechwriting under former Mayor Thomas M. Menino. He has a B.A. from Saint John Fisher College and an M.B.A from Northeastern University's D'Amore-McKim School of Business.

Harold H. Shaw, Chief Security Office, joined the Authority in January 2019. He is responsible for all security matters relevant to the Authority with oversight of the corporate security and emergency preparedness programs and the respective security teams in the functional and staff departments. Mr. Shaw is responsible for establishing security plans, protocols and exercises, implementing a threat-based approach to counter security risks

to the aviation and maritime sectors inherent to the Authority, and collaborating across federal, state, and local law enforcement, as well as with applicable private sector security managers. Fundamental to his responsibilities, he will work across departments to develop processes to counter the terrorism and cyber threats of the future. Prior to joining the Authority, Mr. Shaw was a FBI Special Agent, serving in a variety of leadership positions, with a broad-range of experiences within the counterterrorism, counterintelligence, cyber and criminal programs. He previously served as the Special Agent in Charge of the FBI Boston Division, responsible for all operations, intelligence functions, and liaison activities within the states of Massachusetts, Maine, New Hampshire and Rhode Island. A United States Army veteran, Mr. Shaw has a B.S. in Communications from Norwich University.

Houssam H. Sleiman, Director of Capital Programs and Environmental Affairs, joined the Authority in October 1993 and was appointed to his current position in May 2006. He directs the overall management of the Authority's capital improvement program, safety program, utilities management, in-house design and environmental permitting and management. He also served as the Authority's Director of Aviation Administration and Development. Prior to joining the Authority, he worked for the Town of Lexington, Massachusetts. He is a licensed registered Professional Engineer in the Commonwealth. He holds a M.S. degree in Civil Engineering and a B.S. degree in Civil Engineering from Northeastern University.

Kenneth L. Turner, Director of Diversity & Inclusion/Compliance and Acting Chief Marketing Officer, joined the Authority in June 2013. He oversees and manages the Authority's multiple diversity programs, including business and supplier diversity, workforce diversity and airport concessions, as well as all compliance initiatives associated with the Authority's Disadvantaged/Minority/Women Business Enterprise programs. As Acting Chief Marketing Officer, he oversees the Authority's external and internal communications and marketing strategies, branding, promotional campaigns and event planning both for the Authority and its facilities. Prior to joining the Authority, Mr. Turner served as Deputy Secretary for Administration & Finance for the Commonwealth of Massachusetts Department of Veterans' Services. He also has over 20 years of general management and executive experience in various Fortune 100 companies, including having served as a Senior Vice President at AOL Time Warner and as Vice President of Marketing for Simmons College. A retired U.S. Navy Captain with 26 years of service, Mr. Turner holds a B.S. degree in Liberal Arts from Southern University and A&M College.

Lisa S. Wieland, Port Director, joined the Authority in 2006 and has served as Port Director since January 2016, after serving as Acting Port Director since March 2015. In her current role, and previously as Maritime's Chief Administrative Officer, she leads all financial management, business planning, strategic initiatives, process improvement, special projects, and the day-to-day management of the Maritime division. Before joining the Maritime team, Ms. Wieland served in several roles at the Authority, including the Director of Corporate Planning and Analysis and the Director of HR Strategy & Employment. Prior to joining the Authority, Ms. Wieland worked as a Consultant for Bain & Company, serving health care and consumer products clients, and previous to that, for CNN in various news and political assignments. Ms. Wieland received a B.A. degree in Political Science from UCLA and an M.B.A. from Harvard Business School.

AIRPORT PROPERTIES

Boston-Logan International Airport

The Airport is the principal source of the Authority's Revenues, Operating Expenses and Net Revenues and is the dominant factor in the determination of the Authority's financial condition. In fiscal year 2018, the Airport Properties accounted for approximately 83.9% of the Authority's Revenues and approximately 89.7% of the Authority's Net Revenues (as defined in the 1978 Trust Agreement). The Airport is situated principally in East Boston (with a small portion situated in the Town of Winthrop), approximately three miles from downtown Boston and adjacent to Boston Harbor. The total land area of the Airport is approximately 2,400 acres.

Air Service Region. The Airport serves the greater Boston area and plays the leading role in New England's air service infrastructure. Based upon information provided by the United States Department of Transportation ("USDOT") for calendar year 2017, approximately 94.4% of total passengers at the Airport began or ended their air travel ("*origin-destination*" travel) at Logan Airport. See APPENDIX C – Review of Airport Properties Net Revenues Forecasts.

The high percentage of origin-destination passengers in both the business and leisure markets is in contrast to many other major airports that are used in large part by airlines as connecting hubs for passengers en route to another point as their final destination. As a result of this traffic base, overall activity levels at Logan Airport are less vulnerable to fluctuations in connecting traffic resulting from route restructuring by individual airlines or other factors affecting particular airlines. Rather, Airport activity levels tend to reflect general economic conditions, regional economic and demographic trends and the economics of the airline industry.

The Boston metropolitan area was the 10th largest metropolitan area in the United States in terms of population as of July 2017 (the most recent data available), and it ranked 10th in the nation with 2.9 million employees as of July 2018. It had an unemployment rate of 3.6% in July 2018, below the national average of 3.9%, and 6.2 percentage points lower than the peak of 9.8% in January 2010. The unemployment rate in the Boston metropolitan area was among the 20th lowest rates among the nation's large metropolitan areas (*i.e.*, those with populations of larger than one million) as of July 2018. In the greater Boston area, the following six major sectors have contributed to the Boston region's economic growth since the early 1990s and currently account for approximately one half of the Boston area employment base: high technology, biotechnology, health care, financial services, higher education and tourism. The Boston metropolitan area's average per capita personal income in calendar year 2016 (the most recent data available) was 42.0% above the national average and 11.4% above the New England average. During the period 2002-2017, Massachusetts per capita income grew slightly faster than in the U.S. as a whole. It is projected to grow at a rate of 1.5% annually from 2015 to 2030, as compared to the national U.S. projected growth of 1.4% annually. See APPENDIX C – Review of Airport Properties Net Revenues Forecasts.

Airport Traffic Levels. The following table summarizes Airport operations and passenger traffic statistics for the most recent five fiscal years and the four-month periods ending October 31, 2017 and 2018. Both operations and passengers are grouped by origin and destination regardless of whether the carrier was a U.S. air carrier or a foreign flag carrier.

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SELECTED BOSTON-LOGAN INTERNATIONAL AIRPORT TRAFFIC STATISTICS
(Fiscal Year Ended June 30, except as noted)

	2014	2015	2016	2017	2018	Four Months Ending 10/31/2017	Four Months Ending 10/31/2018
Aircraft Operations (1)							
Domestic (2)	219,534	224,928	237,479	244,857	257,296	87,604	92,912
International (3)	38,059	41,084	46,687	51,500	52,483	18,589	19,408
Regional	79,983	71,233	72,416	68,223	71,198	27,280	30,101
General Aviation	26,286	26,114	30,026	31,300	31,186	12,036	12,092
Total Operations	363,862	363,359	386,608	395,880	412,163	145,509	154,513
Aircraft Landed Weights (1,000 pounds) (4)							
	20,297,245	20,784,046	22,652,895	24,040,957	25,249,192	8,799,516	9,342,975
Passengers Traffic							
Domestic (2)							
Enplaned	11,990,184	12,551,985	13,368,762	14,257,124	14,995,819	5,247,730	5,642,614
Deplaned	12,045,512	12,591,542	13,466,887	14,348,544	15,079,032	5,231,154	5,619,636
International (3)							
Enplaned	2,337,269	2,611,642	3,004,322	3,493,005	3,609,751	1,339,383	1,446,947
Deplaned	2,348,399	2,634,590	3,034,210	3,506,567	3,649,730	1,419,774	1,522,291
Regional							
Enplaned	1,011,299	903,180	962,163	881,940	1,030,643	385,992	418,959
Deplaned	1,021,968	910,348	952,308	871,399	1,028,876	383,797	421,895
Subtotal	30,754,631	32,203,287	34,788,652	37,358,579	39,393,851	14,007,830	15,072,342
General Aviation ("GA")							
Total Passengers	95,632	95,934	109,766	111,772	112,658	42,920	43,284
Total Passengers	30,850,263	32,299,221	34,898,418	37,470,351	39,506,509	14,050,750	15,115,626
Total Enplaned Passengers (excluding GA)							
	15,338,752	16,066,807	17,335,247	18,632,069	19,636,213	6,973,105	7,508,520
Average Passengers Per Flight							
Domestic (2)	109.5	111.8	113.0	116.8	116.9	119.6	121.2
International (3)	123.1	127.7	129.3	135.9	138.3	148.4	153.0
Regional	25.4	25.5	26.4	25.7	28.9	28.2	27.9
Air Carrier and Passenger Metrics							
Primary carrier	JetBlue	JetBlue	JetBlue	JetBlue	JetBlue	JetBlue	JetBlue
Primary carrier market share (5)	26.5%	26.9%	26.5%	27.2%	27.9%	27.1%	28.0%
Two top carriers market share	37.7%	39.2%	40.7%	44.3%	44.1%	44.3%	45.0%
Origination & destination share (6)	94.5%	94.5%	94.5%	94.4%	94.2% (7)	NA	NA
Compensatory airline payments to							
Massport per enplaned passenger (8)	\$13.55	\$13.78	\$13.45	\$13.98	\$14.37	\$14.06	\$14.01
Logan Airport revenue per enplaned passenger (9)	\$34.07	\$34.76	\$33.85	\$34.25	\$35.39	\$34.08	\$34.14
Total Cargo & Mail (1,000 pounds)	572,226	625,749	606,101	672,402	727,175	253,130	243,871

(1) Includes all-cargo flights.

(2) Includes domestic flights on jets and charters.

(3) Includes international flights on jet, charter and commuter carriers.

(4) Excludes general aviation and non-tenant.

(5) Data consists of mainline activity only.

(6) The source of this statistic is the Massachusetts Port Authority and U.S. DOT, Air Passenger Origin-Destination Survey, reconciled to Schedules T1 and 298C T1, as reported in Appendix CFC-1 to the Authority's CAFR; this statistic is calculated based on outbound passengers only as of fiscal year end.

(7) Fiscal year 2018 data is preliminary.

(8) Consists of landing fees, terminal rents, certain non-PFC passenger fees and aircraft parking fees.

(9) Consists of landing fees, terminal rents, parking, utilities, non-terminal and ground rent, concessions and baggage fees.

Source: Authority reports.

Passenger traffic at the Airport totaled 39.5 million passengers for fiscal year 2018 (including general aviation), a 5.4% increase from the 37.5 million passengers who used the Airport in the prior year. Passenger traffic increased 7.4% in fiscal year 2017 and 8.0% in fiscal year 2016. For the four-month period ending October 31, 2018, passenger traffic was 7.6% greater than the four-month period ending October 31, 2017. Landed weights for fiscal year 2018 were 5.0% higher than fiscal year 2017, and in the four-month period ending October 31, 2018, were 6.2% greater than for the same four-month period ending in 2017. See “AUTHORITY REVENUES – Airport Properties Revenues” and “MANAGEMENT’S DISCUSSION OF HISTORICAL OPERATING RESULTS.”

On a calendar year basis, passenger traffic at the Airport totaled approximately 38.4 million passengers in 2017 (including general aviation). This represented a 5.9% increase in passenger traffic over calendar year 2016, following calendar year passenger traffic increases of 8.5% and 5.7% in calendar years 2016 and 2015, respectively.

According to data from the Airports Council International (“ACI”), Logan Airport was the most active airport in New England and the 17th most active airport in North America in reporting year 2017 (the most recent data available), based upon total passenger volume. In reporting year 2017 (the most recent year for which data is available), Logan Airport was the 52nd most active in the world according to data from the ACI.

The following tables summarize regional, international and domestic passenger traffic statistics (including general aviation) for Logan Airport for most recent three years on both a fiscal year basis and a calendar year basis.

Passengers by Traffic Type

Fiscal Year					Calendar Year				
Period	Regional	International	Domestic	Total	Period	Regional	International	Domestic	Total
FY2016	1,914,471	6,038,532	26,945,415	34,898,418	CY2015	1,835,803	5,534,176	26,079,601	33,449,580
FY2017	1,753,339	6,999,572	28,717,440	37,470,351	CY2016	1,724,617	6,587,473	27,975,952	36,288,042
FY2018	2,059,519	7,259,481	30,187,509	39,506,509	CY2017	1,969,890	7,199,595	29,242,934	38,412,419

Market Share by Traffic Type

Fiscal Year				Calendar Year			
Period	Regional	International	Domestic	Period	Regional	International	Domestic
FY2016	5.5%	17.3%	77.2%	CY2015	5.5%	16.5%	78.0%
FY2017	4.7	18.7	76.6	CY2016	4.8	18.2	77.1
FY2018	5.2	18.4	76.4	CY2017	5.1	18.7	76.1

Year over Year Variances by Traffic Type

Fiscal Year					Calendar Year				
Period	Regional	International	Domestic	Total	Period	Regional	International	Domestic	Total
FY2016	5.6%	15.1%	6.8%	8.0%	CY2015	(9.8)%	10.9%	6.0%	5.7%
FY2017	(8.4)	15.9	6.6	7.4	CY2016	(6.1)	19.0	7.3	8.5
FY2018	17.5	3.7	5.1	5.4	CY2017	14.2	9.3	4.5	5.9

Source: Authority.

Domestic jet passengers (including charters) accounted for 76.1% of passenger traffic in calendar year 2017 and 77.1% of passenger traffic in calendar year 2016. The Airport’s domestic jet passenger traffic reached 29.2 million in calendar year 2017, surpassing the Airport’s previous record for domestic jet passengers of 28.0 million in calendar year 2016. This represents a 4.5% increase for calendar year 2017 as compared to the previous increase for calendar year 2016 of 7.3%.

In calendar years 2017 and 2016, passengers traveling domestically on regional airlines accounted for approximately 5.1% and 4.8% of total passenger traffic at the Airport, respectively, or approximately 2.0 and 1.7

million passengers each calendar year, respectively. The number of regional passengers (excluding passengers traveling internationally) increased by 14.2% in calendar year 2017, following a 6.1% decline in calendar year 2016 and 9.8% decline in calendar year 2015.

International passengers, including those traveling on foreign flag and U.S. flag carriers (including U.S. regional carriers) accounted for 18.7% of passenger traffic in calendar year 2017, or approximately 7.2 million passengers. This segment increased by 9.3% in calendar year 2017, following increases of 19.0% and 10.9% in calendar years 2016 and 2015, respectively. Of the 18.7% of passengers traveling internationally in calendar year 2017, 52.1% traveled to or from Europe, 15.3% to or from Bermuda and the Caribbean, 13.9% to or from Canada, 8.5% to or from Middle East, 7.0% to or from the Trans-Pacific and 3.2% to or from Central and South America.

In calendar year 2017, there were approximately 401,371 aircraft operations (including both commercial and general aviation) at the Airport, an increase of 2.6% from calendar year 2016. While aircraft operations at the Airport increased more than 8.0% between calendar year 2008 and 2017, the Airport's total passengers (including both commercial and general aviation) increased by 47.2% over the same period. This was due, in part, to the airlines' use of larger-sized aircraft and their achievement of higher capacity during this period.

The following table shows monthly growth in enplaned passengers (including general aviation) for the 12 months ended October 31, 2017 and 2018. As shown on the table below, for the 12 months ending October 31, 2018, the number of enplaned passengers at the Airport (including general aviation) was 6.4% higher than for the same period in 2017.

**BOSTON-LOGAN INTERNATIONAL AIRPORT
MONTHLY GROWTH IN ENPLANED PASSENGER (Year over Year)
12 Months ended 10/31/2017 and 10/31/2018**

	12 Mos. Ended <u>10/31/2017</u>	12 Mos. Ended <u>10/31/2018</u>	<u>Growth %</u>
November	1,464,794	1,549,147	5.8%
December	1,450,361	1,505,791	3.8
January	1,274,961	1,268,215	(0.5)
February	1,212,045	1,329,467	9.7
March	1,511,497	1,556,383	3.0
April	1,616,857	1,743,389	7.8
May	1,716,119	1,831,420	6.7
June	1,764,114	1,914,165	8.5
July	1,826,109	1,984,023	8.6
August	1,871,193	2,013,897	7.6
September	1,565,059	1,674,035	7.0
October	1,732,204	1,858,207	7.3
Total 12 months	19,005,313	20,228,139	6.4%

Source: Authority.

Airline Passenger Services. As primarily an origin-destination airport, Logan Airport is served today, as it has been in the past, by a wide variety of carriers. As of November 1, 2018, airline service at the Airport, both scheduled and non-scheduled, will be provided by 56 airlines, as listed in the table below, including nine domestic large jet carriers, 35 non-U.S. flag ("*foreign flag*") carriers and 12 domestic regional and commuter airlines ("*regional airlines*" or "*regional carriers*").

BOSTON-LOGAN INTERNATIONAL AIRPORT
AIRLINES SERVING THE AIRPORT*
(Scheduled as of November 1, 2018)

U.S. Domestic Large Jet Carriers

Alaska
 American
 Delta
 Hawaiian
 JetBlue
 Southwest
 Spirit
 Sun Country
 United

U.S. Domestic Regional Carriers¹

Independent:
 Boutique Air
 Cape Air
 Silver Airlines

Affiliated:
 Air Wisconsin (American Eagle)
 Endeavor Air (Delta Connection)
 Envoy (American Eagle)
 ExpressJet (Delta Connection and United Express)
 GoJet (Delta Connection)
 Mesa (United Express)
 Piedmont (American Eagle)
 Republic Airlines (American Eagle, Delta
 Connection and United Express)
 SkyWest (Delta Connection and United Express)

Foreign Flag Carriers

Aer Lingus
 Aeroméxico
 Air Canada²
 Air France
 Alitalia
 Avianca
 British Airways
 Cathay Pacific
 Copa Airlines
 El Al
 Emirates
 Hainan Airlines

Iberia
 Icelandair
 Japan Airlines
 KLM Royal Dutch Airlines³
 Korean Air⁴
 TAM Lineas Aereas
 Level
 Lufthansa
 Norwegian Air Shuttle
 Norwegian UK
 Porter Airlines
 Qatar

SATA
 Scandinavian
 Swiss International
 TACA Airlines
 TACV-Cabo Verde Airlines
 TAP Portugal
 Thomas Cook
 Turkish Airlines
 Virgin Atlantic Airways
 WestJet
 Wow Air

* In fiscal year 2018, Logan Airport was also served by 23 different charter-only airlines.

¹ The independent U.S. domestic regional carriers operate their own routes. The affiliated U.S. domestic regional carriers serving Logan are either wholly owned by a network carrier or operate under joint marketing agreements with network carriers. Three affiliated U.S. domestic regional carriers—ExpressJet, Republic and SkyWest—operate at the Airport for more than one network carrier.

² Includes regional carriers Jazz Air and Sky Regional Airlines, both of which operate as part of Air Canada Express.

³ Expected to commence service in March 2019.

⁴ Expected to commence service in April 2019.

The Authority maintains separate statistical data for regional airlines. For purposes of the Authority’s data compilation, regional airlines are defined as domestic commuter carriers that exclusively operate smaller regional jet and turbo-prop aircraft with fewer than 100 seats. Most of these carriers are generally subsidiaries or affiliates of major domestic carriers, as noted above, with the exception of Boutique Air, Cape Air and Silver Airlines, which operate their own routes. As of June 30, 2018, the top five regional airlines were Republic Airlines with 38.4% of domestic regional passengers, followed by Endeavor Air with 28.0%, Cape Air with 8.5%, Express Jet with 7.8%, and GoJet with 5.9% of domestic regional passengers.

In response to competitive pressures, the U.S. airline industry has consolidated over the past decade. In 2008, Delta Air Lines (“Delta”) and Northwest Airlines merged and consolidated under the Delta name. In 2010, United Airlines (“United”) and Continental Airlines completed a merger transaction and in 2012 consolidated all activity under the United name. In 2011, Southwest Airlines (“Southwest”) and AirTran Airways completed a merger transaction and as of the end of calendar year 2014 consolidated all operations under the Southwest name. In 2013, American Airlines (“American”) and US Airways merged and as of October 2015 all operations were integrated under the American name, creating the world’s largest airline. Most recently, in December 2016, Alaska Airlines (“Alaska”) acquired Virgin America and in January 2018 all operations were consolidated under the Alaska name, making Alaska the fifth largest domestic carrier in terms of enplaned passengers. As a result of the above-described mergers, the five largest U.S. air carrier airlines now consist of Alaska, American, Delta, Southwest and United.

The following table shows passenger traffic for the carriers providing service from Logan Airport for the past five fiscal years and for the four months ended October 31, 2017 and October 31, 2018. For the four months ended October 31, 2018, the Airport experienced an aggregate 7.6% increase in passenger traffic, compared to the four months ended October 31, 2017.

BOSTON-LOGAN INTERNATIONAL AIRPORT
ANNUAL PASSENGERS BY CARRIER
(Fiscal Year Ended June 30, except as noted)

<u>Air Carrier</u> ⁽¹⁾	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>Four Months Ended 10/31/17</u>	<u>Four Months Ended 10/31/18</u>	<u>Growth %</u>
American ⁽²⁾	6,941,775	7,054,759	7,130,681	6,693,236	6,632,752	2,342,324	2,408,940	2.8%
<i>American</i>	3,082,718	3,030,967	5,079,473	-	-	-	-	*
<i>US Airways</i>	3,859,057	4,023,792	2,051,208	-	-	-	-	*
Delta ⁽³⁾	4,374,313	4,756,868	5,102,225	5,582,876	6,491,173	2,268,330	2,610,339	15.1
JetBlue	8,181,523	8,680,357	9,253,087	10,174,855	11,007,911	3,560,305	3,967,602	11.4
Southwest ⁽⁴⁾	2,540,146	2,455,713	2,827,355	3,064,506	2,990,557	1,165,883	1,115,932	(4.3)
<i>AirTran Airways</i>	599,766	100,691	-	-	-	-	-	*
<i>Southwest</i>	1,940,380	2,355,022	-	-	-	-	-	*
United ⁽⁵⁾	3,749,091	3,614,914	3,822,367	3,953,232	3,982,764	1,467,123	1,560,356	6.4
Foreign Flag	3,359,482	3,878,971	4,539,853	5,412,118	5,626,482	2,207,221	2,401,661	8.8
Regional U.S. Carriers ⁽⁶⁾	265,274	239,607	241,021	235,438	221,944	105,332	91,037	(13.6)
Other U.S. Carriers ⁽⁷⁾	<u>1,343,027</u>	<u>1,522,098</u>	<u>1,872,063</u>	<u>2,242,318</u>	<u>2,440,268</u>	<u>891,312</u>	<u>916,475</u>	2.8
Total⁽⁸⁾	30,754,631	32,203,287	34,788,652	37,358,579	39,393,851	14,007,830	15,072,342	7.6%

(1) For purposes of comparison, data for consolidated air carriers (American and Southwest) is presented for all fiscal years. In the case of each such consolidated air carrier, the data provided for each period occurring prior to the consolidation is estimated based on a summation of the individual carrier information for such period. The data provided for period(s) occurring after the consolidation reflects actual data for such period(s). To the extent individual merged carriers continued to operate separately, individual carrier information is also shown for the periods occurring post-merger, which information may not add to the consolidated figure.

(2) Includes American Eagle, US Airways Shuttle (American Eagle as of October 2015) and associated regional carriers. In December 2013, American merged with US Airways, and effective October 1, 2015, the two airlines are fully integrated under the American name.

(3) Includes Delta Shuttle and Delta Connection.

(4) In May 2011, Southwest merged with AirTran Airways, and effective January 1, 2015, the two airlines were fully integrated under the Southwest name.

(5) Includes United Express.

(6) Includes PenAir (through June 30, 2018), Boutique Air (commencing June 1, 2018) and Cape Air.

(7) Includes Alaska, Spirit Airlines, Sun Country, Virgin America (merged with Alaska effective January 11, 2018) and charter/non-scheduled domestic service.

(8) Excludes general aviation figures.

* Not meaningful.

Source: Authority.

The relative share of various carriers at the Airport has fluctuated with no individual carrier having a market share of over 27.9% in any of the past ten fiscal years. The following table presents the relative shares of the U.S. air carrier airlines carrying the highest shares of total passenger traffic at the Airport, as well as the relative shares of the independent regional airlines and foreign flag carriers, during the last five fiscal years and the four-month periods ended October 31, 2017 and 2018. Since commencing service at Logan in 2004, JetBlue Airways (“*JetBlue*”) has made Logan Airport its second largest focus city after New York-JFK. As a result, as reflected in the table below, in fiscal year 2018, JetBlue had the largest market share with 27.9% of all passengers, and for the four months ended October 31, 2018 JetBlue also had the largest share with 26.3%. The carriers with the highest market shares—American, Delta, JetBlue, Southwest and United—carried an aggregate of 78.9% of all passengers traveling through the Airport in fiscal year 2018.

BOSTON-LOGAN INTERNATIONAL AIRPORT
MARKET SHARES OF TOTAL PASSENGER TRAFFIC
(Fiscal Year Ended June 30, except as noted)

<u>Air Carrier</u> ⁽¹⁾	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	Four Months Ended <u>10/31/17</u>	Four Months Ended <u>10/31/18</u>
American ⁽²⁾	22.5%	21.9%	20.5%	17.9%	16.8%	16.7%	16.0%
<i>American</i>	<i>10.0</i>	<i>9.4</i>	<i>14.6</i>	--	--	--	--
<i>US Airways</i>	<i>12.5</i>	<i>12.5</i>	<i>5.9</i>	--	--	--	--
Delta ⁽³⁾	14.2	14.7	14.7	14.9	16.5	16.2	17.3
JetBlue	26.5	26.9	26.6	27.2	27.9	25.4	26.3
Southwest ⁽⁴⁾	8.2	7.6	8.1	8.2	7.6	8.3	7.4
<i>AirTran Airways</i>	<i>1.9</i>	<i>0.3</i>	--	--	--	--	--
<i>Southwest</i>	<i>6.3</i>	<i>7.3</i>	--	--	--	--	--
United ⁽⁵⁾	12.2	11.2	11.0	10.6	10.1	10.5	10.4
Foreign Flag	10.9	12.0	13.0	14.5	14.3	15.8	15.9
Regional U.S. Carriers ⁽⁶⁾	0.9	0.7	0.7	0.6	0.6	0.8	0.6
Other U.S. Carriers ⁽⁷⁾	<u>4.7</u>	<u>4.7</u>	<u>5.4</u>	<u>6.0</u>	<u>6.2</u>	<u>6.4</u>	<u>6.1</u>
Total ⁽⁸⁾	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

(1) For purposes of comparison, data for consolidated air carriers (American and Southwest) is presented for all fiscal years. In the case of each such consolidated air carrier, the data provided for each period occurring prior to the consolidation is estimated based on summation of the individual carrier information for such period. The data provided for period(s) occurring after the consolidation reflects actual data for such period(s). To the extent individual merged carriers continued to operate separately, individual carrier information is also shown for the periods occurring post-merger, which information may not add to the consolidated figures.

(2) Includes American Eagle, US Airways Shuttle (American Eagle as of October 2015) and associated regional carriers. In December 2013, American merged with US Airways, and effective October 1, 2015, the two airlines are fully integrated under the American name.

(3) Includes Delta Shuttle and Delta Connection.

(4) In May 2011, Southwest merged with AirTran Airways, and effective January 1, 2015, the two airlines were fully integrated under the Southwest name.

(5) Includes United Express.

(6) Includes PenAir (through June 30, 2018), Boutique Air (commencing June 1, 2018) and Cape Air.

(7) Includes Alaska, Spirit Airlines, Sun Country, Virgin America (merged with Alaska effective January 11, 2018) and charter/non-scheduled domestic service.

(8) Excludes general aviation figures.

Source: Authority.

The following table shows changes in passenger traffic for the largest carriers serving Logan Airport for the past five fiscal years and for the four months ended October 31, 2017 and October 31, 2018.

BOSTON-LOGAN INTERNATIONAL AIRPORT
ANNUAL CHANGE IN PASSENGERS BY CARRIER
(Fiscal Year Ended June 30, except as noted)

<u>Air Carrier</u> ⁽¹⁾	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	Four Months Ended <u>10/31/17</u>	Four Months Ended <u>10/31/18</u>	<u>CAGR*</u> <u>2014-2018</u>
American ⁽²⁾	1.1%	1.6%	1.1%	(6.1)%	(0.9)%	(2.8)%	2.8%	(1.1)%
<i>American</i>	(2.9)	(1.7)	--	--	--	--	--	--
<i>US Airways</i>	4.4	4.3	--	--	--	--	--	--
Delta ⁽³⁾	3.8	8.7	7.3	9.4	16.3	20.8	15.1	10.4
JetBlue	6.0	6.1	6.6	10.0	6.6	6.4	11.4	7.7
Southwest ⁽⁴⁾	6.5	(3.3)	15.1	8.4	(2.4)	(0.4)	(4.3)	4.2
<i>AirTran Airways</i>	(30.5)	(83.2)	--	--	--	--	--	--
<i>Southwest</i>	27.5	21.4	--	--	--	--	--	--
United ⁽⁵⁾	3.8	(3.6)	5.7	3.4	0.7	(0.4)	6.4	1.5
Foreign Flag	10.7	15.5	17.0	19.2	4.0	3.4	8.8	13.8
Regional U.S. Carriers ⁽⁶⁾	6.9	(9.7)	0.6	(2.3)	(5.7)	(8.6)	(13.6)	(4.4)
Other U.S. Carriers ⁽⁷⁾	8.5	12.5	23.0	19.8	8.8	6.1	2.8	16.1
Total ⁽⁸⁾	4.9%	4.7%	8.0%	7.4%	5.4%	4.8%	7.6%	6.4%

(1) For purposes of comparison, data for consolidated air carriers (American and Southwest) is presented for all fiscal years. In the case of each such consolidated air carrier, the data provided for each period occurring prior to the consolidation is estimated based on a summation of the individual carrier information for such period. The data provided for period(s) occurring after the consolidation reflects actual data for such period(s). To the extent individual merged carriers continued to operate separately, individual carrier information is also shown for the periods occurring post-merger, which information may not add to the consolidated figure.

(2) Includes American Eagle, US Airways Shuttle (American Eagle as of October 2015) and associated regional carriers. In December 2013, American merged with US Airways, and effective October 1, 2015, the two airlines are fully integrated under the American name.

(3) Includes Delta Shuttle and Delta Connection.

(4) In May 2011, Southwest merged with AirTran Airways, and effective January 1, 2015, the two airlines were fully integrated under the Southwest name.

(5) Includes United Express.

(6) Includes PenAir (through June 30, 2018), Boutique Air (commencing June 1, 2018) and Cape Air.

(7) Includes Alaska, Spirit Airlines, Sun Country, Virgin America (merged with Alaska effective January 11, 2018) and charter/non-scheduled domestic service.

(8) Excludes general aviation figures.

* CAGR stands for Compound Annual Growth Rate.

Source: Authority.

International Passenger Services. International passenger traffic grew by 3.7%, 15.9% and 15.1% in fiscal years 2018, 2017 and 2016, respectively, increasing by 54.9% from fiscal year 2014 to fiscal year 2018. The carriers with the largest market shares of international enplanements in fiscal year 2018 were JetBlue with 12.6%, Delta with 9.4%, Air Canada with 8.9% and British Airways with 7.9%. The market share of foreign flag carriers serving the Airport has also increased over the five years ending in fiscal year 2018, from 10.9% of passenger traffic in fiscal year 2014 to 14.3% in fiscal year 2018. For fiscal year 2018, the shares of international passengers at the Airport were 51.9% for Europe, 14.4% for Canada, 14.3% for Bermuda and the Caribbean, 8.1% for the Middle East, 7.2% for Trans-Pacific and 4.1% for Central/South America.

The following table shows passenger enplanements for the carriers providing international service from Logan Airport for the past five fiscal years and for the four months ended October 31, 2017 and October 31, 2018. For the four months ended October 31, 2018, the Airport experienced an aggregate 8.0% increase in international passenger enplanements.

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BOSTON-LOGAN INTERNATIONAL AIRPORT
ANNUAL INTERNATIONAL ENPLANEMENTS BY CARRIER
(Fiscal Year Ended June 30, except as noted)

<u>Air Carrier</u> ⁽¹⁾	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	Four Months Ended 10/31/17	Four Months Ended 10/31/18	<u>Growth %</u>
Aer Lingus	187,543	202,529	219,334	222,246	190,159	73,285	76,804	4.8%
Aeromexico	-	2,318	26,717	32,360	39,342	13,598	14,628	7.6
Air Berlin ⁽²⁾	-	-	5,256	24,748	17,099	17,099	-	*
Air Canada ⁽³⁾	236,325	249,372	261,528	302,105	321,306	123,308	130,244	5.6
Air France	121,647	115,588	113,351	107,685	103,528	45,711	54,938	20.2
Alitalia	53,560	56,474	57,249	56,410	58,161	26,457	26,955	1.9
American Airlines	18,409	11,433	27,031	28,219	24,463	12,348	1,090	(91.2)
Avianca	-	-	-	1,758	21,798	7,049	14,004	98.7
British Airways	307,669	304,353	286,570	288,971	285,467	106,090	117,299	10.6
Cathay Pacific	-	8,910	49,808	62,708	87,088	29,302	28,604	(2.4)
COPA Airlines	33,201	33,888	35,344	42,958	57,721	17,134	21,413	25.0
Delta Air Lines	259,683	256,581	273,143	294,973	339,962	133,465	135,301	1.4
El AL	-	363	25,539	25,437	26,021	8,661	8,661	0.0
Emirates	26,056	98,538	149,645	166,240	110,337	36,486	37,376	2.4
Hainan	1,401	49,903	80,791	110,592	114,554	39,448	42,282	7.2
IBERIA	31,521	33,193	37,245	45,969	58,581	26,185	29,909	14.2
Icelandair ⁽⁴⁾	91,109	104,089	108,816	117,344	110,955	47,247	43,137	(8.7)
Japan Airlines	58,028	59,052	59,191	61,061	62,424	21,496	22,528	4.8
JetBlue	371,912	398,551	444,256	471,084	455,040	124,549	142,247	14.2
Level	-	-	-	-	6,606	-	14,064	*
Lufthansa German Airlines	221,380	218,181	214,114	215,581	216,658	85,258	92,676	8.7
Norwegian Air	-	-	31,993	95,782	77,381	36,618	17,729	(51.6)
Norwegian UK	-	-	-	-	29,632	-	37,860	*
Porter Airlines Inc.	81,277	88,691	95,658	104,925	102,082	40,257	43,058	7.0
Qatar Airway	-	-	19,377	68,626	74,048	22,855	26,605	16.4
SATA Internacional	45,114	51,202	61,601	67,193	71,800	36,096	28,812	(20.2)
Scandinavian	-	-	5,221	20,645	25,724	8,877	12,949	45.9
Swiss International	73,029	70,677	76,827	85,582	89,381	42,494	46,266	8.9
TACV-Cabo Verde Airlines	14,405	13,237	-	-	3,343	-	2,275	*
TAM – Linhas Aereas	-	-	-	-	-	-	12,362	*
Thomas Cook	-	-	2,343	10,729	12,324	8,927	6,548	(26.6)
Transportes Aereos Portugeses S.A.	-	-	4,957	74,909	77,741	28,641	27,985	(2.3)
Turkish	10,760	78,945	75,592	60,355	77,037	28,524	31,104	9.0
US Airways, Inc.	11,299	12,608	3,212	-	-	-	-	*
Virgin Atlantic Airways, Ltd.	80,183	80,095	77,463	76,144	80,454	29,344	34,322	17.0
WestJet Encore	-	-	19,142	78,720	102,683	32,524	28,142	(13.5)
WOW Air	-	11,571	53,553	64,041	66,061	23,083	22,598	(2.1)
Discontinued Service ⁽⁴⁾	-	-	-	1,576	11,781	6,592	13,557	*
Non-Signatory/Charter ⁽⁵⁾	<u>1,758</u>	<u>1,300</u>	<u>2,455</u>	<u>5,329</u>	<u>1,009</u>	<u>375</u>	<u>615</u>	64.0
Total	2,337,269	2,611,642	3,004,322	3,493,005	3,609,751	1,339,383	1,446,947	8.0%

⁽¹⁾ In addition to the carriers shown in this table, in fiscal year 2019, KLM Royal Dutch Airlines will commence service from Logan to Amsterdam, Korean Air will commence service from Logan to Seoul and Norwegian Air will commence service from Logan to Rome.

⁽²⁾ AirBerlin commenced seasonal service in May 2016 and ceased operations on September 30, 2017, then declared bankruptcy.

⁽³⁾ Includes Jazz Air and Sky Regional, which are feeder operations for Air Canada.

⁽⁴⁾ Includes (i) Air Europa, which discontinued seasonal service after summer 2017, and (ii) Primera Air, which ceased operations on September 30, 2018, then declared bankruptcy.

⁽⁵⁾ Includes Eurowings, which commenced service in June 2016 and stopped service by September 2016.

* Not meaningful.

Passenger Markets. As of July 1, 2018, scheduled non-stop service from the Airport was offered to 78 domestic and 56 international destinations (including seasonal activity). This represents one more domestic destination and one more international destination since July 1, 2017. Based on published preliminary airline schedules and consideration of historical performance of actual airline operations compared to preliminary airline schedules, the Authority expects an overall 6.4% increase in total scheduled seat capacity for the last six months of calendar year 2018 compared to the same period in the prior year. This is comprised of projected increases in scheduled seat capacity for domestic and international destinations of 7.2% and 3.0%, respectively. As reflected in the table below, American, Delta, JetBlue, Spirit and United all increased their scheduled departing seats in the last six months of calendar year 2018.

**BOSTON-LOGAN INTERNATIONAL AIRPORT
SCHEDULED DEPARTING SEATS BY CARRIER**
(Six Months Ended 12/31/17 and 12/31/18)

<u>Carrier*</u>	<u>July – Dec 2017</u>	<u>July – Dec 2018</u>	<u>% Increase/(Decrease)</u>
American	2,074,963	2,180,896	5.1%
Delta	1,917,039	2,225,979	16.1
JetBlue	3,349,609	3,619,916	8.1
Spirit	384,093	420,417	9.5
United	1,177,900	1,254,029	6.5

Source: Authority.

* Includes feeder airlines.

The destinations chosen by passengers using the Airport have changed over the years, reflecting the impacts of domestic and international economic cycles, security screening and the relative cost of air travel. While the New York market, which includes traffic to LaGuardia, JFK and Newark, is currently the Airport's largest market, the percentage of passengers traveling by air between Boston and New York/Newark has declined while international traffic and long-haul domestic traffic have increased.

The following table shows the percentage of origin and destination passengers traveling on U.S. air carriers between the Airport and other final domestic destinations for the twelve months ended December 31, 2017 (the most recent 12 month period for which data is available), as reported by USDOT. The percentage of origin and destination passengers does not include passengers only connecting at an airport such as JFK (e.g., JetBlue). Passengers traveling on international flights are also not included. It also shows the comparative rankings of the top 20 domestic destinations for calendar year 2007.

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BOSTON-LOGAN INTERNATIONAL AIRPORT
TOP TWENTY DOMESTIC ORIGIN & DESTINATION PASSENGER MARKETS
U.S. CERTIFICATED CARRIERS

(12 Months Ended December 31, 2007 and December 31, 2017)

Market	12 Months Ended 12/31/17 Percentage	12 Months Ended 12/31/17 Rank	12 Months Ended 12/31/07 Rank	Major U.S. Carriers Serving Market (2017)*
New York Area (JFK, LGA, EWR) ⁽¹⁾	5.9%	1	1	AA, D, JB, SW, SC, U
Chicago, IL (ORD, MDW) ⁽²⁾	5.8	2	6	AA, D, JB, SW, SP, U
Washington DC (IAD, DCA) ⁽³⁾	5.3	3	2	AA, D, JB, SW, U
SFO : San Francisco, CA	5.3	4	4	AA, AK, D, JB, SW, SC, U, VA
LAX : Los Angeles, CA	5.1	5	3	AA, AK, D, JB, SW, SP, SC, U, VA
ATL : Atlanta, GA	4.0	6	7	AA, D, JB, SW, SP, U
MCO : Orlando, FL	4.0	7	5	AA, D, JB, SW, SP, U
BWI : Baltimore, MD	3.0	8	10	AA, D, JB, SW, SP, U
Dallas/Fort Worth, TX (DFW & DAL) ⁽⁴⁾	2.7	9	12	AA, AK, D, JB, SW, SP, SC, U, VA
FLL : Fort Lauderdale, FL	2.7	10	8	AA, D, JB, SW, SP, U
PHL : Philadelphia, PA	2.7	11	9	AA, D, JB, SW, U
DEN : Denver, CO	2.6	12	11	AA, AK, D, JB, SW, SP, SC, U, VA
RSW : Fort Myers, FL	2.1	13	15	AA, D, JB, SW, SP, SC, U
TPA : Tampa, FL	2.1	14	13	AA, D, JB, SW, SP, U
Houston, TX (IAH & HOU) ⁽⁵⁾	2.0	15	23	AA, D, JB, SW, SP, U
SEA : Seattle, WA	2.0	16	20	AA, AK, D, JB, SW, SP, SC, U, VA
CLT: Charlotte-Douglas, NC	1.8	17	24	AA, D, JB, SW, U
LAS : Las Vegas, NV	1.8	18	14	AA, AK, D, JB, SW, SP, SC, U, VA
RDU : Raleigh/Durham, NC	1.8	19	19	AA, D, JB, SW, U
DTW: Detroit, MI	1.8	20	18	AA, D, JB, SW, SP, U
Total for Cities Listed	64.5%			

(1) Includes JFK, La Guardia and Newark Liberty International Airports.

(2) Includes Chicago O'Hare Airport and Midway Airport.

(3) Includes Dulles Airport & National Airport.

(4) Includes Dallas/Fort Worth Airport and Dallas Love Field Airport.

(5) Includes Houston Intercontinental Airport and Houston Hobby Airport.

Source: DiiO: USDOT, O&D Survey.

* Reflects all carriers providing service to the listed market; includes those that do not provide direct point-to-point service to/from Logan.

Key: American/USAir (AA); Alaska (AK); Delta (D); JetBlue (JB); Southwest (SW); Spirit Airlines (SP); Sun Country (SC); United (U); Virgin America (VA).

In calendar year 2017, the top five international markets served (by scheduled seats) were London, Toronto, Dublin, Paris and Dubai. New international service from the Airport to the following destinations commenced since 2012*:

<u>Destination</u>	<u>Service Commencement Date</u>	<u>Carrier</u>
Tokyo	April 2012	Japan Airlines
Panama City	July 2013	Copa Airlines
Dubai	March 2014	Emirates
Istanbul	May 2014	Turkish Airlines
Beijing	June 2014	Hainan Airlines
Reykjavik	March 2015	WOW Air
Hong Kong	May 2015	Cathay Pacific
Tel Aviv	June 2015	El AL
Mexico City	June 2015	Aeroméxico
Shanghai	June 2015	Hainan Airlines
Doha	March 2016	Qatar Airlines
Copenhagen	March 2016	Scandinavian (SAS)
London Gatwick	March 2016	Norwegian Air
Toronto	March 2016	WestJet
Halifax	April 2016	WestJet
Manchester, England	May 2016/ March 2017	Thomas Cook Airlines/ Virgin Atlantic
Lisbon	June 2016	TAP-Portugal
Bogota	June 2017	Avianca
Madrid	June 2017	Air Europa
Vancouver	June 2017	Air Canada
Praia	January 2018	TACV Cabo Verde
Barcelona	March 2018	Level
Paris	May 2018	Norwegian AS
Aruba	June 2018	Delta
Sao Paulo	July 2018	LATAM
San Salvador	August 2018	TACA
Mexico City	October 2018	JetBlue
Havana	November 2018	JetBlue
Amsterdam	March 2019 [†]	KLM Royal Dutch Airlines
Seoul	April 2019 [†]	Korean Air

* Note: Includes existing routes served by new carriers, new routes served by existing carriers and new routes served by new carriers.

† Expected.

There are two regional airports in New England—T.F. Green Airport in Providence, Rhode Island (“*T.F. Green*”) and Manchester-Boston Regional Airport in Manchester, New Hampshire (“*Manchester*”)—that compete with Logan Airport. Logan Airport is by far the largest airport in the region with the broadest range of direct service to Europe, the Caribbean, Japan, the Middle East, Central America, China, Canada and South America. In the late 1990s and early 2000s, these regional airports gained market share primarily as a result of increased service levels and competitive airfares (largely due to Southwest). In recent years, growth of low cost service at Logan, airline retrenchment from smaller, secondary markets (such as these regional airports) and expansion of direct international service from Logan has resulted in a shift in the market dynamics between the three airports, with Logan’s passenger traffic growing, T.F. Green experiencing moderate growth (but not at the expense of Logan Airport) and Manchester experiencing decreased passenger traffic. The following table shows passenger activity at T.F. Green, Manchester and Logan Airport for the five most recent calendar years.

Airport Passengers (in millions)

Airport	2013	% of Total	2014	% of Total	2015	% of Total	2016	% of Total	2017	% of Total	(2016-17) % Change
Logan Airport	30.2	82.9%	31.6	84.8%	33.5	85.5%	36.3	86.5%	38.4	86.9%	5.9%
T.F. Green	3.8	10.4	3.6	9.6	3.6	9.2	3.7	8.7	3.9	8.8	6.8
Manchester	2.4	6.6	2.1	5.6	2.1	5.3	2.0	4.8	1.9	4.3	(5.9)
Total	36.4		37.3		39.2		42.0		44.2		

Source: Authority, Manchester and T.F. Green reports

Cargo Airline Services. The Airport plays an important role as a center for processing domestic and international air cargo. According to ACI, in reporting year 2017 (the most recent year for which data is available), the Airport ranked 22nd in North America in total air cargo volume. As of June 30, 2018, the Airport was served by seven all-cargo and small package/express carriers. All-cargo carriers carry only cargo and these companies include ABX Air, Atlas, Air Transport International, Federal Express, Mountain Air Cargo, United Parcel Service and Wiggins Airways. For fiscal year 2018, the companies with the largest shares of enplaned and deplaned cargo at the Airport, based upon cargo tonnage, were Federal Express, United Parcel Service, Delta, Atlas Air, British Airways and Lufthansa German Airlines. Together, these six carriers accounted for 69.2% of total cargo and mail handled at the Airport in fiscal year 2018.

Cargo and Mail Traffic. In fiscal year 2018, total combined cargo and mail volume was approximately 727.2 million pounds. Total volume consisted of 53.4% small package/express, 42.2% freight and 4.4% mail. The total volume of air cargo and mail handled at the Airport increased in fiscal year 2018 by 8.1% compared to fiscal year 2017 and increased by 10.9% in fiscal year 2017 relative to fiscal year 2016. Fiscal year 2018 cargo and mail volume was 27.1% above that of fiscal year 2014. A large percentage of total cargo volume for these periods is attributable to integrated all-cargo companies and small package/express carriers. The integrated all-cargo companies, which include Federal Express and United Parcel Service, handled approximately 54.2% of the Airport’s cargo in fiscal year 2018 and 54.9% in fiscal year 2017.

Airport Facilities

Airside Facilities. As reflected in the table below, the Airport has four major runways, all of which can accept Group V types of aircraft. The Airport’s two longest runways—Runway 4R/22L and Runway 15R/33L—can also accommodate Group VI aircraft (the B747-800 and the A380). In addition, Logan has a 5,000 foot unidirectional runway, and a 2,557-foot runway used primarily by general aviation aircraft and some small commuter aircraft. In recent years, the Authority has undertaken a number of projects to enhance safety at the Airport. These include the construction of inclined safety over-run areas at the end of three of the Airport’s runways and a fire and rescue access road at the approach end of two runways that provides emergency access in the event of a water rescue operation. In addition, the Airport has an Engineered Material Arresting System (“EMAS”) installed at the end of two of its runways. EMAS is an engineered bed of ultra-light, crushable concrete blocks, designed to slow an aircraft that has overrun the end of a runway. Further, the Airport has a Foreign Object Debris detection system on one runway (Runway 9-27) and has installed runway status lights at various locations on the airfield where runway incursions (areas where an aircraft, vehicle or person has entered the runway environment without authorization) have occurred. Takeoff Hold Lights (“THLs”) and Runway Intersection Lights (“RILs”) were installed on Runways 15R and 9; and Runway Entrance Lights (“RELS”) were installed at various taxiways intersecting runways at critical locations. Status lights provide the pilots with additional safety cues beyond verbal guidance from air traffic control and work in concert with Airport Surface Detection Equipment (“ASDE”). The table below provides an overview of the Airport’s runways and certain of the above-described related safety features.

<u>Runway</u>	<u>Length (ft)</u>	<u>EMAS</u>	<u>Status Lights</u>	<u>Inclined Safety Area</u>	<u>Foreign Object Debris Detection System</u>
15R/33L	10,083	Yes – at 33L	Yes (THL, RIL, REL)	--	--
4R/22L	10,005	--	Yes (REL)	Yes – at 22L	--
4L/22R	7,860	Yes – at 22R	Yes (REL)	Yes – at 22R	--
9/27	7,000	--	Yes (THL, RIL, REL)	Yes – at 27	Yes
14/32	5,000	--	--	--	--
15L/33R	2,557	--	--	--	--

The Airport also has approximately 93 acres of concrete apron, 144 acres of asphalt apron and 16.3 miles of taxiway. The airfield is equipped with a 250-foot high control tower staffed by the FAA; high intensity runway edge and centerline lights; four approach light systems; threshold lights and touchdown zone lights; airport surveillance radar; aircraft radio communication facilities; radio navigation installations; and Category III Instrument Landing Systems (“ILS”) operational at two runway approaches and Category I ILS systems at two other runway approaches. Navigational equipment is operated and maintained by the FAA. The Airport has a fire and rescue facility and a satellite fire and rescue facility on the airfield.

The Authority is planning significant airside facility renovations and enhancements to the Airport as part of the FY18-FY22 Capital Program. See “CAPITAL PROGRAM” herein.

Terminal Facilities. The Airport has four commercial passenger terminals (the “*Terminals*”) that provide 97 contact gates. The Airport also has general aviation facilities located in the North Cargo Area currently occupied by Signature Flight Support. As of January 25, 2019, the Terminals in operation included:

Terminal A. Terminal A, which has 21 gates, opened in March 2005, with 670,000 square feet of lobby and gate space, divided between an 11-gate main terminal building and a ten-gate satellite terminal. Terminal A is currently used by Southwest, Westjet and Delta (including Delta Shuttle and Delta Connection).

Terminal B. Terminal B is the largest terminal at Logan with 37 contact gates, or 38% of total Airport gates. Terminal B is used by Air Canada, American/American Shuttle, Boutique Air, Spirit Airlines and United/United Express.

Terminal C. Terminal C is the second largest terminal at Logan with 27 contact gates. Terminal C is used by Aer Lingus, Alaska, Cape Air, JetBlue, TAP and Sun Country.

Terminal E. Terminal E, which has 12 gates, including three gates providing two-level jet bridges that can accommodate Group VI aircraft, is used for all arriving international flights requiring federal inspection services and most departures by foreign flag carriers. The majority of charter flights utilize Terminal E, although charter flights also operate from other Terminals.

See the inside back cover of this Official Statement for a map of the Airport’s terminal facilities. For information regarding recently completed, ongoing and planned improvements to terminal facilities, see “CAPITAL PROGRAM” herein.

Lease Arrangements for Terminal Facilities. The Authority exercises significant control over Terminal facilities at Logan Airport through the leasing arrangements it has entered into with the carriers operating at the Airport. The Authority uses a combination of short-term leases, preferential use provisions, recapture provisions and forced subletting provisions to allow it to allocate its gate resources effectively and accommodate new entrant carriers.

In general, the Authority prefers to lease space on a short term basis—either on a month-to-month or year-to-year basis. This provides the Authority the flexibility to allocate gates so that carriers will maximize usage of these facilities. The Authority also has adopted a preferential gate use policy applicable to all gates at Logan Airport. Under the conditions specified in the policy, the Authority may schedule arrivals and departures at a gate by carriers other than the tenant for any period that the tenant is not using the gate. The tenant carrier must permit the carrier being accommodated under the policy to use the facilities required for the functional use of the gate, and may assess reasonable fees for such use. If a tenant carrier fails to accommodate a carrier under the terms of the preferential use policy, then the Authority may convert the gate to a common use gate.

The table below reflects the Authority’s current lease arrangements for contact gates at the Airport. In addition to those listed below, four gates in Terminal B, one gate in Terminal C and all of the gates in Terminal E are currently common use facilities that are not leased to any carrier. The Authority anticipates these four gates in Terminal B will be leased to carriers in calendar year 2019.

Terminal	Carrier	# of Contact Gates	Lease Term	Expiration Date
Terminal A	Delta	16	1 year	*
	Southwest	5	Monthly	n/a
Terminal B	American	8 [†]	20 years	June 13, 2021
		13 [†]	25 years	September 30, 2023
		1	Monthly	n/a
	Spirit	2	Monthly	n/a
	United	9	1 year	**
Terminal C	Alaska	2	Monthly	n/a
	JetBlue	24 [‡]	1 year	***
Total:		80		

- * The Delta lease was entered into on July 1, 2006, with an original term of ten years. Effective as of July 1, 2016, the lease was amended to extend the term with automatic one-year extensions, until terminated by either party. Delta subleases one gate to WestJet.
- ** The United lease was entered into on May 1, 2014, with an original term of one year and automatic one-year extensions thereafter, until terminated by either party.
- *** The JetBlue lease was entered into on March 18, 2005, with an effective date of May 1, 2005 and an original term of five years with 20 automatic one-year extensions thereafter, until terminated by either party.
- † American subleases three gates to Air Canada.
- ‡ JetBlue subleases one gate to Cape Air. It also allows Aer Lingus to operate out of three of its gates pursuant to a Facility Use Agreement and allows TAP to operate out of one of its gates pursuant to a Facility Use Agreement.

The leases with Delta, American, United and JetBlue provide for the “recapture” of gates by the Authority if the tenant carrier’s average usage (measured in the number of daily operations per gate) falls below a certain Airport-wide average for such usage. These leases also generally require that, at the request of the Authority, the tenant carrier sublease a certain number of gates, as specified in the lease. The monthly leases with Southwest, Spirit and Alaska do not contain “recapture” language, but rather provide the Authority with the right to terminate portions of the premises on 30-days’ notice.

The Authority’s preference is to lease space on a short-term basis. The only long-term lease arrangement currently in place is with American (previously US Airways), which lease arrangement was entered into in connection with the significant capital investments the carrier made in the Authority’s Terminal B facilities. Such terminal improvements were largely financed with special facilities revenue bonds issued by the Authority for the benefit of US Airways (now American) on a non-recourse basis. American has fully repaid its special facilities revenue bonds.

Parking Facilities. Private automobiles are one of the primary means of ground transportation to and from the Airport. Based upon a 2016 air passenger survey, the Authority estimates that approximately 34.5% of all air passengers arrive at Logan Airport in private automobiles, and of those, approximately 33.1% (or 11.4% of total passengers) use the Airport’s parking facilities for long-term duration parking. While overall demand for on-airport parking continues to increase, there has been growth in the use of high occupancy vehicles (“HOV”) and transportation network companies (“TNCs”) and declines in Logan air passenger private vehicle use. A majority of the decline in air passenger private vehicle use is from the use of TNCs, limousines and HOVs, including private buses and Framingham and Braintree Logan Express park-and-ride services. For a further discussion on the impact of TNCs on the Airport, see “AVIATION INDUSTRY CONSIDERATIONS – Technological Innovations in Ground Transportation.”

The number of on-Airport commercial and employee parking spaces is currently limited to 26,088, of which 23,640 spaces are currently designated for commercial use and 2,448 spaces for employee parking. These limitations (the “SIP Parking Limitation”) are pursuant to the State Implementation Plan (“SIP”) filed by the Commonwealth in 1975 (and amended in 1990) with the United States Environmental Protection Agency (“EPA”)

under the federal Clean Air Act, as amended in 2017 pursuant to approvals by the Massachusetts Department of Environmental Protection (the “DEP”) and the EPA to increase the permitted number of spaces by 5,000. Under the Airport SIP Parking Limitation, the Authority may shift the location of on-Airport parking spaces or convert the use of spaces from employee use to commercial use. Once parking spaces have been converted from employee to commercial use, however, they cannot be converted back to employee use. There is no regulatory limit on the number of parking spaces that are available to the rental car industry at the Airport.

Now that the Airport SIP Parking Limitation has been increased, the Authority is moving forward with its Logan Airport parking program, which includes the design and construction of up to 5,000 new parking spaces, which are expected to be distributed between the existing Terminal E surface parking lot and the existing Economy Parking Garage. The FY18-FY22 Capital Program includes \$100 million to fund development of a portion of the first 2,000 parking spaces, which construction is expected to commence upon receipt by the Authority of all necessary environmental approvals. For information regarding the additional planned parking improvements, see “CAPITAL PROGRAM – Authority Funded Capital Projects – Logan Airport Improvements – *Improvements to Facilitate Airport Parking*” herein.

The Board has approved increases in parking rates through July 1, 2021 to support the operational and capital construction needs of the Airport, including, in particular, to support the new debt and increase in pay-as-you-go capital required under the FY18-FY22 Capital Program. See “CAPITAL PROGRAM” herein. In particular, the Board voted to increase Logan Airport parking rates by \$3.00 per day effective July 1 in each of the years 2016, 2017, 2019 and 2021. These increases impact all on-Airport commercial parking, including the Economy Parking Garage, as reflected below:

**Logan Airport
Maximum Daily Parking Rates
(Effective July 1,)**

	<u># of Spaces as of 10/31/2018</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2019</u>	<u>2021</u>
Central Parking Garage	12,494	\$29.00	\$32.00	\$35.00	\$38.00	\$41.00
Terminal B Garage	2,212	29.00	32.00	35.00	38.00	41.00
Terminal E Lots	486	29.00	32.00	35.00	38.00	41.00
Economy Parking	3,081	20.00	23.00	26.00	29.00	32.00

The Authority’s current financial forecast assumes slight decreases in parking exits in each year in which a rate increase occurs, consistent with the Authority’s historic experience in connection with prior parking rate increases. See “MANAGEMENT’S DISCUSSION OF FORECAST ASSUMPTIONS – Airport Properties.” While the Authority cannot predict the impact the planned increases in Logan Airport parking rates will have on demand for parking at the Airport, management believes the planned increases will not result in a significant decrease in parking exits in the long term.

Cargo Facilities. As of June 30, 2018, Logan Airport’s cargo facilities include six buildings containing approximately 273,556 square feet of warehouse space. Tenants of cargo facilities at the Airport include Federal Express (occupying 99,564 square feet of warehouse space), American, United, Delta, Quantum Aviation Services, United Parcel Service, Southwest, Swissport and Worldwide Flight Services. The majority of the remaining cargo and passenger airlines contract services with the above listed cargo processing tenants in various areas of the Airport.

Aircraft Fuel Systems. Aircraft fuel is currently stored in and distributed through an integrated fuel storage and distribution system, which provides for a redundant underground distribution system for aircraft fuel to all gates at the Terminals. The fuel system, financed with special facilities revenue bonds of the Authority, is leased to BOSFUEL Corporation (“BOSFUEL”), a membership corporation whose members consist of the principal air carriers serving the Airport, and the system is operated by Swissport, Inc. See “OTHER OBLIGATIONS – Special Facilities Revenue Bonds.” The lease between the Authority and BOSFUEL requires BOSFUEL to pay ground rent

and other fees for the use of the fuel system, including amounts sufficient to pay the debt service on the BOSFUEL Bonds (defined herein), and BOSFUEL is responsible for the operation and maintenance of the fuel system.

Service and Support Facilities. Airport service and support facilities currently include two facilities for preparation of in-flight meals, a Hilton hotel, a Hyatt conference center and hotel and five aircraft maintenance hangars. In addition, the Rental Car Center (“RCC”), which opened in September 2013, provides integrated airport-related rental car operations and facilities by consolidating at the RCC all 12 rental car brands serving the Airport. The RCC is a consolidated rental car facility, consisting of a four-level garage with ready/return spaces, a customer service center, seven acres of quick-turn-around (“QTA”) fueling and cleaning facilities and nine acres of on-site rental car storage. The RCC is served by a common bus fleet of clean fuel vehicles that also serves the MBTA Blue Line (Airport Station) riders. See “Ground Access to the Airport” below.

In addition, the Authority operates field maintenance facilities, a water pumping station, electrical substations and distribution system, and a plant that supplies steam, hot water and chilled water. The Authority currently has a long-term agreement with Eversource Energy, pursuant to which Eversource Energy provides local network distribution services to the Authority. With respect to electric supply, the Authority currently has Master Power Agreements in place with five suppliers for a term of six years beginning on January 1, 2016, and currently has transaction agreements for base load supply in place with two of these suppliers through December 31, 2021. Additionally, the Authority purchases ancillary services and a portion of its electricity needs from the Independent Systems Operator of New England (ISO-NE) managed energy markets.

The Authority has installed in excess of 900kw of renewable energy generation systems on its properties. In fiscal year 2018, these generation sites produced in excess of 1,000 MWh of electricity, offsetting 744 metric tons of Carbon Dioxide (CO₂) equivalent. The Authority’s renewable energy generation portfolio includes both wind and solar generation systems. These projects are funded internally as well as through long-term power purchase agreements generated through public/private partnerships.

Ground Access to the Airport. Access between the Airport and the central business district of Boston and the western and southern suburbs requires transportation under Boston Harbor. The Ted Williams Tunnel (“*Ted Williams Tunnel*”), which is owned and operated by the Massachusetts Department of Transportation (“*MassDOT*”), provides direct highway access between the Airport, the Massachusetts Turnpike/Interstate Route 90 (the “*Massachusetts Turnpike*” or “*I-90*”), the Southeast Expressway/Interstate Route 93 (“*I-93*”) and Boston’s South Station passenger rail and intercity bus terminal. The Sumner Tunnel (the “*Sumner Tunnel*”) and Lieutenant William F. Callahan Tunnel (the “*Callahan Tunnel*”) lie side-by-side and function as a single tunnel, with the Callahan Tunnel leading from downtown Boston to East Boston and the Airport, and the Sumner Tunnel leading from East Boston and the Airport to I-93 northbound, Storrow Drive and other points in downtown Boston. Route 1A/McClellan Highway, a major arterial roadway, provides access between the Airport and points northeast. Both the Ted Williams Tunnel and the Sumner and Callahan Tunnels are tolled facilities owned and maintained by MassDOT.

The Authority encourages the use of alternatives to private automobile transportation through public information and advertising campaigns and the development of reliable and innovative alternative transportation services. As part of its planning to enhance Airport roadway efficiency and terminal curb utilization while protecting environmental quality, the Authority operates the “Logan Express” scheduled bus service between the Airport and four suburban park-and-ride locations: Framingham, Braintree, Woburn and Peabody. To further encourage the use of its Logan Express service, the Authority has expanded the number of service hours at all four suburban locations, and expects to increase service frequencies throughout the Logan Express network in fiscal year 2019. In addition to service improvements, the Authority has made significant investments in Logan Express facilities, most notably the acquisition of the Braintree Logan Express site (\$47.1 million) in 2014 as well as the construction of a new 1,100 space garage (\$39.5 million) at its Framingham site in 2015.

In addition to Logan Express, the Authority has contracted for the operation of free shuttle bus service from the Terminals to the MBTA Airport Blue Line station and the RCC, and also to the Authority’s on-Airport Economy Garage and remote employee parking lots. Similarly, the Authority provides free shuttle service between the Terminals and the Airport’s Water Transportation Dock—an on-demand water taxi service to downtown Boston

runs year round, weather permitting, from this location. The MBTA operates additional scheduled water shuttle service from the Commonwealth's South Shore communities to the Airport.

The MBTA also provides service to Logan Airport through the Silver Line, a bus rapid transit service that originates at South Station and also serves the South Boston Waterfront/Seaport District (the location of the Boston Convention & Exhibition Center). The shuttle service is free for Logan Airport customers boarding at the Airport, and allows for a free transfer to the MBTA's Red Line subway at South Station.

In May 2017, the Authority announced additional commitments to increase ground access to Logan Airport and reduce emissions over the next ten years, including purchasing and maintaining additional Silver Line buses, increasing the capacity of the Logan Express service, increasing the HOV goal from 30.5% to 40%, electrification of the ground service equipment (GSE), increasing the number of electric vehicle charging stations in Logan Airport garages and promoting the use of electric vehicles among the TNC, taxi and livery pools.

Hanscom Field

Hanscom Field is located principally in the Town of Bedford, Massachusetts, approximately 15 miles northwest of Boston. It encompasses approximately 1,300 acres, of which about 21 acres are occupied by the United States Air Force. Hanscom Field has two principal runways of 5,107 and 7,011 feet, respectively, hangars, a terminal building, taxiways and ramps. The Air Force owns approximately 872 acres adjacent to Hanscom Field. In July 1974, the Authority assumed full responsibility for operating and maintaining the airfield by agreement with the United States Air Force.

Hanscom Field is a corporate jet reliever for Logan Airport. It is anticipated that Hanscom Field will continue to develop as an alternative to the Airport for general aviation and may accommodate niche commercial passenger service. General aviation operations, including business-related activity, charters and light cargo, as well as flight training and recreational flying, currently represent 99% of the activity at Hanscom Field; military aircraft conduct about 1% of the operations. For fiscal year 2018, Hanscom Field reported 126,188 total operations, of which 45,300 operations were local (Touch and Go), 28,705 were single engine operations and 30,815 were jet operations. For fiscal year 2019, through October 31, 2018, Hanscom Field reported 43,179 total operations, of which 14,623 operations were local (Touch and Go), 10,327 were single engine operations and 9,933 were jet operations. By comparison, for the same period of fiscal year 2018 (through October 31, 2017), Hanscom Field reported 47,544 total operations, of which 17,241 operations were local (Touch and Go), 12,180 were single engine operations and 10,173 were jet operations. The airfield is currently served by three full service fixed base operators, as well as several limited service fixed base operators. As of October 31, 2018, Hanscom Field had 268 aircraft based on site.

Worcester Regional Airport

On July 1, 2010, the Authority purchased the Worcester Regional Airport, which is located approximately 53 miles west of Logan Airport, for approximately \$15.5 million, in accordance with the terms of Chapter 25 of the Acts of 2009, as amended, and assumed responsibility for all capital and operating costs thereof.

As of October 31, 2018, Worcester Regional Airport had 65 aircraft based on site and a total of 22,533 operations were recorded for fiscal year 2018, ranging from small single-engine aircraft to large corporate business jets to one large commercial airline (JetBlue). For fiscal year 2019, through October 31, 2018, Worcester Regional Airport reported a total of 7,133 operations. By comparison, as of October 31, 2017, Worcester Regional Airport had 60 aircraft based on site and a total of 10,703 operations for the same four months of fiscal year 2018. The recent decline in general aviation operations at Worcester Regional Airport is consistent with downward trending national averages. In November 2012, Rectrix Commercial Aviation Services, Inc. ("*Rectrix*") began operating as a full service fixed based operator at Worcester Regional Airport. Rectrix operates out of a 27,000 square foot facility that was newly constructed and completed in November 2015, providing full service fixed base operations as well as the base for the maintenance operation for its growing corporate fleet.

On November 7, 2013, JetBlue began commercial service from Worcester Regional Airport. Since commencement of service, it has served over 570,000 passengers, including 116,627 passengers in calendar year 2016 and 109,911 passengers in calendar year 2017. JetBlue currently provides three daily flights—two to Florida and one to New York’s JFK airport—providing several connecting options throughout the country and internationally with its interline partners. The Authority continues to actively engage in recruiting additional commercial airlines to serve Worcester Regional Airport. In October 2018, American began twice daily service to its Philadelphia hub, providing in excess of 140 connecting opportunities to dozens of domestic, Caribbean/Latin American and European markets. Delta also recently announced daily service from Worcester Regional Airport to its Detroit hub beginning in August 2019. This service will further enhance connecting opportunities that JetBlue and American are offering by enhancing east/west and Far East routes.

See “CAPITAL PROGRAM – Authority Funded Capital Projects – Worcester Airport and Hanscom Field Improvements” for information on planned improvements at Worcester Regional Airport and Hanscom Field.

PORT PROPERTIES

The Authority owns, develops, operates and maintains Port Properties comprising certain waterfront properties and related backlands transferred to it from the Commonwealth in 1959, as well as additional properties subsequently acquired. The Authority’s Maritime Department manages (i) a cargo terminal containing 1,850 feet of berthing space with a water depth ranging from 35 to 45 feet, which terminal is equipped with six low profile ship-to-shore (STS) cranes and (ii) a cruise ship passenger terminal. The Authority’s Real Estate and Asset Management Department plans, develops and manages related maritime properties in the Port, including real estate for maritime, industrial and commercial uses. The Authority believes that in the long-term, this diversified land use strategy will provide a non-maritime revenue stream to finance the continuing capital development of the Port’s cargo and passenger terminals, reducing the burden on the Authority’s other revenue sources. The Authority views the Port Properties as an important component of its goal to facilitate the participation of the Massachusetts economy in international trade and tourism.

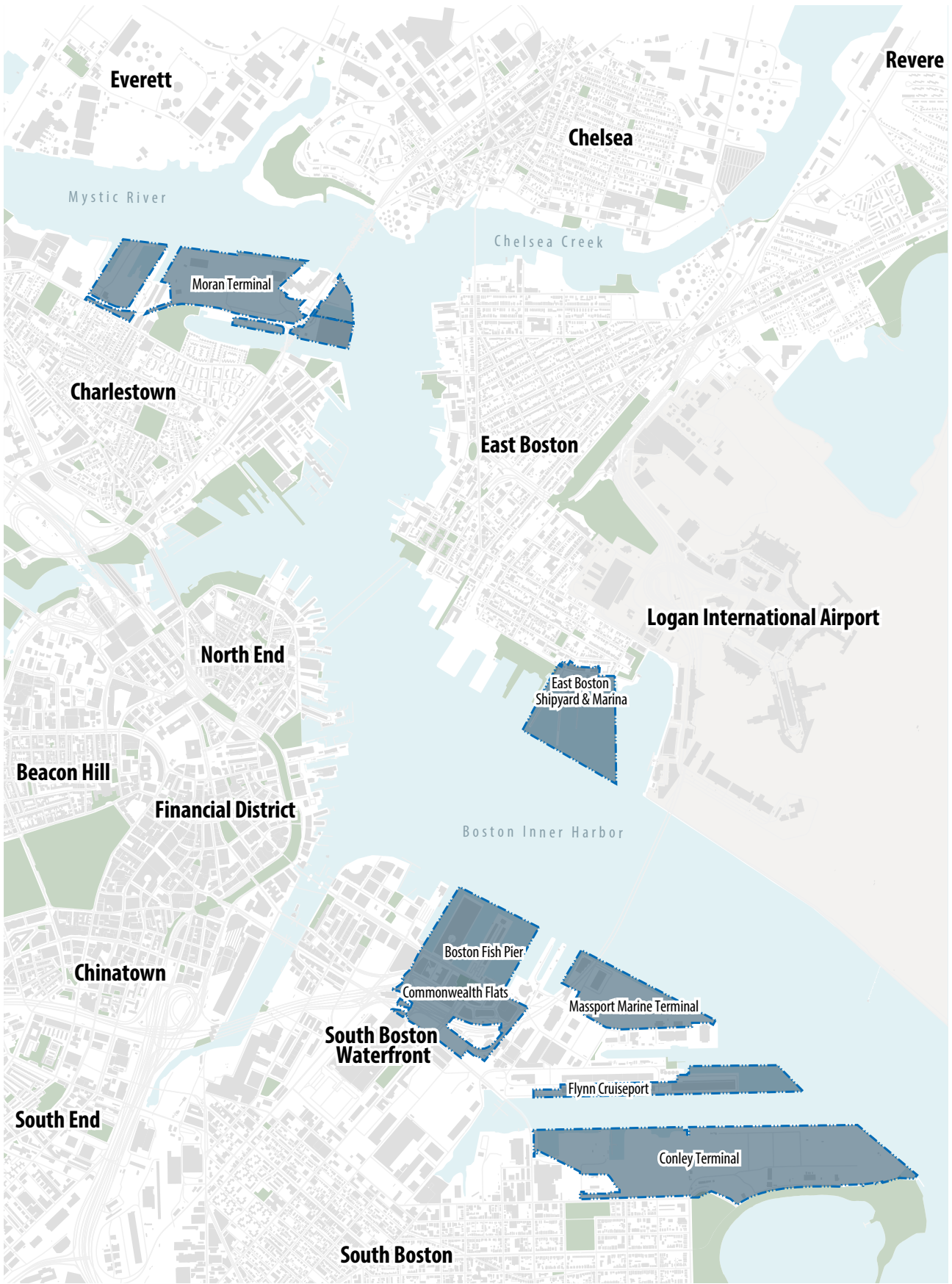
In fiscal year 2018, the Port Properties accounted for approximately 14.7% of the Authority’s Revenues and approximately 7.1% of the Authority’s Net Revenues (as defined in the 1978 Trust Agreement).

Maritime Properties

The Authority owns, manages, develops, operates and markets the public cargo and passenger terminals and related maritime properties of the Port. Boston is New England’s major port and the only port in the region providing a full range of container handling, cruise ship, bulk, breakbulk, automobile processing, petroleum, and ship repair services. The Authority’s maritime business activities include cargo handling (including containers, bulk materials and automobiles), serving as a home port and port of call for cruise ships, and leasing property for maritime industrial uses.

A map of the Authority’s maritime properties is set forth on the following page.

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Massachusetts Port Authority
 Real Estate & Asset Management
 January 2019



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LEGEND

 Maritime Property

Maritime Properties

Harborwide

Cargo activity during fiscal years 2014 through 2018 and for the four-month periods ending October 31, 2017 and October 31, 2018 is summarized in the table below. The increase in containers for fiscal year 2018 reflects the realigned Asian services taking effect in May 2017, in which two Asian vessels began using the Port instead of one.

PORT OF BOSTON CARGO ACTIVITY
(Fiscal Years Ended June 30, except as noted)

<u>Port Activity</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>Four Months Ended 10/31/2017</u>	<u>Four Months Ended 10/31/2018</u>
Containers ⁽¹⁾	116,800	125,809	140,967	145,540	161,130	55,972	61,537
Automobiles ⁽²⁾	57,662	57,522	59,740	48,983	52,736	17,357	17,314
Bulk Tonnage	182,714	155,415	110,673	110,480	82,868	34,054	30,667

(1) Does not include over-the-road volumes.

(2) Does not include vehicles entered by over-the-road means.

Source: Authority reports.

All container operations are consolidated at Conley Terminal in South Boston with related chassis rental and repair services at Fargo Street Terminal North. The former Moran Terminal, Medford Street Terminal and Mystic Piers in Charlestown are collectively leased to Boston Autoport LLC (“*Boston Autoport*”) and function as an automobile import, export, preparation, processing and distribution facility as well as a bulk cargo facility.

Conley Terminal. Conley Terminal, a 101-acre facility in South Boston, is served via direct call by nine of the world’s top ten ocean carriers: APL, China Ocean Shipping Corporation Limited (“*COSCO Shipping*”), CMA CGM, Evergreen Line, Hapag-Lloyd, Mediterranean Shipping Company, Ocean Network Express (“*ONE*”), OOCL and Yang Ming Line. Container volume is closely tied to overall economic conditions in Massachusetts, New England and international markets. As of June 30, 2018, the Port of Boston was ranked as the 11th largest container port on the Atlantic Coast of the U.S. by container volume. Massachusetts businesses relying on Conley Terminal for import and export of their goods include the following:

Shipper

Autopart International
Bernie and Phyl’s Furniture
BJ’s Wholesale Club
Bob’s Discount Furniture
Boston Hides and Furs
Eastern Fisheries
Horizon Beverage
International Forest Products (Kraft Group)
Jordan’s Furniture
King City Forwarding USA
Nantucket Distributing
Ocean State Job Lot
Rolf C. Hagen
Ruby Wines
Schnitzer Steel
United Liquors

Commodity

Auto Parts
Furniture
General Merchandise
Furniture
Hides
Seafood
Wines/ Spirits
Recoverable Paper
Furniture
Logs/ Lumber
General Merchandise (Christmas Tree Shops)
General Merchandise
Pet Supplies
Wines/ Spirits
Scrap Metal
Wines/ Spirits

In fiscal year 2018, Conley Terminal marked its fourth straight year record year with a total of 283,720 TEUs (Twenty-foot Equivalent Units) handled, up 10.4% over fiscal year 2017. TEU growth at Conley Terminal for fiscal years 2014 through 2018 is summarized in the table below.

CONLEY TERMINAL
TEUs PROCESSED
(in thousands)

	<u>TEUs</u>
2014	204.0
2015	221.0
2016	247.3
2017	257.0
2018*	283.7

* The increase in TEUs processed for fiscal year 2018 reflects the realigned Asian services taking effect in May 2017, pursuant to which 8,500 TEU ships are now calling on Conley Terminal weekly.

The Authority is in the midst of modernizing Conley Terminal to better service the larger container vessels that are currently operating on the trade lanes that Conley Terminal serves. The modernization project includes both waterside and landside infrastructure improvements. On the waterside, the Authority is partnering with the Army Corps of Engineers (“USACE”) and the Commonwealth to deepen Boston Harbor to accommodate the larger container vessels. The Boston Harbor Deep Draft Navigation Improvement Project (the “*Deep Draft Project*”) involves the deepening of the major entrance channel, the Main Ship Channel and the Reserved Channel of Boston Harbor, which will allow deep draft container vessels to efficiently call at Conley Terminal.

The Deep Draft Project is expected to cost approximately \$327.0 million. The federal government is responsible for approximately \$220.0 million of the total cost, which will be facilitated through appropriations by the United States Congress to the USACE’s budget; the remaining \$107.0 million will be funded by the Commonwealth’s MassDOT (\$75.0 million) and the Authority (\$32.0 million). The \$32.0 million expected to be financed with Authority funds is included in the FY18-FY22 Capital Program. See “CAPITAL PROGRAM – Authority Funded Capital Projects – Maritime Improvements.” Of the \$75.0 million of Commonwealth MassDOT funding described above, the Authority received \$5.0 million in fiscal year 2016 for maintenance dredging and CAD cell construction and \$30.0 million in fiscal year 2018 for improvement dredging. The Deep Draft Project was allocated a new construction start and appropriated \$18.2 million in federal funding in the USACE’s FY17 work plan and \$58.0 million in the USACE’s FY18 work plan, and an additional \$15.0 million in federal funding has been budgeted for the USACE’s FY19 work plan. With this designation and funding, the Authority, MassDOT, and the USACE entered into a Project Partnership Agreement (“*Deep Draft PPA*”) in September 2017. The Deep Draft PPA describes the project and the responsibilities of (i) the Federal government acting by and through the USACE, and (ii) the Authority and MassDOT, as the non-Federal sponsors, in the cost sharing and execution of work for the Deep Draft Project.

In addition to the Deep Draft Project, the Authority is undertaking several Conley Terminal modernization projects on the landside. Completed projects to date include (i) construction of a dedicated freight corridor (the Thomas Butler Bypass Road) to service Conley Terminal, which opened in September 2017; (ii) Berth 12 maintenance dredging; (iii) installation of a new fender system at Berth 12; (iv) procurement of yard tractor replacements; (v) installation of rubber tire gantry (RTG) replacement drives; (vi) expansion of refrigerated container storage; and (vii) installation of wi-fi and LED lighting technologies. Additional improvements to be undertaken or currently underway at Conley Terminal include Berth 11 rehabilitation, Berths 11 and 12 backland repairs, procurement of yard tractor replacements, Berths 14-17 bulkhead rehabilitation, new gate processing facilities, and the build-out of container storage behind Berth 10. Finally, the Authority is expanding Conley Terminal onto the adjacent property acquired by the Authority in December 2008 by building a new, deepwater Berth 10 with larger cranes and deepening the existing Berth 11. The Deep Draft PPA requires the Authority, at its sole cost, to dredge two (2) berths at the Conley Terminal to a depth of 50 feet each, and the FY18-FY22 Capital Program includes funding for the construction of Berth 10 and the dredging of Berths 10 and 11 to such depth.

The Conley Terminal landside improvements discussed in the preceding paragraph are currently expected to cost a total of approximately \$392.9 million, consisting of (i) \$75.0 million for the construction of the dedicated freight corridor and enabling projects, (ii) \$102.9 million for the Conley Terminal infrastructure repairs and equipment upgrades as well as the dredging of Berth 11, and (iii) \$215.0 million relating to the construction of Berth

10 and the purchase and installation of three new cranes large enough to serve the ships calling on Conley Terminal, currently and in the future. The dedicated freight corridor has been completed and was funded by the Authority's internally generated funds. With respect to the Conley Terminal infrastructure repairs, equipment upgrades and Berth 11 dredging, the Authority was awarded a \$42.0 million FASTLANE grant by the USDOT in fiscal year 2016 to pay for a portion of the \$102.9 million total project costs. The Authority is financing the remaining \$60.9 million of these project costs with a combination of Authority funds (\$60.3 million), and EPA grant funds (\$0.6 million). See "CAPITAL PROGRAM – Authority Funded Capital Projects – Maritime Improvements." The Berth 10 construction and the procurement of the three new cranes is expected to be funded with a combination of (i) Commonwealth funds in the amount of \$107.5 million (the "*Commonwealth Contribution*"), which funding amount was authorized by the Commonwealth in its 2016 Economic Development Bond Bill, and (ii) Authority funds (\$107.5 million). In May 2018, the Authority executed a Memorandum of Understanding (the "*Conley Terminal MOU*") with the Commonwealth to receive the Commonwealth Contribution over a three-year period from fiscal year 2020 to fiscal year 2022. Pursuant to the Conley Terminal MOU, the Commonwealth has acknowledged and agreed to pay the Commonwealth Contribution in accordance with the schedule set forth therein, provided that if (a) the scope of the project materially changes, (b) the budget for the project materially changes or (c) the project is subject to significant delays for reasons beyond the control of the Authority, the Commonwealth reserves the right to postpone any of its scheduled payments while the parties work collaboratively to analyze the effect of such impacts on the project and if and how the project shall proceed. To accelerate construction for the project, in November 2018, the Authority issued a series of subordinated obligations to provide bridge financing for the project, pending receipt of the Commonwealth Contribution. See "CAPITAL PROGRAM – Authority Funded Capital Project – Maritime Improvements," "CAPITAL PROGRAM – Funding Sources," and "OTHER OBLIGATIONS – Subordinated Indebtedness" herein. It is currently expected that the construction of Berth 10 and the procurement and installation of the three new cranes will be completed by the end of calendar year 2020.

The Authority expects to leverage the revenues derived from its real estate assets in South Boston to fund its share of the capital improvement projects at Conley Terminal discussed above, which revenues are included in the Revenues pledged under the 1978 Trust Agreement that secure the Bonds. In particular, the Authority is working with the private sector to develop six of the Authority's South Boston parcels, and the Authority expects to apply the additional long-term ground lease and parking revenues from these commercial developments to finance Conley Terminal improvements, including Berth 10 construction and the supporting backlands repairs and equipment. These commercial projects are in various stages of the development process, with completion of three parcels scheduled in the next two years: (1) the South Boston Waterfront Transportation Center, a 1,550 space parking garage owned by the Authority, was completed and opened to the public in April 2018; (2) Gables Seaport (Parcel C-1), a private mixed use residential/retail development, is expected to be completed by the middle of calendar year 2020; and (3) the Omni Summer Street Hotel (Parcel D-2), an approximately 1,050-room luxury hotel, which is expected to open in early calendar year 2021. The Authority designated a developer for the Parcel A-2 development in November 2018, with the development expected to come online by the end of calendar year 2022. Requests for Proposals for the remaining two parcels, Parcel H and Parcel D-3, are expected to be released within the next two years. See "PORT PROPERTIES – Commercial and Maritime Real Estate Properties," "CAPITAL PROGRAM – Authority Funded Projects – Real Estate Improvements" and "CAPITAL PROGRAM – Third Party Funded Capital Projects" for a further description of the Authority's ongoing real estate developments.

Boston Autoport. This 80-acre facility in Charlestown is leased to Boston Autoport LLC ("*Boston Autoport*") through June 2051. Boston Autoport is the only automobile processing entity using the Port. Increased domestic production by foreign automakers has reduced vehicle imports into the United States by water. However, Boston Autoport continues to import and store Subarus and other automobiles as well as to export used automobiles, and to pursue other complementary marine industrial subtenants, while making base lease payments to the Authority and receiving other revenues from subleases on the site. Boston Autoport has a number of subtenants on its lease area, including Massachusetts Clean Energy Technology Center, which operates a 46,000 square foot facility to test wind blades to meet certification and investor requirements and support wind industry research and development activities. The Massachusetts Clean Energy Technology Center facility began operating in July 2011.

Flynn Cruiseport Boston. Formerly called the Black Falcon Cruise Terminal, this 387,000 square foot terminal at the former Boston Army Base in South Boston originally served as a supplies warehouse before being converted to a cruise terminal in 1986. Cruise activity from the Port of Boston includes sailings to Bermuda, multiple locations in Canada and limited sailings to the Caribbean. Holland America Line, Norwegian Cruise Line,

and Royal Caribbean provided the five home-ported vessels calling on Flynn Cruiseport Boston in calendar year 2018. The table below reflects total passenger volume at Flynn Cruiseport Boston for each of calendar years 2014 through 2018:

FLYNN CRUISEPORT BOSTON VESSEL AND PASSENGER VOLUME
(Fiscal Year Ended June 30)

	<u># of Calls</u>	<u>Total Passengers</u>
2014	109	338,442
2015	117	330,535
2016	107	289,076*
2017	124	351,914
2018	159	406,369

* The decrease in total passengers in fiscal year 2016 was a result of the Norwegian Dawn undergoing extensive renovation that delayed the first call and resulted in six missed turns.

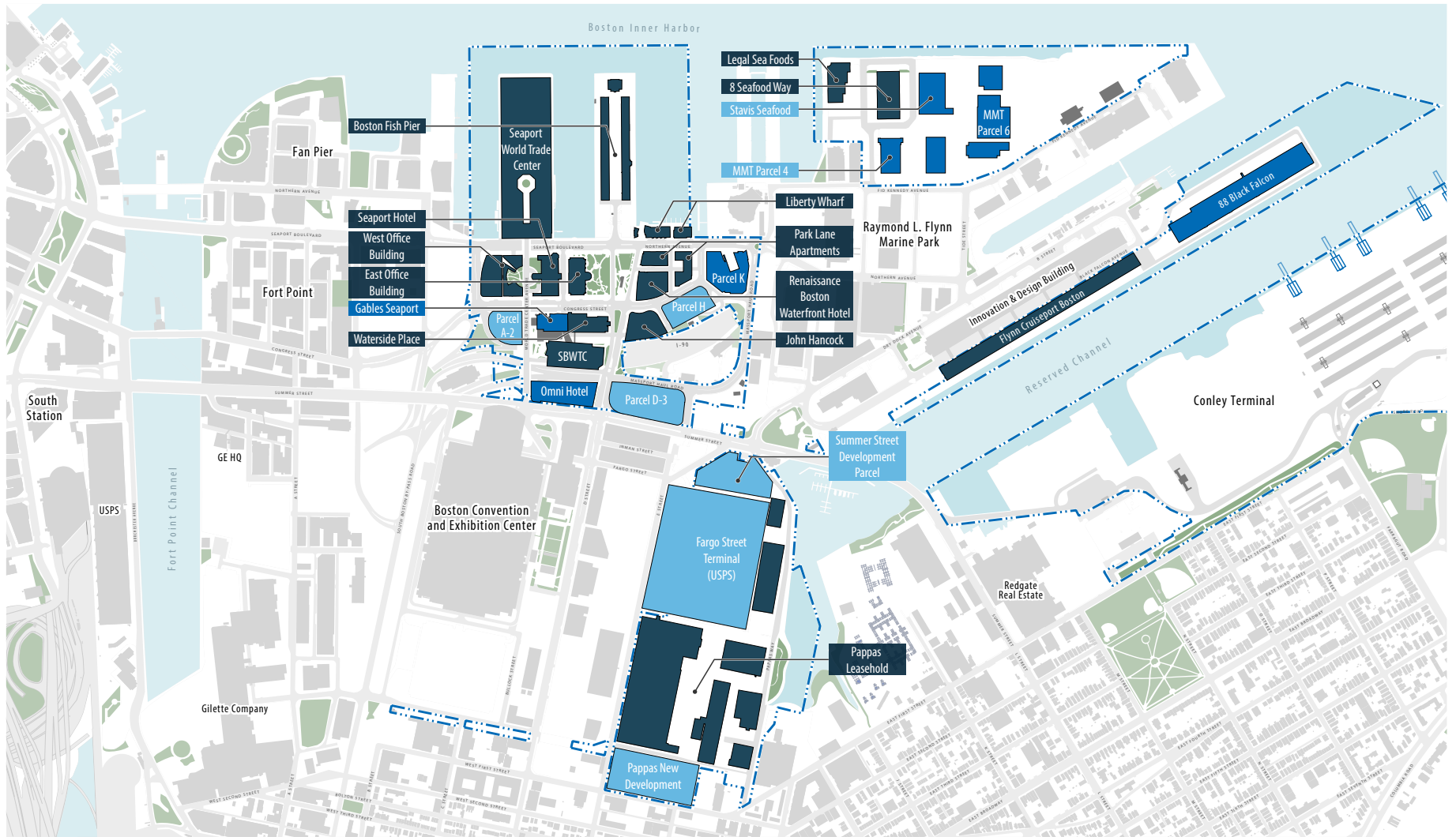
The Atlantic coast cruise market is dominated by Florida ports, which handle over 84% of all cruise passengers. In calendar year 2017, the Port of Boston ranked as the 7th busiest cruise port on the U.S. Atlantic Coast with 2% of all cruise passengers.

The Authority expects to make additional investments to upgrade and expand Flynn Cruiseport Boston in order to better position the facility to capture future growth opportunities. In particular, while the Authority has invested approximately \$26.0 million in capital improvements in the terminal since 2011, much of the building remains unimproved and the terminal remains incapable of servicing multiple larger (4,000 to 5,000 passenger) cruise ships. Most ships docking at Flynn Cruiseport today carry 2,500 passengers; in addition, the current facility can only serve one homeport ship and two port of calls at a time. Potential capital investments at Flynn Cruiseport include (i) expansion of the terminal facility to provide for a second homeport terminal capable of serving 4,000+ passenger vessels, (ii) upgraded HVAC to facilitate year-round cruise offerings, (iii) new customs and border protection facilities, (iv) structural repairs to the pier, (v) new roof and window replacements and (vi) emissions reduction initiatives. The total cost of the above-described improvements is expected to be approximately \$120 million, of which \$5.4 million is included in the FY18-FY 22 Capital Program. See “CAPITAL PROGRAM – Authority Funded Capital Projects – Maritime Improvements.” The Authority is still considering various funding options for the remaining projects, which could include potential funding from the Commonwealth as set forth in the fiscal year 2018 Economic Development Bill. These additional projects may be included in a future capital program.

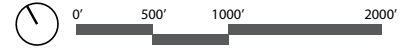
Commercial and Maritime Real Estate Properties

In addition to the above-mentioned maritime properties, the Authority also plans, develops and manages various real estate properties in the Port for maritime, industrial and commercial uses. A map of the Authority’s commercial and maritime real estate properties located in South Boston is set forth on the following page.

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Massachusetts Port Authority
 Real Estate & Asset Management
 January 2019



LEGEND

- Existing Massport Projects
- In Progress Massport Projects
- Future Massport Projects
- Massport Property

Massport Projects
 Existing & Future
 South Boston, MA

South Boston Commercial and Residential Development. The Authority owns approximately 65 acres of land in the South Boston Waterfront (the “*Waterfront*”), also known as Boston’s Innovation District, on which as of the date hereof approximately 5.6 million square feet of commercial development has been built, including office, hotel, retail/restaurant, and meeting space. Development in the Waterfront has been experiencing rapid growth of commercial construction, building openings, major tenant relocations and land transactions. The Authority has actively redeveloped a portion of its land in the Waterfront as part of a larger mixed-used plan ultimately expected to result in approximately nine million square feet of office, hotel, restaurant/retail and residential development on the Authority’s property.

Since the mid-1980s, completed projects on Authority land that is ground leased to developers include the World Trade Center/Commonwealth Pier (250,000 square feet of exhibition and conference space and 600,000 square feet of office space), the Seaport Hotel (427 rooms), the East and West Office Buildings (490,000 square feet and 560,000 square feet, respectively), the former headquarters of John Hancock Insurance (471,000 square feet), the Boston Harbor Industrial Development leasehold (784,000 square feet), the Park Lane Seaport Apartments (465 apartment units), the Renaissance Boston Waterfront Hotel (471 rooms), and the construction of new roadways, utilities and the South Boston Maritime Park on D Street. Liberty Wharf, which opened in 2011, is a multi-use development containing five restaurants, boutique office space, a public harbor walk and water slips for transient vessels. Waterside Place Phase I, a residential development with 236 apartment units, opened in January 2014; construction of Phase II of the project, the Gables Seaport, commenced in the second quarter of 2018. The Gables Seaport development program includes 312 apartment units and ancillary parking and retail uses. Parcel K, a mixed use development containing an apartment building, hotel and underground parking structure, commenced construction in the second quarter of 2018.

The Waterfront is home to the Boston Convention & Exhibition Center (“*BCEC*”), as well as major businesses, including but not limited to: AEW, Cabot Corporation, Fidelity Investments, General Electric, Goodwin Proctor, PricewaterhouseCoopers, Reebok and Vertex Pharmaceuticals. In addition, the MBTA’s Silver Line provides bus rapid transit service from South Station to the Waterfront (and on to Logan Airport), with two stations located on Authority-owned property in the Commonwealth Flats district.

As part of the FY18-FY22 Capital Program, the Authority completed the South Boston Waterfront Transportation Center, which provides approximately 1,550 parking spaces for the Waterfront; this facility opened in May 2018. See “CAPITAL PROGRAM – Authority Funded Capital Projects – Real Estate Improvements” herein. In addition, the Authority and its ground lessee continue to move forward with the development of an approximately 1,050-room luxury hotel located on the Authority’s Parcel D-2, which is located on Summer Street opposite the BCEC. See “CAPITAL PROGRAM – Third Party Funded Capital Projects.”

Fargo Street Terminal South. In March 2010, the Authority and Boston Harbor Industrial Development LLC (“*BHID*”) entered into a 75-year ground lease for approximately 38 acres of land that abuts the Reserved Channel. The property contains approximately 761,000 square feet of building area in seven existing buildings that house a variety of industrial/warehousing tenants and other similar uses. A predecessor entity to BHID had been leasing this site since 1965 under a prior ground lease with the Authority. In addition to substantially increased ground rent to the Authority, the lease required BHID to make substantial investments in roadway and seawall infrastructure improvements, which were completed in 2014. BHID has proposed additional investments in the existing buildings and re-developing a portion of the site.

Boston Fish Pier and South Boston Seafood Cluster. The Boston Fish Pier provides approximately 100,000 square feet of fully leased seafood processing space and 60,000 square feet of office space, roughly half of which is occupied by Massport Maritime Department administrative and public safety functions and maritime-related tenants. The Fish Pier is the home of Boston’s commercial fishing fleet, and is expected to remain so for the foreseeable future. In 1996, the Authority designated a minimum of eight acres at the Massport Marine Terminal (“*MMT*”) in South Boston for state-of-the-art seafood-processing facilities. The MMT site is home to the corporate headquarters of Legal Sea Foods and the Harbor Seafood Center, a 68,000 square foot multi-tenant facility. In addition, MMT is the location of several planned seafood facilities, and the Authority uses portions of the site to meet cruise and other operational needs. Harbor Seafood Center, the first phase of the new district, opened in 2001 and is fully occupied. The Legal Sea Foods Quality Control Center is also located within this district.

The Authority issued a Request for Proposals in February 2016 to develop portions of the MMT for seafood, warehouse, bulk and other maritime industrial uses, awarding parcels within this district to Cape Cod Shellfish & Seafood Co. and Pilot Seafood Properties to construct modern seafood-centric facilities. Cape Cod Shellfish & Seafood Co. was designated as the Parcel 4 developer; the Development Agreement was executed in December 2018 and the project is currently in the design and permitting stage. Pilot Seafood Properties was designated as the developer of Parcel 6; the Development Agreement was executed in June 2017 and Boston Sword & Tuna (sub-tenant), which received Board approval for the initial ground lease, anticipates breaking ground by January 2019. A Request for Proposals for Parcel 5 was issued in June 2018, and Pilot Seafood Properties received Board approval as the developer in November 2018.

Other Maritime Facilities. The Authority controls several facilities that are used for warehousing, or for importing, processing or distributing bulk and other waterborne commodities such as cement and seafood. These facilities include 88 Black Falcon (an intermodal cargo warehouse and office facility), MMT (40 acres) and the Fargo St. Terminal North (13 acres).

Constitution Center. Constitution Center is a multi-tenant, low-rise office property located in the Gateway area of Charlestown. The property consists of three buildings containing approximately 179,000 aggregate square feet located on approximately 8.4 acres of land. The property also has approximately 470 surface parking spaces. The property is leased from the Authority under two ground leases, both of which run through 2082, including all option terms.

Constitution Marina. Constitution Marina is located adjacent to Constitution Center and its leasehold consists primarily of the water sheet (approximately 4.6 acres in area). Constitution Marina has approximately 260 vessel slips and a clubhouse, and operates 12 months a year. The Constitution Marina's lease expires in 2024.

East Boston Waterfront Properties. The Authority has entered into agreements with Roseland Property Company ("*Roseland*") to redevelop East Boston Pier One and adjacent shore parcels into a multi-phase residential development that will include parking, retail, amenity space and community space. The first building opened in December 2014, and the next two buildings were opened and leased by November 2018. Roseland and the Authority are studying the feasibility of the third and final phase of residential development on the Pier itself, in light of significant structural costs associated with development on the Pier.

The Authority also designed and constructed a park on Pier 4 known as "East Boston Piers Park." Phase I of the park opened to the public in 1995. The Authority is now considering development of Phase II of the Park on adjacent shore parcels. In January 2012, the Authority entered into a long-term ground lease with Coastal Marine Management to operate, maintain and improve the Boston Harbor Shipyard and Marina located in East Boston. In May 2018, this ground lease was assigned by Coastal Marine Management to Boston Harbor Shipyard & Marina LLC. Within the terms of the ground lease, the tenant is required to undertake significant capital improvements to the properties. To date, the tenant has spent \$9.4 million in qualified capital expenditures to the property. This number does not include the \$5.0 million investment spent in 2017-2018 by the Institute of Contemporary Art to renovate Building 23, which now houses the "Watershed," a seasonal exhibition space in East Boston that also features a gallery dedicated to the history of the shipyard and the community.

STRATEGIC PLAN

During fiscal year 2013, the Members of the Authority voted to undertake the "*Massport 2022*" strategic planning initiative to help guide the future of the Authority in the coming decade and beyond. This initiative involved Authority staff, the surrounding community, MassDOT and the Authority's other stakeholders in a cooperative, community discussion about how the Authority can best achieve its mission of promoting economic prosperity in a dynamic, highly competitive and ever-changing and expanding global environment. The strategic planning initiative constituted a comprehensive review of all of the Authority's aviation, maritime, real estate and employee assets and outlined concrete actions that benefit the Authority's customers and the community in the fairest and most effective way possible, balancing the Authority's specific goals with the larger objectives of the City of Boston, the Commonwealth and the entire New England region.

Pursuant to the Massport 2022 strategic initiative, during fiscal years 2013 and 2014, the Authority engaged in a 24-month effort to prepare a unified Strategic Plan (the “*Plan*”) for all of its facilities, which Plan was adopted by Members of the Authority in November 2014. The goal of the Plan was to support and allow Logan Airport to serve the needs of its rapidly growing passenger base and to enable the Conley Terminal to prepare for the larger ships and consolidated shipping lines that are expected to serve Conley Terminal after the opening of the expanded locks in the Panama Canal. The Plan also examines how best to position the Authority’s real estate holdings in East Boston and South Boston that are not required for aviation or maritime uses. The Plan identified the following key opportunities aimed at achieving these goals, among others:

Investing in the Authority’s Airports:

- Accommodating the rapid passenger growth at Logan Airport through (i) further development of the Airport terminal complex for domestic and international passengers and (ii) continued improvements to ground access to the Airport through the further promotion of high occupancy vehicle (HOV) initiatives and continued management of the on-Airport parking supply in order to meet the growth in air passengers;
- Enhancing security at Logan Airport through the construction of a consolidated vendor delivery inspection station and joint operations center;
- Improving technology to improve the passenger experience at Logan Airport;
- Building the commercial passenger market at Worcester Airport (Worcester being New England’s second largest city); and
- Continuing Hanscom Field’s role as a premier corporate and business aviation facility for the Boston and New England region and an important commercial/general aviation facility.

Revitalizing the Maritime Mission

- Making Conley Terminal “big ship ready” through (i) the the Deep Draft Project, and (ii) investment in new berths, container gantry cranes, backlands and landside transport access, including a new dedicated freight corridor and construction of new Berth 10;
- Improving Flynn Cruiseport Boston to accommodate the growth in cruise passenger activity, including (i) terminal improvements and (ii) securing control of Black Falcon Avenue and (iii) providing adequate cruise parking; and
- Optimizing maritime use of Fish Pier and assessing the seafood industry’s future needs.

Developing and Protecting Massport’s Real Estate Assets

- Constructing the South Boston Waterfront Transportation Center in South Boston;
- Maximizing real estate revenue to support maritime investments; and
- Implementing the recommendations from the Disaster and Infrastructure Resiliency Plan (DIRP) study, which identified improvements designed to make the Authority’s buildings, facilities and infrastructure more resilient to withstanding threats and hazards.

The Plan provides a framework for prioritizing the Authority’s strategies and investments moving forward; the specifics have been and continue to be adjusted as necessary to respond to the rapidly changing environment in which the Authority operates. Since the Plan was approved, staff has been working and continues to work to develop specific business plans designed to address and implement the strategic initiatives. The Plan has helped shape each capital program since fiscal year 2015, including the FY18-FY22 Capital Program (defined below), and the more detailed business plans will shape subsequent capital plans.

Strategic Plan – Phase 2. Since the development of the Plan, and in connection with continued passenger growth at Logan Airport, the Authority has embarked upon a second phase of the Strategic Plan (the “*Phase 2 Plan*”). The Phase 2 Plan focuses the Authority’s resources more specifically towards accommodating this increased passenger growth at the Airport with the following goals in mind: (i) providing post security connectivity among all of Logan’s terminals, (ii) ensuring roadways and curbsides can accommodate such growth, and (iii) expanding Terminal E. The FY18-FY22 Capital Program includes a number of projects specifically intended to address these three key goals of the Phase 2 Plan.

Post Security Connectivity. The mergers of several of Logan’s major carriers in the last ten years have in many cases required the Authority to redistribute gates and holdrooms between different terminals to accommodate different airline fleet mixes and flight schedules. The lack of post security connectivity among all of Logan’s terminals has historically impeded this effort. By providing interconnectivity between all of Logan’s terminals on a post security basis, the Authority will have more flexibility in managing its constrained gate complement and will be in a better position to quickly relocate airlines between gates when they merge, expand or contract. This will enable the Authority to better accommodate airlines that are expanding service because a larger supply of suitable gates will be available for their use, while also allowing the Authority to reclaim gates from contracting (or relocating) carriers for redistribution. The Authority also believes providing 100% post security connectivity will foster airline competition because it allows the Authority to better match the scarce supply of gates at Logan with the airlines’ demand for gates.

The Terminal C Optimization and Terminal B to C Connector project, which is a component of the FY18-FY22 Capital Program, is a key component of achieving this Phase 2 Plan goal, with work facilitating more efficient passenger movement between Terminals B and C. See “CAPITAL PROGRAM – Authority Funded Capital Projects – Improvements to Accommodate Airline Consolidation and Domestic Travel Growth at Logan.” After the completion of this project, the only terminal remaining to be connected is Terminal A, which is expected to be undertaken after fiscal year 2024.

Roadway and Curbside Improvements. The second goal of the Phase 2 Plan is to ensure Logan Airport’s roadways are capable of handling the increased passenger growth. To that end, the Authority is evaluating how to effectively address passengers’ mobility and vehicle congestion on the airport’s roadways. The Terminal C Roadways project, another component of the FY18-FY22 Capital Program, is designed to meet the Authority’s objectives to improve Logan Airport traffic and improve access to Terminal C. In addition, the FY18-FY22 Capital Program includes a project to evaluate the feasibility of a “people mover” to improve vehicle accessibility and circulation at Logan Airport. See “CAPITAL PROGRAM – Authority Funded Capital Projects – Improvements to Roadways and Ground Transportation at Logan.”

Terminal E Expansion. Finally, the Phase 2 Plan specifically focuses on the needed expansion of Terminal E to accommodate the rapid growth in international passengers. To accommodate such growth, the Authority plans to expand Terminal E by adding seven new gates in two phases. See “CAPITAL PROGRAM – Authority Funded Capital Projects – Improvements to Facilitate the Growth of International Traffic at Logan.”

CAPITAL PROGRAM

The Authority utilizes a rolling, five-year capital program as its comprehensive and coordinated capital improvement and financial master plan for all Authority facilities. The capital program, which is amended and approved by the Board annually, sets forth the planned capital projects and expected sources of funding therefor for the next succeeding five-year period. While the Board annually approves a five-year capital program as a whole, each individual project within the capital plan is its own “module,” the scope of and budget for which must be approved separately by the Board before work on such module is commenced.

Many of the commitments within the Authority’s capital plan have already been authorized by the Authority and extend over several years. The modular design of the capital plan, however, allows the Authority to continually monitor and make adjustments to the overall program, even after work on individual projects has commenced. If significant changes were to occur in available amounts from expected funding sources, or if the costs of certain projects were to increase significantly, the Authority would adjust the timing or reduce the scope of individual proposed projects or the overall program, or both, to accommodate such changed circumstances.

The modular design of the capital plan also allows the Authority to react quickly to external factors that affect Authority operations. For example, in October 2001, as part of its financial recovery plan in response to the financial and operational implications of the events of September 11, 2001, the Authority successfully postponed projects and reduced the capital program for fiscal years 2001 through 2006 from a six-year plan to a two-year plan. More recently, passenger growth at the Airport continues to outpace expectations, and the modular design of the capital plan has allowed the Authority to accelerate certain projects that are most important for accommodating the

increase in passengers. The Authority believes that the modular design of the capital program significantly increases its ability to make adjustments in capital spending levels, if necessary.

On February 15, 2018, the Authority approved the Fiscal Year 2018-2022 Capital Program (the “FY18-FY22 Capital Program”). The FY18-FY22 Capital Program represents a comprehensive and coordinated capital improvement and financial master plan for all Authority facilities. The program was developed to be consistent with the Plan and the Authority’s strategic goals of meeting growing demand at Logan, protecting the future of the Maritime container and cruise lines of business and defining the role of the commercial real estate properties, while maintaining strong financial management and competitive rate structures, being a good neighbor, planning for increased resiliency, prioritizing security and improving customer service levels in the face of rising demand. Specifically, the FY18-FY22 Capital Program funds major initiatives that support the Authority’s strategic goals such as:

Supporting Logan’s Ability to Handle Increased Passengers:

- Completing programmed airfield improvements and HVAC equipment upgrades;
- Aiding the expansion of low cost carriers at Logan by expanding and relocating airlines to achieve consolidation;
- Renovating and enhancing Terminal E to serve the international market needs and accommodate Group VI aircraft;
- Improving traffic conditions for vehicles entering Terminal C and exiting Terminal B by improving the Terminal C Roadways;
- Optimizing Terminal B to facilitate airline consolidation and undertaking renovations to improve passenger flow;
- Addition of parking facilities at Logan supporting an additional 5,000 spaces; and
- Phase 1 of Terminal E Modernization, adding four new gates.

Safety and Security:

- Implementing security enhancements throughout all of the Authority’s facilities, including construction of Joint Operations Center at Logan.

Fostering the Development of the Working Port and Developing the Authority’s Real Estate Assets:

- Boston Harbor dredging;
- Construction of Berth 10 and procurement of three new ship-to-shore cranes at Conley Terminal;
- Construction of a dedicated freight corridor at Conley Terminal; and
- Constructing the South Boston Waterfront Transportation Center.

In addition, the FY18-FY22 Capital Program includes the installation of a Category III ILS and taxiway improvements at Worcester Airport, which were substantially completed in March 2018, construction of the airfield rescue and firefighting (“ARFF”) facility and customs and border protection (“CBP”) facility at Hanscom Field, and the maintenance and renewal of its existing facilities, all as more fully described below.

The FY18-FY22 Capital Program includes forecasted total expenditures of approximately \$2.4 billion by the Authority and approximately \$2.0 billion by third-party or non-recourse funding sources for ongoing projects and for projects to be commenced during the five-year program period, for a total of approximately \$4.4 billion. The size of the FY18-FY22 Capital Program is a response to the growth in passengers at Logan Airport, as well as the accelerated growth in container volume at the Port, which has prompted the need to undertake projects sooner than anticipated in the Plan to facilitate the increase in demand. The financial plan to support the capital program includes, among other things, (i) additional bond issues (to fund \$725.3 million of project costs) in fiscal years 2020 and 2021, (ii) a parking rate increase of \$3.00 per day effective July 1, 2017 and planned parking rate increases of \$3.00 per day in fiscal years 2020 and 2022 for all Logan Airport parking facilities, (iii) funding to be received from the Commonwealth pursuant to the Deep Draft PPA and the Conley Terminal MOU, and (iv) certain dedicated long-term ground lease and parking revenues from the Authority’s commercial developments in South Boston.

Set forth in the following table is a summary of the Authority-funded portion of the FY18-FY22 Capital Program, including estimated funding sources and a summary of uses, showing capital projects by funding category. **The funding sources and uses set forth below reflect expectations as of the date the FY18-FY22 Capital Program was adopted and are subject to change over the course of the current five-year planning period.** The Authority-funded portion of the FY18-FY22 Capital Program is funded from a variety of sources, including bond proceeds, grants, passenger facility charges (“PFCs”), Customer Facility Charges (“CFCs”) and pay-as-you-go capital. The table below does not reflect projects that have been or may be funded through other third-party or non-recourse funding sources. For information about the portion of the FY18-FY22 Capital Program (consisting of approximately \$2.0 billion in projects) anticipated to be funded through third-party or non-recourse funding sources, see “Third Party Funded Capital Projects” below.

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FY18-FY22 CAPITAL PROGRAM
SUMMARY OF ESTIMATED FUNDING SOURCES AND CAPITAL PROJECTS
(Authority Funded Portion) ¹
(\$ in thousands)

<u>Funding Sources</u>	
Maintenance Reserve Fund	\$524,476
Improvement and Extension Fund	490,045
PFC - Pay Go	76,349
FAA, TSA and Other Grants	50,349
U.S. DOT FASTLANE grant	42,000
Prior Bond proceeds ²	134,106
Future Bonds Payable from Revenues ²	704,997
Future Bonds Payable from PFC ²	211,601
CFCs pay-as-you-go	13,500
Custodial Funds ³	<u>182,264</u>
Total Sources (Authority Funded)	\$2,429,688
<u>Project Costs Funded with Revenue Bonds</u>	
Terminal E Modernization - Phase I ^{4,6}	\$369,658
Terminal C Optimization and B to C Connector ^{4,6}	145,005
Terminal B Optimization ^{4,6}	139,966
Terminal C Canopy and Upper Deck	50,000
2,000 Parking Spaces ⁶	88,000
Terminal C Roadways ⁶	114,442
New Berth 10 and Cranes at Conley Terminal ⁶	107,493
Other Projects ⁵	<u>36,140</u>
	\$1,050,704
<u>Project Costs Funded with PFCs and Grants</u>	
Post Security Concourse from Terminal B Gates 37-38 to Consolidated Checkpoint	\$18,397
Runway 9-27 Rehab	19,000
Taxiway C3 Pavement Rehab and New Bypass Taxiway	7,500
Replace Runway 4R Approach Light Pier	8,885
Taxiway D, D1, MS Rehab	5,600
Rehabilitate North Cargo Apron	16,400
Runway Incursion Mitigation Study	1,800
Conley Terminal Grant Funded Projects ⁶	
U.S. DOT FASTLANE Grant	42,000
Other Grants (EPA, DERA Grant)	635
Other Projects	<u>48,481</u>
	\$168,698
<u>Other Project Costs Funded with Massport Internally Generated Funds</u>	
South Boston Waterfront Transportation Center	\$65,878
HVAC Equipment Replacement Program ⁶	27,806
Terminal C Optimization and B to C Connector ⁶	29,995
Terminal B Optimization ⁶	11,497
Terminal E Modernization - Phase I ⁶	27,876
Terminal C Roadways ⁶	35,000
Central Heating Plant Upgrade ⁶	28,797
2,000 Parking Spaces ⁶	12,000
Conley Terminal Grant Funded Projects ⁶	58,849
Other Projects	<u>716,823</u>
	\$1,014,521
<u>Project Costs Funded with Customer Facility Charges</u>	13,500
<u>Project Costs Funded from Custodial Funds ³</u>	182,264
Total Capital Projects (Authority Funded)	\$2,429,688

¹ Reflects only that portion of the FY18-FY22 Capital Program expected to be financed by the Authority. Does not include approximately \$2.0 billion of projects expected to be funded through third-party or non-recourse funding sources. See "CAPITAL PROGRAM – Third Party Funded Capital Projects" herein for more information on third party projects included in the FY18-FY22 Capital Program.

² Proceeds amount shown here does not include bond reserves, costs of issuance or capitalized interest beyond the fiscal years 2018 through 2022 time period.

³ Includes Commonwealth funds expected to be received by the Authority for harbor dredging (\$74.5 million) and Berth 10 construction and cranes acquisition (\$107.5 million), as well as the Terminal A Maintenance Reserve Fund (\$229,000).

⁴ A portion of this project expected to be financed with proceeds of bonds payable from PFCs (\$129.3 million of Terminal E Modernization Phase 1, \$42.0 million of Terminal B Optimization, and \$40.3 million of Terminal C Optimization and Terminal B to C Connector).

⁵ Includes a variety of projects financed with proceeds of prior Bonds.

⁶ Projects with multiple financing sources.

Authority Funded Capital Projects

Logan Airport Improvements. The FY18-FY22 Capital Program includes funding for all or a portion of the following improvements at Logan Airport:¹

Improvements to Accommodate Airline Consolidation and Domestic Travel Growth at Logan. To enhance the operational efficiency and flexibility of Terminal B Pier B, the Authority is redesigning the space inside Terminal B at a total expected cost of \$156.0 million, expected to be funded with a combination of (i) Bond proceeds of \$102.5 million (previously financed with \$77.5 million of proceeds of the Series 2017-A Bonds and \$25.0 million of proceeds of the Series 2016-B Bonds), (ii) PFCs or bonds payable from PFCs (see “Funding Sources – Passenger Facility Charges” below) (\$42.0 million), (iii) Authority funds (\$9.9 million) and (iv) Federal grants (\$1.6 million). This project is an important component of the Airport’s long term planning goal to have all terminal gates connected post security. The primary focus of the project will be to expand Terminal B’s existing footprint by approximately 9,000 square feet to achieve consolidated security checkpoints that include six automated screening lanes to increase throughput and enhance security, consolidate ticketing into one central location to ensure that sufficient ticketing counters are available in one given area for an airline to operate, make apron improvements to accommodate a wider range of aircraft at most gates, add a connecting corridor from Gates 1 – 3 to the main Terminal B so all Terminal B Pier B gates will be connected post security, and right-size the holdrooms, adding approximately 12,000 square feet to holdroom space, to accommodate increased airport passengers. This project is also expected to enable the consolidation of American’s operations in Terminal B, thereby freeing up five gates in Terminal B, Pier A that will be relinquished by American for expanded operations by other carriers or to accommodate new carriers at the Airport. As a result of this optimization project, the Authority expects that in fiscal year 2020, Southwest will move into the vacated Terminal B, Pier A gates and that Delta will take on Southwest’s five gates in Terminal A to expand its operations.

The FY18-FY22 Capital Program also includes two projects designed to improve post-security passenger connectivity at the airport. The first project, which was completed in March 2018, was the construction of a secure-side link to connect Terminal B gates 37-38 to the consolidated checkpoint (\$25.0 million), which allowed for the closure of the separate checkpoint that served only those two gates. The second project designed to improve post-security passenger connectivity is the Terminal C Optimization and Terminal B to C Connector (\$175.0 million), which involves the build-out of new space in Terminal C, Pier B and provides for efficient passenger movement between terminals and new and repurposed pre- and post-security passenger amenities. This Project is expected to be funded with a combination of (i) Bond proceeds of \$104.7 million, (ii) PFCs or bonds payable from PFCs of \$40.3 million, and (iii) Authority funds of \$30.0 million. In accordance with the Strategic Plan, these two projects will complete the post security passenger connectivity of all gates in Terminal B to Terminal C.

Improvements to Facilitate the Growth of International Traffic at Logan. The Authority is undertaking a number of projects to support the increase in international traffic. The first of these projects consists of renovations and enhancements to the airfield (\$10.0 million) and Terminal E (\$167.0 million) to accommodate Group VI aircraft (A380 and 747-800), including the addition of two-level aircraft boarding jet bridges. The renovations and enhancements to Terminal E were funded primarily with proceeds of the Series 2016-B Bonds, and the project was completed in October 2017.

The second, and larger, project is a major Terminal E modernization project that is expected to add seven gates to Terminal E in two phases. The Terminal E modernization project is also expected to include the addition of ticket counters, increases in customs and border protection facilities, additional baggage carousels and passenger amenities. The first phase, Terminal E Modernization – Phase 1, is included in the FY18-FY22 Capital Program and would add four new gates. These additional gates are expected to improve apron operating efficiencies and decrease Terminal E delays. The second phase, Terminal E Modernization – Phase 2, which would add the remaining three gates, is expected to be incorporated in future capital programs. The FY18-FY22 Capital Program includes \$400.0 million for Phase I of the Terminal E modernization project. Phase 1 of the project is expected to be funded with a combination of (i) Bond proceeds (\$240.6 million), (ii) PFCs or Bonds payable from PFCs (see

¹ Total project costs reflected in this section may differ slightly from the summary table on the prior page to the extent such projects have multiple funding sources and/or involve spending that has occurred either prior to fiscal year 2018 or that will occur after fiscal year 2022 (and thus falls outside the current capital planning period).

“Funding Sources – Passenger Facility Charges” below) (\$129.3 million) and (iii) Authority funds (\$30.1 million). The total cost of the Terminal E modernization project is currently expected to be \$730.0 million, with the remaining \$330.0 million to add the remaining three gates (Terminal E Modernization – Phase 2) expected to be incorporated in future capital programs.

Improvements to Roadways and Ground Transportation at Logan. The FY18-FY22 Capital Program includes two major projects designed to address roadway congestion that has resulted from increased passenger traffic—the Terminal C Roadways project and the Terminal C Canopy and Upper Deck Project. The Authority will continue its investment in ground transportation at Logan by improving the Terminal C Roadways at a total expected cost of \$150.0 million, expected to be funded with a combination of (i) Bond proceeds of \$114.4 million and (ii) Authority funds of \$35.6 million. The goal of the Terminal C Roadways project is to replace the aging section of viaduct, improve traffic flow and accommodate growth at Terminal C. Currently, during peak operation hours, there are frequent challenges with respect to the traffic flow between Terminals B and C, which negatively impacts the ability of passengers to reach the Terminal C curbside. The project includes the construction of a new section of departures roadway viaduct, along with new surface roadways at the arrivals level. The new roadway system with improved alignment is intended to meet the Authority’s objectives of eliminating costly and disruptive roadway repair contracts and improving access to Terminal C in support of the Airport’s projected flight growth. In addition, the Terminal C Canopy and Upper Deck project (\$30.0 million) will replace the existing departures level canopy and provide more curbside space for passengers.

In addition, as the number of passengers using Logan Airport continues to grow and demand continues to increase, the Authority is evaluating how to effectively address passengers’ mobility and vehicle congestion on the Airport’s roadways. To that end, the FY18-FY22 Capital Program includes \$15.0 million to study the feasibility of an automated “people mover” to improve the accessibility of Logan Airport. The “people mover” is currently envisioned to be a monorail or tram system that would be configured to serve landside Airport passengers from all terminals primarily to/from four transportation facilities: (1) the MBTA’s blue line station at the Airport, (2) the economy parking garage, (3) the RCC and (4) a newly created transportation center to be located in the Southwest Service Area. If the Authority were to proceed with this project pending the outcome of the feasibility study, it is currently expected that the “people mover” would be fully operational by 2027 at a total estimated cost of \$1.3 billion, with such amount being incorporated in future capital programs. See “CAPITAL PROGRAM – FY19-FY23 Capital Program.”

Finally, the Authority is planning for the replacement of the Silver Line Buses in fiscal year 2022 (\$24.9 million), which is expected to be funded with Authority funds, and the mid-life rebuild of on-airport shuttle buses (\$25.0 million), which is expected to be funded with a combination of (i) CFCs (\$12.5 million) and (ii) Authority funds (\$12.5 million).

Improvements to Facilitate Airport Parking. Logan reaches its parking capacity on numerous occasions throughout the calendar year. In an effort to alleviate this parking demand, the Authority has included a major parking project in the FY18-FY22 Capital Program. With an ultimate goal of constructing up to 5,000 new parking spaces at the Airport (at a total expected cost of \$250.0 million), the FY18-FY22 Capital Program includes \$100.0 million to construct the first 2,000 parking spaces. This project is expected to be funded with a combination of (i) Bond proceeds (\$88.0 million) and (ii) Authority funds (\$12.0 million). The construction of the remaining 3,000 parking spaces is expected to be incorporated in future capital programs. See “AIRPORT PROPERTIES – Airport Facilities – Parking Facilities.”

Other Airport Projects. The remainder of the FY18-FY22 Capital Program relating to the Airport includes a variety of airside and landside projects including the following projects and their estimated costs for fiscal years 2018 through 2022: (i) HVAC equipment replacement program (\$32.4 million) and (ii) central heating plant upgrade (\$43.4 million). Approximately \$89.3 million of Logan airfield projects are expected to be funded with grants and PFCs including but not limited to rehabilitation of the north cargo apron (\$16.4 million), runway 9-27 rehabilitation (\$19.0 million) and various taxiway rehabilitations (\$15.6 million).

Worcester Airport and Hanscom Field Improvements. As part of the Authority’s commitment to developing air service for the citizens of central Massachusetts, from fiscal year 2018 through fiscal year 2022, the Authority expects to spend \$50.1 million on improvements at Worcester Regional Airport, including \$12.4 million

to complete the installation of a Category III ILS and related taxiway improvements. The Category III ILS dramatically improves reliability for commercial flight operations in low visibility conditions. In addition, the Authority expects to spend \$12.0 million on building a new ARFF station and CBP facility at Hanscom Field, of which \$4.8 million is expected to be funded with an FAA grant.

Maritime Improvements. The FY18-FY22 Capital Program includes funding for all or a portion of the following improvements at the Port Properties:

Conley Terminal Projects. As part of its strategic planning efforts, the Authority continues to prepare Conley Terminal for the newly consolidated shipping lines and the arrival at the Port of larger ships now that the expanded locks on the Panama Canal have opened. The FY18-FY22 Capital Program includes \$106.5 million for Boston Harbor dredging, a component of the Deep Draft Project, \$212.7 million relating to the construction of Berth 10 and the purchase and installation of three new cranes, and \$101.5 million for the Conley Terminal infrastructure repairs, equipment upgrades and Berth 11 dredging. The remaining costs of the Conley Terminal modernization project are expected to be included in future capital programs. See “PORT PROPERTIES – Maritime Properties – Conley Terminal” for a further discussion of the total cost and expected funding sources for the various improvements at Conley Terminal.

Flynn Cruiseport Boston Improvements. The FY18-FY22 Capital Program includes \$14.1 million for Flynn Cruiseport Boston, of which \$5.4 million relates to the \$120.0 million in funding needed to upgrade and expand Flynn Cruiseport Boston in order to better position the facility to capture future growth opportunities. See “PORT PROPERTIES – Flynn Cruiseport Boston.” The \$5.4 million is expected to fund a portion of work required for seawall reconstruction, window replacements, additional customer seating and a ground transportation area. The remaining \$8.9 million included in the FY18-FY22 Capital Program is expected to be used to upgrade the cruise ship boarding bridge, procure berth protection equipment, and provide for electrical upgrades, exterior enhancements, signage and additional seawall rehabilitation.

Real Estate Improvements. In May 2018, the Authority completed the construction of the 1,550-space South Boston Waterfront Transportation Center on a parcel near the BCEC. This facility provides parking for other Authority developments in South Boston, it fills the need for additional area parking in the South Boston waterfront district and it will provide all of the parking required by the Omni Summer Street Hotel (see “Third Party Funded Capital Projects – Omni Summer Street Hotel” below). The multi-level, multi-modal transportation center is built over, and supported by, the I-90 tunnel structure built as part of the Central Artery & Tunnel Project (CA/T). The \$90.0 million facility was funded with Authority funds.

The FY18-FY22 Capital Program also includes \$13.4 million to construct a Department of the Army (“DOA”) equipment maintenance facility and perform certain site work at the DOA Fort Devens site. In exchange for this work, the DOA has agreed to transfer to the Authority a 4.3 acre parcel on E Street, which parcel is strategically located adjacent to the Authority’s Fargo Street terminal. This land will support the future development of the United States Postal Service general mail facility.

Third Party Funded Capital Projects

Other Third Party Development Ventures. As described above, the Authority expects that approximately \$2.0 billion of the total FY18-FY22 Capital Program will be financed by third party funds (*i.e.* funds that are not on the Authority’s balance sheet). Projects include the construction of a mixed use development on Parcel K (\$300.0 million), the Omni Summer Street Hotel (\$558.0 million) (as further described below), the Gables Seaport apartment development (\$150.0 million), Roseland’s second apartment building in East Boston (\$113.0 million), and Terminal Improvements by JetBlue at Terminal C (\$100.0 million).

Omni Summer Street Hotel. Development continues on an approximately 1,050-room luxury hotel located on Parcel D-2, which parcel is owned by the Authority and located on Summer Street opposite the BCEC. The Authority has executed a long term ground lease with the selected developer, a joint venture of New Boston Hospitality (The Davis Companies) and Omni Hotels and Resorts. The Authority expects that this project will be developed using approximately \$558.0 million of private investment. Construction commenced in 2018, with project completion expected in 2021.

Funding Sources

The various projects listed in the FY18-FY22 Capital Program have been and will be financed: (i) through the issuance of Bonds, commercial paper and/or debt payable solely from PFCs, (ii) from the application of PFCs, federal grants, CFCs and private capital, (iii) from Commonwealth funds, and (iv) from cash flow from operations. The Authority's commercial paper program provides interim funding for certain projects. See "MANAGEMENT'S DISCUSSION OF FORECAST ASSUMPTIONS – Debt Service and Coverage." As of October 31, 2018, the Authority had the following approximate amounts available for projects included in FY18-FY22 Capital Program: \$453.1 million of cash from operations, \$58.1 million of Bond and commercial paper proceeds, \$38.1 million of pay-as-you-go PFCs, \$63.4 million of CFCs and \$5.3 million of Commonwealth funds for harbor dredging.

Future Bond Proceeds. The FY18-FY22 Capital Program is based on the assumption that the Authority will issue two series of Bonds in fiscal years 2020 through 2021 to finance project expenditures in the amounts set forth below:

	Expected Project Expenditures from <u>Proceeds</u>
Fiscal Year 2020 ("2019-B Bonds")	\$446.7 million
Fiscal Year 2021 ("2020 Bonds")	<u>278.6 million</u>
TOTAL:	\$725.3 million

It is expected that \$705.0 million of the proceeds of the 2019-B Bonds and the 2020 Bonds will be spent during FY18-FY22. In addition to the 2019-B Bonds and 2020 Bonds, as further described under "Passenger Facility Charges" below, the Authority expects to issue additional debt to be paid from PFC revenues, which may include Bonds issued through the 1978 Trust Agreement.

Passenger Facility Charges. Beginning in 1993, the Authority has received multiple FAA approvals to impose and use PFCs, which have been collected at the \$4.50 level since October 1, 2005. As of June 30, 2018, the Authority's PFC impose and use authority was a total of \$1.65 billion. In August 2018, the Authority submitted its eleventh PFC application to the FAA to impose and use an additional approximately \$154.7 million of PFCs, and in December 2018, the FAA approved all of the projects included in the application, granting authority to the Authority to impose and use an additional \$154.7 million in PFCs and increasing the Authority's impose and use authority to \$1.81 billion. All PFCs collected by the Authority are presently deposited with The Bank of New York Mellon, as custodian (the "*PFC Custodian*"), pursuant to a PFC Depository Agreement dated July 3, 2017 (the "*PFC Depository Agreement*"), between the Authority and the PFC Custodian. In accordance with the 1978 Trust Agreement, the proceeds of PFCs have been excluded from the Revenues securing the Bonds. In the event that PFC revenues and other funding sources are inadequate to meet anticipated project costs, the Authority would look for other funding sources or defer or cancel projects.

At various times since 1999, the Authority has issued PFC Revenue Bonds on a "standalone basis" under the terms of a separate trust agreement, which PFC Revenue Bonds were secured only by PFC revenues, to finance certain eligible projects. There are currently no such PFC Revenue Bonds outstanding. See "OTHER OBLIGATIONS – PFC Revenue Bonds." The Authority expects to continue to leverage its PFC revenue stream and is currently studying alternatives for accomplishing this objective in the most efficient and effective way. The FY18-FY22 Capital Program assumes that, in addition to the 2019-B Bonds and 2020 Bonds listed above, the Authority will issue additional debt (consisting of Bonds, PFC Revenue Bonds, or a combination thereof) that would be paid from PFC revenues ("*PFC Debt*") to finance \$211.6 million in project expenditures. Proceeds from this PFC Debt are expected to be used to finance (i) a portion of the Terminal B renovations (\$42.0 million), (ii) a portion of Phase 1 of the Terminal E modernization project (\$129.3 million) and (iii) a portion of the Terminal C Optimization and Terminal B to C Connector project (\$40.3 million). The issuance of such PFC Debt, which is expected to occur in the latter years of the FY18-FY22 Capital Program, is subject to the receipt of FAA approval for PFC funding for these projects. If these projects are not approved for PFC funding, or if the approval amount is

less than the Authority’s PFC funding request, the Authority would likely fund the difference as part of a future Bond issue under the 1978 Trust Agreement.

The PFC Debt may be issued under the terms of the separate trust agreement described under the heading “OTHER OBLIGATIONS – PFC Revenue Bonds” or may be partially or wholly issued under the terms of the 1978 Trust Agreement. Under the terms of a pending amendment to the 1978 Trust Agreement that has not yet been approved by the required percentage (51%) of bondholders, the Authority may issue PFC Debt under the 1978 Trust Agreement using a PFC direct debt service offset structure (i.e., PFC revenues would be used to pay a designated portion of the associated debt service). See “SECURITY FOR THE 2019A BONDS – Modifications to the 1978 Trust Agreement” in the Official Statement. If such PFC Debt is issued under the terms of the 1978 Trust Agreement, the Authority anticipates that the PFC Debt would consist of Bonds that would be payable in whole or in part from PFCs and any remaining principal and interest on such Bonds would be payable from Revenues. To the extent any PFCs are pledged or irrevocably committed or are held by a fiduciary and are to be set aside exclusively for the payment of debt service on such Bonds pursuant to a resolution of the Authority, then the debt service to be paid from such PFCs or from earnings therein shall be disregarded and not included in calculating debt service coverage requirements under the 1978 Trust Agreement. Nevertheless, any such Bonds issued pursuant to the 1978 Trust Agreement would be on a parity with the other Outstanding Bonds.

Pursuant to the Authority’s sixth PFC application, the FAA has approved use of PFCs by the Authority to pay a portion of the debt service the Authority’s Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001A, 2001B and 2001C (the “*Terminal A Bonds*”) allocable to public space within Terminal A, and the Authority applied PFCs for such purpose in the following amounts for each of fiscal years 2011 through 2018:

<u>Fiscal Year</u>	<u>PFCs Applied to Terminal A Bonds Debt Service</u>
2011	\$6.1 million
2012	9.1 million
2013	12.1 million
2014	11.8 million
2015	10.9 million
2016	11.9 million
2017	11.9 million
2018	12.2 million

In connection with the refunding of the Terminal A Bonds with proceeds of the 2019A Bonds, the Authority expects to continue to use PFCs to pay a portion of the debt service on the 2019A Bonds allocable to public space within Terminal A. See “DEBT SERVICE AND COVERAGE.”

Customer Facility Charges. In December 2008, the Authority imposed a \$4.00 CFC for each transaction day that a car is rented at Logan. Effective December 2009, the CFC was increased to \$6.00 per transaction day. The CFC provides security for a special facility financing under the CFC Trust Agreement (as defined herein). Effective upon the adoption of the CFC Trust Agreement, the CFCs were excluded from Revenues securing the Bonds and pledged as security under the CFC Trust Agreement. See “OTHER OBLIGATIONS – CFC Revenue Bonds.”

Federal Grants. The Authority receives grants annually from the FAA pursuant to the Airport Improvement Program (“AIP”) and also receives TSA grants from time to time. These grants generally fall into two categories: (i) entitlement grants, which are awarded based upon the number of passengers enplaned at the Airport, and (ii) discretionary grants, which are awarded at the discretion of the FAA based upon specified criteria, including a cost-benefit analysis. Similar to many federal grant-in-aid programs, AIP grants are reimbursement grants. Accordingly, the Authority must expend its own cash to fund an authorized project and then submit invoices to the FAA for reimbursement of such costs pursuant to the terms of the grant. Thus, while grants may be awarded in one fiscal year, grant funds may be received over a period of several subsequent fiscal years. For a description of the AIP program, see “AVIATION INDUSTRY CONSIDERATIONS – Considerations Regarding Other Sources of Revenue – Federal Grants-in-Aid.”

The Authority will continue its practice of fully utilizing the AIP entitlement grants that are awarded to it to maintain and improve Logan Airport, Hanscom Field and Worcester Regional Airport, and of aggressively seeking FAA discretionary grants for AIP eligible projects. Based on communications with the FAA, the Authority currently expects \$5.2 million in annual AIP entitlement grants for Logan, as well as \$1.0 million in annual AIP entitlement grants for Hanscom Field and \$1.0 million for Worcester Regional Airport.

In calendar year 2018, Hanscom Field was awarded a \$4.8 million discretionary grant for the construction of the ARFF building and Worcester Regional Airport was awarded a \$462,529 Voluntary Airport Low Emissions Program (“VALE”) grant for a passenger boarding bridge, a \$3.2 million discretionary grant for Runway 15/33 rehabilitation and a \$2.0 million grant for the purchase and installation of two passenger boarding bridges, pre-conditioned air handling units and ground power units. Also in calendar year 2018, Logan Airport was awarded a \$1.6 million VALE grant for ground service equipment charging stations related to the Terminal B Optimization project. In fiscal year 2018, the Authority collected AIP grants in the amounts of \$6.6 million for Logan Airport, \$3.0 million for Hanscom Field and \$5.9 million for Worcester Regional Airport.

Major projects previously funded in part with TSA grant funds include \$87.0 million to fund a portion of the cost of the infrastructure improvements at the Logan Airport terminals to accommodate the Airport’s current hold baggage screening system (which has been replaced by the Checked Baggage Inspection System (“CBIS”)), and \$4.2 million for the installation of Closed Circuit Television Cameras. In fiscal years 2011 through 2015, the Authority entered into Other Transaction Agreements (“OTAs”) with the TSA for a total of \$120.9 million for the CBIS; through fiscal year 2018, the Authority collected the \$120.9 million for the CBIS and the OTA was closed in August 2017.

The Authority was awarded a \$42.0 million FASTLANE grant by the federal government to pay for a portion of the \$102.9 million project costs associated with improving Conley’s ability to accommodate increased activity. See “PORT PROPERTIES – Maritime Properties – Conley Terminal.”

There can be no assurance that additional grants from the FAA or the TSA will be available in the future. See “AVIATION INDUSTRY CONSIDERATIONS – Considerations Regarding Other Sources of Revenue – FAA Reauthorization and Level of Federal Airport Grant Funding.”

Commonwealth Funds. The FY18-FY22 Capital Program assumes that the Commonwealth will provide the following funds: (i) \$74.5 million, pursuant to the Deep Draft PPA, to fund its share of the costs of the Deep Draft Project, and (ii) \$107.5 million, pursuant to the Conley Terminal MOU, to fund its portion of the costs of the Berth 10 and crane project over a three-year period from fiscal year 2020 to fiscal year 2022. See “PORT PROPERTIES – Maritime Properties – Conley Terminal.” In order to accelerate commencement of the design and construction of Berth 10 and the procurement of three new cranes for Conley Terminal, the Authority issued a series of subordinated obligations in November 2018 to provide bridge financing pending receipt of the Commonwealth’s portion of the total costs of such project. See “OTHER OBLIGATIONS – Subordinated Indebtedness” herein.

Other Funding Sources. The FY18-FY22 Capital Program has been developed to be achievable within the resources anticipated to be available to the Authority at relevant times, including the capacity of users of the facilities of the Authority to bear additional charges. Moreover, the Authority is expending considerable efforts to assure that program costs are predictable and controlled. Should there occur any significant increases in the costs of projects included in the FY18-FY22 Capital Program, whether due to cost overruns or other financial obligations not now contemplated, or should anticipated resources (e.g., federal grant receipts, PFC collections and/or TSA grants) fail to materialize on schedule, resources available to the Authority may be inadequate to accomplish all objectives of the FY18-FY22 Capital Program. If so, the Authority would be required to utilize alternative funding sources such as the issuance of additional Bonds, or it may reduce or delay components of the FY18-FY22 Capital Program. In that event, the selection of projects to be reduced or delayed will depend on circumstances in existence at the time, including relative stages of development, relative economic importance to the activities of the Authority and degrees of transferability of project funding sources.

FY19-FY23 Capital Program

The Authority is currently in the process of developing its five-year capital program for the fiscal year 2019 through fiscal year 2023 period (the “*FY19-FY23 Capital Program*”). The current draft of the FY19-FY23 Capital Program includes \$380 million for the automated “people mover,” subject to a favorable outcome of the feasibility study. See “CAPITAL PROGRAM – Authority Funded Capital Projects – Logan Airport Improvements – *Improvements to Roadways and Ground Transportation at Logan.*” To the extent the Authority chooses to move forward with this project, it is expected that this \$380 million component of the estimated \$1.3 billion “people mover” project would be funded with a combination of Bonds and PFC Debt. The remaining portion of this project, which is also expected to be funded with a combination of Bonds and PFC Debt, is expected to be incorporated in future capital programs. In addition to the “people mover” project, the new capital program may reflect material differences to project costs and schedules for various other projects included in the current approved FY18-FY22 Capital Program and discussed herein. The Authority expects to receive approval from the Board for the FY19-FY23 Capital Program in February 2019.

AUTHORITY REVENUES

The Authority operates on a consolidated basis; all Revenues generated by each of the Authority’s Projects are pooled to pay the Authority’s Operating Expenses and are pledged to support all of the Bonds on a parity basis. Under federal law, the Authority is one of the few “grandfathered” consolidated port authorities permitted to apply revenues generated at an airport owned by the Authority to support other operations of the Authority. See “AVIATION INDUSTRY CONSIDERATIONS – Federal Grants-in-Aid.” The Authority generates Revenues from each of its Projects, as described below, and each of the Airport and the Port Properties has several lines of business that generate revenue streams.

Airport Properties Revenues

Revenues to the Authority from Airport operations consist of landing fees, terminal building rents and fees, cargo building rents, payments made by automobile rental companies, parking fees, concessions and other payments, including Revenues generated by operations at Hanscom Field and Worcester Regional Airport.

Consistent with federal law, aeronautical fees for use of Logan Airport, including landing fees and terminal building charges, are established on a “compensatory basis,” that is, set at levels calculated to compensate the Authority for the actual direct and indirect costs of providing those services and facilities to aeronautical users, principally the airlines. (However, terminal concession leases generally provide that rentals are established based upon a percentage of revenues generated, with a minimum annual guarantee, rather than pursuant to a compensatory method.) Such costs include the direct cost of such facilities, including terminals, runways and aprons, and the allocable portion of indirect costs of capital improvements serving the entire Airport, such as Airport roadways. The Authority has no agreements that require it to obtain “majority-in-interest” approvals from airlines for its operating or capital expenditures. Pursuant to federal law, landing fees and other aeronautical charges must be reasonable. The Authority believes that its rate-setting methodology is reasonable and consistent with federal law. However, there can be no assurance that such methodology will not be challenged and, if a judgment is rendered against the Authority, there can be no assurance that rates and charges paid by aeronautical users of the Airport will not be reduced. For a discussion of the federal laws and regulations affecting the Authority’s Airport rates and charges, see “AVIATION INDUSTRY CONSIDERATIONS – Federal Law Affecting Airport Rates and Charges.”

The Authority establishes landing fee rates for use of Logan’s airfield at levels calculated to recover the direct and indirect costs of providing common use landing field facilities and related services, based on projected aircraft landed weights for each year. Any variance from these projections is calculated after the fiscal year ends, and the adjustment is either paid to or invoiced to the air carriers and other users, although the Authority may adjust the landing fee during the fiscal year in order to reduce any variance that would be due.

Each fiscal year, the Authority also establishes terminal building rental rates and fees for aeronautical tenants of all of the Terminals, also on a compensatory basis. See “AIRPORT PROPERTIES – Airport Facilities – Lease Arrangements for Terminal Facilities.” Similar to the manner in which the landing fee is handled (as

described above), any variance from projected costs is calculated after the fiscal year ends, and the adjustment is either paid to or invoiced to the air carriers, although the Authority may adjust the terminal rental rates during the fiscal year in order to reduce any variance that would be due.

Other Authority Revenues generated at the Airport include parking fees, which are generated according to parking rates set by the Authority, rents and other amounts paid by concessionaires, rental car companies and cargo facility operations, which are set by negotiation or bid.

The FAA has approved Authority applications to impose and use a \$4.50 PFC as authorized by federal legislation through October 1, 2024. The revenues from PFCs are dedicated to certain FAA-authorized capital projects and are excluded from the Revenues pledged under the 1978 Trust Agreement that secure the Bonds. See “CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges.” The Authority also requires CFCs to be paid by rental car customers at Logan. The current CFC of \$6.00 per day is collected by the rental car companies and remitted to the trustee for the CFC Revenue Bonds as security therefor. CFC revenues are excluded from Revenues pledged under the 1978 Trust Agreement securing the Bonds. See “OTHER OBLIGATIONS – CFC Revenue Bonds.”

Terminal A Rental Revenues. Under the terms of a Trust Agreement dated as of August 1, 2001, as amended (the “2001 Trust Agreement”), by and between the Authority and The Bank of New York, as trustee (the “Terminal A Bonds Trustee”), rental revenues the Authority receives from Delta and other Terminal A airline tenants (the “Terminal A Rental Revenues”) are split into two components based on a calculation known as the reletting allocation. These components include:

- (i) revenues remitted to the Terminal A Bonds Trustee to pay debt service on the Terminal A Bonds (the “Terminal A Remitted Revenues”), which amounts are not recognized as Revenues under the 1978 Trust Agreement, and
- (ii) Authority recognized revenues (the “Terminal A Recognized Revenues”), which do constitute Revenues under the 1978 Trust Agreement.

The formula for calculating the amount of Terminal A Remitted Revenues and the amount of Terminal A Recognized Revenues is set forth in the 2001 Trust Agreement.

After the issuance of the 2019A Bonds and the defeasance of the Terminal A Bonds with a portion of the proceeds thereof, the Authority will no longer undertake the reletting allocation and will recognize all Terminal A Rental Revenues as Revenues under the 1978 Trust Agreement. The Authority anticipates that this change will generate approximately \$20 million in additional Terminal A Recognized Revenues each year, which will be pledged, together with other Revenues, to pay debt service on Bonds, including the 2019A Bonds. The table below reflects forecast Terminal A Recognized Revenues before and after the issuance of the 2019A Bonds and the defeasance of the Terminal A Bonds, with the change beginning in fiscal year 2020 (dollars in millions).

(\$ in Millions)	Total Terminal A <u>Rental Revenues</u>	Terminal A <u>Remitted Revenues*</u>	Terminal A <u>Recognized Revenues**</u>
Fiscal Year 2016	\$45.4	\$21.5	\$23.9
Fiscal Year 2017	39.7	15.4	24.3
Fiscal Year 2018	42.2	16.3	25.9
Fiscal Year 2019	44.6	17.5	27.1
Fiscal Year 2020	47.6	--	47.6
Fiscal Year 2021	49.7	--	49.7
Fiscal Year 2022	52.0	--	52.0
Fiscal Year 2023	53.2	--	53.2

* Do not constitute Revenues under 1978 Trust Agreement. Amounts reflected in this column exclude the Authority’s PFC contribution.

** Do constitute Revenues under the 1978 Trust Agreement.

For purposes of the historical and forecasted Operating Results tables set forth under “SELECTED FINANCIAL DATA” herein, Terminal A Remitted Revenues have not been included in Revenues or Net Revenues of the Authority for any fiscal year prior to fiscal year 2020. From and after fiscal year 2020, all Terminal A Rental Revenues are included in Revenues and Net Revenues of the Authority, reflecting the impact of the refunding and defeasance of the Terminal A Bonds with proceeds of the 2019A Bonds.

Port Properties Revenues

Revenues from the Port Properties are derived from several different sources, reflecting the diverse business activities at the Authority’s maritime terminals. At Moran Terminal, Medford Street Terminal and Mystic Pier No. 1, which are leased to Boston Autoport, the tenant pays a fixed rent, plus a percentage of sublease revenues. At Conley Terminal, which is operated by the Authority, the Authority collects fees from shipping lines for loading and unloading containers and for related services. The Authority also collects dockage and wharfage fees from the vessels. At Cruiseport Boston, the Authority charges per passenger use fees, as well as dockage, water and other charges such as equipment rental.

The Authority also collects dockage and tonnage fees for bulk cargo (most particularly, cement products), ground lease rentals, and building rentals at the various associated office and warehouse buildings included in the Port Properties. Finally, the Authority realizes revenues from the building or facility rental or ground rental of the various properties it owns in East Boston, South Boston and Charlestown.

Investment Income

The Authority also derives income from the investment of the balances in the Operating Fund, the Maintenance Reserve Fund, the Improvement and Extension Fund, the Capital Budget Fund or Account, and the Reserve and Bond Service Accounts in the Interest and Sinking Fund. See “GENERAL OPERATIONAL FACTORS – Investment Policy.”

SELECTED FINANCIAL DATA

The table on page A-51 reflects historical Operating Results and Debt Service Coverage for the five most recent fiscal years and the four-month periods ended October 31, 2017 and 2018, and has been prepared in accordance with accounting principles required by the 1978 Trust Agreement, which differ in some respects from generally accepted accounting principles (“GAAP”). Information for each of the five fiscal years is derived from the Authority’s financial statements for the respective fiscal years. Financial statements of the Authority for fiscal year 2018 and comparative data for fiscal year 2017, together with the report thereon of Ernst & Young LLP, independent accountants, are included in APPENDIX B to the Official Statement. Information for the four-month periods ended October 31, 2017 and 2018 under the caption “Historical Operating Results and Debt Service Coverage” is derived from the unaudited records of the Authority.

The table on page A-52 reflects forecasted Operating Results and Debt Service Coverage for fiscal year 2019 through fiscal year 2023 and was prepared in accordance with accounting principles required by the 1978 Trust Agreement. The prospective financial information included in this APPENDIX A has been prepared by and is the responsibility of the Authority’s management. The Authority and its management believe that the prospective financial information included in this APPENDIX A and appearing on page A-52 has been prepared on a reasonable basis, reflecting its best estimates and judgments, and represents, to the best of management’s knowledge and opinion, the Authority’s expected course of action. However, because this information is a forecast, it should not be relied on as necessarily indicative of future results. The prospective financial information was prepared by the Authority in accordance with accounting principles required by the 1978 Trust Agreement in order to show forecasted debt service coverage; such information was not prepared with a view toward compliance with the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of prospective financial information.

Neither Ernst & Young LLP nor any other independent accountant has examined, compiled, reviewed, audited or performed any procedures with respect to the “Forecasted Operating Results and Debt Service Coverage”

appearing on page A-52 or the Review of Airport Properties Net Revenues Forecasts included in APPENDIX C to the Official Statement, and, accordingly, Ernst & Young LLP does not express an opinion or any other form of assurance on such information or its achievability. Neither Ernst & Young LLP, nor any other independent accountant, assumes any responsibility for or has any association with the prospective financial information and any other information derived therefrom included elsewhere in this offering document.

The Ernst & Young LLP report included in APPENDIX B to the Official Statement relates to the Authority's historical financial information. The Ernst & Young LLP report does not cover any other information in this offering and should not be read to do so.

The following tables show the calculation of Annual Debt Service Coverage of the Authority, as provided under the 1978 Trust Agreement, which equals the ratio of the Net Revenues of the Authority to the Annual Debt Service for such year. "*Net Revenues*" is defined in the 1978 Trust Agreement as the excess of Revenues over Operating Expenses. For the purpose of the calculations, proceeds of PFCs and CFCs have been excluded from Revenues because such proceeds have been excluded from Revenues under the 1978 Trust Agreement. In addition, for purposes of the historical Operating Results and Debt Service Coverage table on page A-51, Revenues do not include Terminal A Remitted Revenues. For purposes of the forecasted Operating Results and Debt Service Coverage table on page A-52, however, commencing in fiscal year 2020, all Terminal A Rental Revenues are included as Revenues, reflecting the impact of the refunding and defeasance of the Terminal A Bonds with proceeds of the 2019A Bonds. See "AUTHORITY REVENUES – Airport Properties Revenues – *Terminal A Rental Revenues.*" As used in the tables, "*Annual Debt Service*" is equal to the "Principal and Interest Requirements" on Bonds outstanding for the applicable fiscal year, less the capitalized interest paid from the applicable Project Fund. See APPENDIX D to the Official Statement – Summary of Certain Provisions of the 1978 Trust Agreement – "Certain Definitions."

The calculation of Revenues, Operating Expenses and Annual Debt Service under the caption "Forecasted Operating Results and Debt Service Coverage" is based upon certain assumptions described below. See "MANAGEMENT'S DISCUSSION OF FORECAST ASSUMPTIONS." While the Authority believes that the assumptions made are reasonable, it makes no representation that the conditions assumed will in fact occur. To the extent that actual future conditions differ from those assumed or from the information on which the assumptions are based, the actual operating results will vary from those forecast, and such variations may be material.

Note 2 to the Financial Statements in APPENDIX B to the Official Statement includes a reconciliation between the increase in Net Assets as calculated under GAAP and Net Revenues as calculated under accounting practices prescribed by the 1978 Trust Agreement. The significant differences between the two methods of accounting are as follows: investment income is included as operating revenue under the 1978 Trust Agreement, but not under GAAP; and depreciation expense, interest expense, and payments in lieu of taxes; PFC, CFC and capital grant income are all recorded under GAAP, but not under the 1978 Trust Agreement. See APPENDIX B to the Official Statement.

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**HISTORICAL OPERATING RESULTS AND DEBT SERVICE COVERAGE
UNDER THE 1978 TRUST AGREEMENT**
(Fiscal Year Ended June 30, except as noted)
(\$ in thousands)

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>Four Months Ended 10/31/2017</u>	<u>Four Months Ended 10/31/2018</u>
1978 Trust Agreement Revenues:							
Airport Properties - Logan							
Landing Fees	\$ 92,896	\$101,123	\$104,489	\$ 113,162	\$ 119,190	\$ 42,176	\$ 43,890
Parking Fees	136,307	148,653	154,068	168,919	180,349	58,779	59,728
Utility Fees	16,798	18,274	17,960	15,284	15,349	5,318	5,200
Terminal Rentals (1)	129,487	133,897	142,176	161,816	180,331	61,756	68,214
Non-Terminal Building and Ground Rents	46,175	45,756	49,317	49,641	52,856	16,797	17,934
Concessions	76,003	81,270	86,645	98,093	113,588	41,847	49,391
Other	24,895	29,452	32,061	31,303	33,321	10,982	12,004
	<u>522,561</u>	<u>558,425</u>	<u>586,716</u>	<u>638,218</u>	<u>694,984</u>	<u>237,655</u>	<u>256,361</u>
Airport Properties - Hanscom	10,640	12,066	12,195	12,839	14,262	4,710	4,742
Airport Properties - Worcester	1,538	1,624	1,572	1,634	1,800	603	689
Total Airport Properties	<u>534,739</u>	<u>572,115</u>	<u>600,483</u>	<u>652,691</u>	<u>711,046</u>	<u>242,968</u>	<u>261,792</u>
Port Properties							
Maritime Operations (2)	62,068	68,316	74,259	81,738	93,831	35,532	39,709
Maritime Business Development/Real Estate (5)	23,653	22,295	24,619	30,021	30,446	8,844	25,012
	<u>85,721</u>	<u>90,611</u>	<u>98,878</u>	<u>111,759</u>	<u>124,277</u>	<u>44,376</u>	<u>64,721</u>
Total Operating Revenue	<u>620,460</u>	<u>662,726</u>	<u>699,361</u>	<u>764,450</u>	<u>835,323</u>	<u>287,344</u>	<u>326,513</u>
Investment Income (3)	<u>3,208</u>	<u>3,830</u>	<u>5,689</u>	<u>7,902</u>	<u>12,265</u>	<u>3,274</u>	<u>6,088</u>
Total Revenues	<u>623,668</u>	<u>666,556</u>	<u>705,050</u>	<u>772,352</u>	<u>847,588</u>	<u>290,618</u>	<u>332,601</u>
Operating Expenses (4):							
Airport Properties							
Logan	290,641	307,368	307,394	328,869	342,973	107,366	113,829
Hanscom	10,396	10,043	12,152	12,530	14,498	4,825	4,516
Worcester	7,497	9,026	9,408	9,672	10,680	3,043	3,741
	<u>308,534</u>	<u>326,437</u>	<u>328,954</u>	<u>351,071</u>	<u>368,151</u>	<u>115,234</u>	<u>122,086</u>
Port Properties							
Maritime Operations (2)	59,860	62,020	66,307	70,088	75,695	24,415	25,145
Maritime Business Development/Real Estate	15,166	20,012	16,725	19,082	21,384	6,351	7,452
	<u>75,026</u>	<u>82,032</u>	<u>83,032</u>	<u>89,170</u>	<u>97,079</u>	<u>30,766</u>	<u>32,597</u>
Total Operating Expenses	<u>383,560</u>	<u>408,469</u>	<u>411,986</u>	<u>440,241</u>	<u>465,230</u>	<u>146,000</u>	<u>154,683</u>
Net Revenues	<u>\$240,108</u>	<u>\$258,087</u>	<u>\$293,064</u>	<u>\$ 332,111</u>	<u>\$ 382,358</u>	<u>\$ 144,618</u>	<u>\$ 177,918</u>
Annual Debt Service	\$ 90,563	\$ 98,500	\$ 98,220	\$ 101,456	\$ 111,323	N/A	N/A
Annual Debt Service Coverage	2.65	2.62	2.98	3.27	3.43	N/A	N/A

(1) Excludes the portion of Terminal A rental revenue that is pledged to pay debt service on certain special facilities revenue bonds relating to certain Terminal A improvements. See "AUTHORITY REVENUES - Airport Property Revenues - Terminal A Rental Revenues."

(2) Maritime Operations include Auto, Container, Cruise and Seafood Business lines.

(3) Excludes investment income earned by and deposited into Construction, PFC and CFC Funds.

(4) Includes allocation of all operating expenses related to Authority General Administration.

(5) Revenues for the four months ended October 31, 2018 include (i) a one-time \$14.7 million payment related to the sale of the ground lease for Parcel F1 (John Hancock Building) in South Boston and (ii) a one-time \$0.3 million payment to satisfy certain requirements of the Ground Lease.

FORECASTED OPERATING RESULTS AND DEBT SERVICE COVERAGE
UNDER THE 1978 TRUST AGREEMENT
(Fiscal Year Ended June 30, except as noted)
(\$ in thousands)

The forecasts presented in this table were prepared by the Authority on the basis of assumptions believed by it to be reasonable. See “MANAGEMENT’S DISCUSSION OF FORECAST ASSUMPTIONS” in this APPENDIX A. Inevitably, some of the assumptions used to develop the forecasts will not be realized, and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and these differences may be material.

	2019 ⁽¹⁾	2020	2021	2022	2023
1978 Trust Agreement Revenues:					
Airport Properties - Logan					
Landing Fees	\$ 121,891	\$ 124,510	\$ 129,056	\$ 137,639	\$ 147,698
Parking Fees	176,267	182,605	184,443	193,059	197,114
Utility Fees	14,744	10,350	12,191	13,065	13,690
Terminal Rentals ⁽²⁾	188,271	221,310	233,033	276,765	290,012
Non-Terminal Building and Ground Rents	53,937	54,591	55,425	56,277	57,144
Concessions	110,148	107,679	111,935	116,800	119,339
Other	<u>31,960</u>	<u>32,372</u>	<u>32,692</u>	<u>33,034</u>	<u>33,380</u>
	\$ 697,218	\$ 733,418	\$ 758,774	\$ 826,639	\$ 858,378
Airport Properties - Hanscom	13,314	13,548	13,930	14,326	14,725
Airport Properties - Worcester	<u>2,103</u>	<u>2,683</u>	<u>2,781</u>	<u>2,862</u>	<u>2,943</u>
	\$ 712,635	\$ 749,648	\$ 775,486	\$ 843,827	\$ 876,046
Port Properties					
Maritime Operations	\$ 95,846	\$ 97,803	\$ 101,990	\$ 109,530	\$ 114,154
Real Estate	<u>41,767</u>	<u>30,175</u>	<u>33,299</u>	<u>37,763</u>	<u>40,918</u>
	\$ 137,614	\$ 127,977	\$ 135,289	\$ 147,293	\$ 155,072
Total Operating Revenue	\$ 850,248	\$ 877,625	\$ 910,775	\$ 991,120	\$ 1,031,118
Investment Income ⁽³⁾	12,868	13,771	17,057	21,288	21,885
Total Revenues	\$ 863,116	\$ 891,397	\$ 927,833	\$ 1,012,408	\$ 1,053,003
Operating Expenses: ⁽⁴⁾					
Airport Properties					
Logan	\$ 365,552	\$ 383,743	\$ 401,798	\$ 419,830	\$ 433,816
Hanscom	14,308	14,889	15,436	15,942	16,468
Worcester	<u>13,275</u>	<u>13,692</u>	<u>14,230</u>	<u>14,707</u>	<u>15,197</u>
	\$ 393,135	\$ 412,324	\$ 431,464	\$ 450,478	\$ 465,481
Port Properties					
Maritime Operations	\$ 74,235	\$ 79,945	\$ 82,940	\$ 86,559	\$ 89,405
Real Estate	<u>25,355</u>	<u>22,006</u>	<u>22,837</u>	<u>23,559</u>	<u>24,293</u>
	\$ 99,590	\$ 101,951	\$ 105,777	\$ 110,118	\$ 113,698
Total Operating Expenses	\$ 492,725	\$ 514,275	\$ 537,241	\$ 560,596	\$ 579,179
Net Revenues	\$ 370,391	\$ 377,122	\$ 390,591	\$ 451,812	\$ 473,824
Annual Debt Service ⁽⁵⁾	\$ 142,597	\$ 150,792	\$ 141,801	\$ 181,757	\$ 199,667
Annual Debt Service Coverage	2.60	2.50	2.75	2.49	2.37

(1) Reflects actual data for the four months ended October 31, 2018, and budgeted data for the remaining eight months.

(2) Commencing in fiscal year 2020, includes all Terminal A Rental Revenues. See “AUTHORITY REVENUES – Airport Properties Revenues – Terminal A Rental Revenues.”

(3) Excludes investment income earned by and deposited into Construction, PFC and CFC Funds.

(4) Includes allocation of all operating expenses related to Authority General Administration.

(5) Includes the 2019A Bonds. Assumes the Authority will issue (i) \$544.6 million par amount of revenue bonds in fiscal year 2020 at a 5.5% interest rate and two years of capitalized interest, and (ii) \$345.5 million par amount of revenue bonds in fiscal year 2021 at a 6.0% interest rate and two years of capitalized interest. Includes the portion of 2019A Bond debt service expected to be paid from PFCs, and excludes PFC Debt that may be issued during this period (see “CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges”).

MANAGEMENT'S DISCUSSION OF HISTORICAL OPERATING RESULTS

The Authority derives revenues from a wide variety of sources, including landing fees and terminal rentals, commercial parking fees, concession and rental car revenues, cargo tariffs and land rentals. Certain of these revenues are regulated by state or federal law, such as aeronautical revenues derived from landing fees and terminal rentals, PFCs and port tariffs. See "AUTHORITY REVENUES – Airport Properties Revenues" and "AVIATION INDUSTRY CONSIDERATIONS – Federal Law Affecting Rates and Charges" and "– Considerations Regarding Other Sources of Revenue." The Authority is not restricted by law with respect to establishing rates for certain other activities, such as commercial parking rates and rental rates for development properties, but the Authority is subject to general market conditions. Similarly, the Authority's operating expenses are governed, in part, by applicable law, which mandates certain standards applicable to large commercial service airports, such as Logan Airport, including safety and security staffing and capital requirements. For example, following September 11, 2001, the FAA and TSA instituted numerous security measures for all U.S. airports and seaports, including Logan Airport, Hanscom Field, Worcester Regional Airport and the Port of Boston, which increased the Authority's Operating Expenses. These measures include, but are not limited to, increasing the number of security and law enforcement personnel, restricting the parking of vehicles near terminals, prohibiting all unticketed persons beyond security checkpoints and enhancing the search and screening of all passengers and baggage.

Total Revenues according to 1978 Trust Agreement accounting in fiscal year 2018 were \$847.6 million, compared to \$772.4 million in fiscal year 2017, while Operating Expenses increased to \$465.2 million in fiscal year 2018 from \$440.2 million in fiscal year 2017 resulting in Net Revenues of \$382.4 million and \$332.1 million in fiscal years 2018 and 2017, respectively. Logan Airport is the primary source of the Authority's Revenues, Net Revenue and Operating Expenses. For a discussion of the differences between the accounting principles required by the 1978 Trust Agreement and GAAP, see Note 2 to the Financial Statements in APPENDIX B to the Official Statement. Revenues and Net Revenues do not include PFC revenues, which are required under federal law to be applied to certain FAA-authorized capital projects at the Airport and are not pledged for the benefit of holders of the Bonds, or CFC revenues, which are pledged as security for the CFC Revenue Bonds. See "OTHER OBLIGATIONS – CFC Revenue Bonds." Revenues and Net Revenues also do not include Terminal A Remitted Revenues. See "AUTHORITY REVENUES – Airport Properties Revenues – *Terminal A Rental Revenues.*" Operating revenue and expense figures for the Airport Properties and Port Properties do not include certain items, particularly expense items such as payments in lieu of taxes, interest and depreciation and amortization, properly allocable to such properties under GAAP.

The Authority actively manages both its revenues and expenses in order to balance several important goals, including the following: maintaining overall expenses at levels designed to maintain the Authority's standards for safety and security and customer service while maintaining reasonable rates for the users of its facilities, recovering a greater share of the actual costs of each of the Authority's Properties from the users of such Properties, maintaining the Authority's financial flexibility and ability to react to unforeseen events and balancing the mix of revenue sources to reduce reliance on any single source of revenues. Consistent with the profit and loss focus of the Authority's senior management, both of the operating departments, Aviation and Maritime, seek to recover an increasingly greater percentage of the actual operating costs and amortization allocable to each facility. Thus, for example, the Aviation Department has raised rents at and instituted a rates and charges policy for the use of Hanscom Field. The Maritime Department has increased tariffs for services provided to commercial shippers at the Port of Boston, while pursuing new revenue development through increasing uses of Port Properties and marketing programs to increase the volume of containers handled and the number of cruise passengers embarking and disembarking in Boston.

The Authority benchmarks certain key indices against its peers and establishes financial targets based upon such indices in order to evaluate its rates and maintain a competitive position in the various markets served by the Authority. The Authority strives to balance the need to maintain competitive rates with the need to provide a high level of service to its customers. Because the aeronautical rates and charges at Logan Airport are driven by actual costs, the Authority continually reviews and analyzes, and ultimately controls, its operating expenses. Thus, the Authority develops its five-year rolling capital program taking into account the annual capital and operating costs that will result from each project within the program. In an iterative process, the Authority develops a five-year rolling projected operating budget based upon the projected five-year capital program and benchmarks the projected

operating expenses resulting from the proposed projects in order to constrain the capital program in a manner that allows the Authority to meet its financial targets.

Airport Properties

Airport Properties Net Revenues (Airport Properties Revenues less Airport Properties Operating Expenses), increased from fiscal year 2018 to fiscal year 2017 by 13.7%. The number of passengers using Logan Airport in fiscal year 2018 was 5.4% greater than in the prior fiscal year. Landed weights were 5.0% higher than the prior fiscal year. Parking exits were lower in fiscal year 2018 than in the prior fiscal year, with parking revenues 6.8% greater than revenues from fiscal year 2017 due to a \$3.00 per day increase in parking rates commencing July 1, 2017. Logan Airport generated approximately \$695.0 million of Revenues and incurred \$343.0 million of Operating Expenses in fiscal year 2018, compared to \$638.2 million of Revenues and \$328.9 million of Operating Expenses in fiscal year 2017. Operating revenue and expense figures for Logan Airport stated in this paragraph do not include certain items, particularly expense items, such as interest, depreciation and amortization, properly allocable to Logan Airport under GAAP.

Unlike many airport operators, the Authority is not constrained by contractual arrangements with the air carriers serving the Airport governing the incurrence of aeronautical costs and the recovery of such costs in the landing fee and terminal rentals. Instead, landing fees and terminal rentals are set annually by the Authority on a compensatory basis to cover direct and allocated capital, administrative, maintenance and operating costs. The Authority can also make adjustments during the year to the landing fee and to terminal rental rates, if necessary. Accordingly, each October, the Authority establishes the landing fee for the Airport per thousand pounds of landed weight and the rental rates for the terminals, based upon historic capital costs, projected landed weights and the budgeted direct and allocable indirect operating costs of providing these facilities for that fiscal year. The Authority consults with Logan Airport's airline users prior to rate-setting, but the Authority historically has not entered into use agreements or terminal leases which constrain the exercise of the Authority's rate-setting prerogatives. The Authority has no agreements that require it to obtain "majority-in-interest" approvals from airlines for its operating or capital expenditures.

Landing Fees. Landing fee revenues at the Airport increased from \$113.2 million in fiscal year 2017 to \$119.2 million in fiscal year 2018. During this period, the landing fee rate per thousand pounds of landed weight decreased from \$4.64 to \$4.60. Under current policy, any variance between the landing fees collected and the actual costs of operating the airfield during a fiscal year is calculated after the fiscal year ends, and the adjustment is either invoiced to (in the case of a shortfall) or paid to (in the case of a surplus) the air carriers and other aeronautical users. Landed weights at Logan Airport increased from approximately 24,040,957 thousand pounds in fiscal year 2017 to 25,249,192 thousand pounds in fiscal year 2018. A general shift to larger aircraft types as airlines upgraded their fleets and several new long-haul international services collectively contributed to the increase in landed weights.

Pursuant to the Authority's Peak Period Surcharge Regulation, the Authority monitors projected aviation activity at Logan Airport. If as a result of such monitoring, the Authority projects that the total number of aircraft operations scheduled for the Airport will exceed the total number of operations that can be accommodated without incurring unacceptable levels of delay under visual flight rule conditions, then the Authority will provide advance notice of such over-scheduling to the aircraft operators at the Airport. In the event that the aircraft operators at the Airport do not adjust their flight schedules, then the Authority may declare a "Peak Period" during the period of over-scheduling and impose a surcharge, currently set at \$150 for each operation during such Peak Period, subject to certain exemptions. Any surcharge amounts collected are credited to the airfield cost center. However, in accordance with applicable federal law, the Peak Period Surcharge Regulation is intended to be revenue neutral. Accordingly, the Peak Period Surcharge Regulation is not expected to have any material financial effect on the Authority's Revenues or Net Revenues. The Peak Period Surcharge Regulation was adopted in accordance with requirements of the Massachusetts Environmental Protection Act certificate and the FAA's Record of Decision regarding Runway 14/32, and the final decision in *Massport v. City of Boston, et al.* Based upon the current level of operations at the Airport, there is no Peak Period currently in effect. The Authority expects to continue to seek opportunities to maximize the utilization of existing capacity.

Terminal Rentals. Each fiscal year, the Authority establishes terminal building rental rates and fees for all of the Terminals on a compensatory basis. All leases with air carriers for terminal space at the Airport currently provide that the Authority may revise rental rates periodically, at the discretion of the Authority, to recover the actual direct and indirect capital and operating costs for such leased space. The Authority resets these rates each fiscal year to recover its actual capital and budgeted operating costs. Similar to its policy regarding landing fees (described above), the Authority calculates the variance from the projections after the fiscal year ends, and the adjustment is invoiced to (in the case of a shortfall) or paid to (in the case of a surplus) the air carriers. The Authority's practice, however, is that the Authority does not recover through its terminal rentals the costs allocable to unrented space. The Authority can also make adjustments during the year to the rates charged to air carriers for terminal usage.

As described under "AIRPORT PROPERTIES – Airport Facilities – Lease Arrangements for Terminal Facilities," the Authority currently leases 80 of its 97 contact gates to various carriers serving the Airport. See the inside back cover of this Official Statement for a map of the Airport's terminal facilities. Rental revenue from Terminals (excluding the Terminal A Remitted Revenues) totaled \$161.8 million in fiscal year 2017 and \$180.3 million in fiscal year 2018. Rental income from non-terminal buildings and ground rents other than Terminals totaled \$49.6 million in fiscal year 2017 and \$52.9 million in fiscal year 2018. See "AUTHORITY REVENUES – Airport Properties Revenues – Terminal A Rental Revenues."

Parking Fees. Airport parking revenues increased from \$168.9 million in fiscal year 2017 to \$180.3 million in fiscal year 2018 due to a \$3.00 per day increase in parking rates commencing July 1, 2017. Additional rate increases of \$3.00 per day commencing July 1, 2019 and July 1, 2021 have been approved by the Board for all on-Airport parking lots, including the Economy Parking Garage. Parking fees are generated according to parking rates set by the Authority. The Authority does not share parking fees with the carriers as an offset to either landing fees or terminal rents; rather, the Authority retains the business risk and the return of this cost center. The number of commercial parking spaces at the Airport is subject to the SIP Parking Limitation. See "AIRPORT PROPERTIES – Airport Facilities – Parking Facilities."

Concessions. Revenues from concessions increased from \$98.1 million in fiscal year 2017 to \$113.6 million in fiscal year 2018, primarily due to higher passenger volume coupled with a new concessions management agreement with MarketPlace Logan LLC ("*MarketPlace Logan*") that went into effect in fiscal year 2018. This agreement is providing new restaurant and retail offerings for Logan Airport customers while also allowing the Authority to participate in a larger share of the revenue versus prior management agreements. Concession revenues include payments made by rental car companies that operate at the Airport and commissions from the following concessions: food and beverage, news and gifts, duty free shops, other specialty shops, ground transportation and other concessions. Ground transportation services include taxis, TNCs and buses and limousines. Revenues from ground transportation services increased from \$11.5 million in fiscal year 2017 to \$15.4 million in fiscal year 2018, as fiscal year 2018 was the first full year the Authority collected TNC revenues.

Hanscom Field. During fiscal year 2018, Revenues from operations at Hanscom Field represented approximately 1.7% of the total Revenues of the Authority, and Hanscom's Operating Expenses constituted approximately 3.1% of the Authority's Operating Expenses. In fiscal year 2018, Hanscom Field contributed \$14.3 million of Revenue, with Operating Expenses of \$14.5 million, yielding an operating deficit before debt service or other capital expenses of approximately \$236,000. In fiscal year 2017, Hanscom Field generated an operating surplus before debt service or other capital expenses of approximately \$309,000. The primary driver for the increase in operating expenses is for property repairs related to flooding from a July 13, 2017 rain storm; most of this expense is expected to be recovered through an insurance claim. See "AIRPORT PROPERTIES – Hanscom Field."

Worcester Regional Airport. In fiscal year 2018, Revenues from operations at Worcester Regional Airport represented less than 1% of the total Revenues of the Authority and Worcester's Operating Expenses constituted approximately 2.3% of the Authority's Operating Expenses and represented an operating loss of approximately \$8.9 million before debt service and other capital expenses. In fiscal year 2017, Worcester Regional Airport generated an operating loss of approximately \$8.0 million before debt service and other capital expenses. Worcester Airport had \$1.8 million in operating revenues in fiscal year 2018, an increase of \$166,000 compared to the prior year.

Port Properties

Maritime Operations includes container activity, cruise passenger activity and automobile import/export activity. Maritime Real Estate includes commercial real estate development and asset management, maritime real estate development and asset management. Project types and assets include office, hotel, residential, retail, seafood, warehouse and parking. With the exception of the Boston Fish Pier, these projects are developed and operated by private third-party entities that have entered into ground leases with the Authority. The department also negotiates numerous license agreements for shorter term and temporary uses of Authority property. Since fiscal year 2006, the Authority has experienced annual Port Properties operating surpluses.

In fiscal year 2018, the Revenue attributable to the Port Properties totaled approximately \$124.3 million, or approximately 14.7% of the Revenues of the Authority, and the Port Properties accounted for approximately \$97.1 million of Operating Expenses, or approximately 20.9% of the Authority's Operating Expenses. In fiscal year 2018, the Port Properties realized a surplus of \$27.2 million in Net Revenues, following a surplus of \$22.6 million in fiscal year 2017. The Net Revenue from Maritime Operations, which includes the auto, container, cruise and seafood business lines, was a surplus of \$18.1 million for fiscal year 2018, while the Net Revenue from Maritime Real Estate was a surplus of \$9.1 million in fiscal year 2018. Revenues from Maritime Real Estate include a one-time \$4.5 million closing payment from the developer of Parcel K in South Boston. Revenues from Maritime Real Estate for the four months ending October 31, 2018 include (i) a one-time \$14.7 million payment related to the sale of the ground lease for Parcel F1 (John Hancock Building) in South Boston and (ii) a one-time \$0.3 million payment to satisfy certain requirements of the ground lease. Maritime Real Estate operating expenses for the four months ending October 31, 2018 include a one-time \$3.0 million net reimbursement to Millennium Partners for certain upfront costs in connection with the release of their development rights for Parcel 5 of the MMT. Over the period shown, the Authority has pursued a policy of seeking compensatory pricing, aggressively negotiating new lease terms when possible, and revenue development through more intense use of the Port Properties and a marketing program designed to increase the volume of containers handled and the number of cruise passengers who embark or disembark in Boston. In fiscal year 2018, revenue from container operations increased by \$9.0 million or 14.0% as Conley Terminal processed a record 161,130 containers, a 10.7% increase over 145,540 containers processed in fiscal year 2017.

Investment Income. Investment income increased to \$12.3 million in fiscal year 2018 from \$7.9 million in fiscal year 2017, as the Authority had more cash available to invest and was able to take advantage of a higher interest rate environment.

MANAGEMENT'S DISCUSSION OF FORECAST ASSUMPTIONS

The following discussion elaborates on the information contained in the above table entitled "Forecasted Operating Results and Debt Service Coverage Under the 1978 Trust Agreement" and reflects the most current information available to the Authority. The table and ensuing discussion contain pro-forma forecasts for the period covering fiscal year 2019 through fiscal year 2023. This prospective information was prepared by the Authority in accordance with accounting principles required by the 1978 Trust Agreement in order to show projected debt service coverage; such information was not prepared with a view toward compliance with the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of prospective financial information. The forecasts were prepared by the Authority's staff. LeighFisher prepared a review of the Authority's Airport Net Revenues Forecasts in connection with the issuance of the 2019A Bonds. In the opinion of LeighFisher, the assumptions upon which the Authority's forecasts for the Airport Properties are based provide a reasonable basis for such forecasts. See APPENDIX C to the Official Statement, which should be read in its entirety for an understanding of the forecasts for the Airport Properties and the key underlying assumptions therein.

For fiscal year 2019, projections are based on the Authority's unaudited actual results through October 31, 2018 and the forecasted budget for the remaining eight months of fiscal year 2019. Revenues were forecasted to be \$863.1 million for fiscal year 2019 and the forecasted Operating Expenses total \$492.7 million. Through October 31, 2018, operating revenues of \$326.5 million were 12.9% above budget and \$39.2 million above the same time period in fiscal year 2018. Total Revenues of \$332.6 million were \$40.1 million, or 13.7% above budget for the same period. For the same period, Operating Expenses of \$154.7 million were \$4.8 million or 3.0% below budget

for the first four months of fiscal year 2019. Net revenues of \$177.9 million for the first four months of the fiscal year were \$44.9 million or 33.1% greater than budgeted.

The forecasts reflected in the table assume: (a) an increase of operating costs in fiscal year 2019, compared to fiscal year 2018 actual results, of (i) 6.6% for Logan Airport, (ii) 2.6% at the Port Properties, and (iii) 24.3% at Worcester Regional Airport due to the additional ARFF operations assumed by the Authority; (b) a slight decrease in operating costs at Hanscom Field of 1.3% in fiscal year 2019; (c) growth of baseline operating costs at 4.5% on average annually in fiscal years 2019 and thereafter; (d) inflation of capital costs (to the mid-point of construction) at 4.0% annually; (e) investment income (other than for investment agreements currently in effect) at a rate of 1.5% in fiscal year 2019, 2.25% in fiscal year 2020, 2.50% in fiscal years 2021 and 2022 and 2.25% in fiscal year 2023; (f) interest rates of 5.5% and 6.0% on the currently planned future Bond issues in fiscal year 2020 and fiscal year 2021, respectively; (g) completion dates for capital projects as currently contained in the FY18-FY22 Capital Program; (h) the addition of staff and contract services in future years, as necessary, to operate new facilities as they are placed in service; (i) the application of approximately \$8.8 million per year of PFCs to pay a portion of the principal of and interest on the 2019A Bonds; and (j) the inclusion of all Terminal A Rental Revenues as Revenues commencing in fiscal year 2020. See “AUTHORITY REVENUES – Airport Properties Revenues – *Terminal A Rental Revenues.*”

Although it is the expectation of the Authority’s management that the Authority will irrevocably commit PFCs annually to pay a portion of the principal of and interest on the 2019A Bonds for the next succeeding fiscal year, there can be no assurance that the Authority will in fact irrevocably commit PFCs in the assumed amounts in each fiscal year to the payment of such debt service. If PFCs are not irrevocably committed to pay such debt service, any debt service that would have been paid with PFCs will instead be paid from Net Revenues. Upon the effective date of the proposed amendments to the 1978 Trust Agreement, if PFCs or other revenues of the Authority that do not constitute Revenues pledged under the 1978 Trust Agreement (collectively, “*Available Funds*”) are pledged or irrevocably committed or are held by a fiduciary and are to be set aside exclusively for the payment of principal of, interest or premium, if any, on specified Bonds pursuant to a resolution of the Authority (and are not otherwise required for payment of another Series of Bonds), then the principal, interest and/or premium to be paid from such Available Funds or from earnings thereon shall be disregarded and not included in calculating debt service coverage requirements under the 1978 Trust Agreement. See the section entitled “SECURITY FOR THE 2019A BONDS – Modifications of the 1978 Trust Agreement” in the Official Statement.

The Authority believes that the forecasts reflected in the table are conservative in nature. For example, the financial forecast assumes that enplaned passengers in fiscal year 2019 will be 5.5% higher than that in fiscal year 2018; actual enplaned passenger growth, however, for the four months ending October 31, 2018 was 7.6% higher than passenger growth for the same period in the prior year. Passenger levels are then forecast to increase 2.0% in fiscal year 2020 and 1.0% in fiscal years 2021, 2022 and 2023. These forecasts do not assume any significant future disruptions to air travel or cessation of service by any air carrier now serving the Airport. This forecast is intended to be conservative to aid in financial planning and can be contrasted with the Authority’s planning forecast and the FAA’s terminal area forecast for Logan Airport. If the forecasted Revenues are not realized in a material way, then the Authority expects that it will not execute all of the projects listed in the FY18-FY22 Capital Program. The Authority’s willingness and ability to reduce capital spending when events so require was demonstrated in its response to the events of September 11, 2001 and in the subsequent adherence to the financial recovery plan put in place thereafter. In addition, forecasted Revenues do not include PFCs or CFCs collected by the Authority. See “CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges” and “ – Customer Facility Charges.”

Airport Properties

Forecasted Revenues from landing fees and terminal rentals at the Airport reflect the periodic revision of such charges at rates designed to recover the net annual cost of providing these Airport facilities. Net annual costs include all operating expenses and amortization of capital costs, less any PFC revenues applied to these projects and any federal grant funds received for these projects. For the five-year period from fiscal year 2019 to fiscal year 2023, landing fee revenues at the Airport are forecasted to increase at an average annual rate of 4.9%. The increases over the forecast period are attributable to the inclusion in the rate base of airfield capital costs, including allocable capital costs from other Airport capital projects and increased operating costs.

Terminal building rental revenues at the Airport from fiscal year 2019 through fiscal year 2023 are projected to increase at an average annual rate of 11.4%, reflecting the additional build out of terminal facilities coming into service and the inclusion of all Terminal A Rental Revenues in the calculation of Revenues, commencing in fiscal year 2020. In fiscal year 2019, terminal building rental revenues at the Airport are forecast to be \$188.3 million, which is 4.4% greater than fiscal year 2018. The increase forecasted for fiscal year 2019 reflects additional allocable capital costs from Airport capital projects and increased operating costs. See “AIRPORT PROPERTIES – Airport Facilities; Lease Arrangements for Terminal Facilities.” Terminal building rentals also include baggage fees calculated to recover the Authority’s cost of operating baggage screening in unleased space and per passenger fees that recover Terminal E costs related to international passengers and unleased, common-use space.

In fiscal year 2019, Revenues from non-terminal and ground rents at the Airport are forecasted to increase approximately 1.5%. The Board has voted to increase Logan Airport parking rates by \$3.00/day in each of fiscal years 2020 and 2022. The Authority is forecasting that the increase in parking rates, offset by a slight decrease in total parking exits in the short term due to the higher rates, will add approximately \$7.4 million in parking revenues, on average, in each of fiscal years 2020 and 2022, which amounts are expected to be used to further fund operating and capital projects. From fiscal year 2019 through fiscal year 2023, concession revenues at the Airport, which include payments made by rental car companies that operate at the Airport and commissions from the following concessions: food and beverage, news and gifts, duty free shops, other specialty shops, ground transportation and other concessions, are forecasted to increase at an average annual rate of 2.0%, reflecting the impact of the new concessions management agreement with Marketplace Logan that went into effect in fiscal year 2018 and provides new restaurant and retail offerings for Logan Airport customers while allowing the Authority to participate in a larger share of the revenue than was the case with prior management agreements. In fiscal year 2019, ground transportation services are forecasted to decrease approximately 1.0% due to the Authority’s conservative budgeting practices, with anticipated increases to TNC revenues nearly offsetting anticipated bus and limo revenue declines. See APPENDIX C – Review of Airport Properties Net Revenues Forecasts under the heading “Key Factors Affecting the Net Revenues Forecast – Airport Property Revenues – Concessions.”

From fiscal year 2019 through fiscal year 2023, Revenues at Hanscom Field are forecasted to increase at an average annual rate of 2.5%, while expenses are forecasted to increase at an average annual rate of 3.6% from fiscal year 2019 through fiscal year 2023. Revenues at Worcester Regional Airport are forecasted to increase by 16.8% in fiscal year 2019, increase by 27.6% in fiscal year 2020, and then increase 3.1% thereafter. These increases in fiscal years 2019 and 2020 reflect anticipated additional service from Worcester Regional Airport to the cities of Philadelphia and Detroit. See “AIRPORT PROPERTIES – Worcester Regional Airport.” Worcester Regional Airport operating expenses are forecasted to increase 24.3% in fiscal year 2019 due to the additional ARFF operations assumed by the Authority and then increase 3.4% thereafter. Assuming a combination of low inflation and limited programmatic growth thereafter, Operating Expenses of the Airport Properties are forecasted to increase at an average annual rate of 4.3% from fiscal year 2019 through fiscal year 2023.

Forecasted Revenues and Operating Expenses of the Airport are based in part on assumptions regarding future levels of total passengers. The financial forecast assumes that enplaned passengers in fiscal year 2019 will be 5.5% higher than that in fiscal year 2018 (based on actual Airport enplaned passenger growth of 7.7% for the first four months of the fiscal year (through October 2018), and then estimates 2.0% growth in fiscal year 2020 and 1.0% growth per year in 2021, 2022 and 2023. Such estimates reflect the Authority’s preference for using conservative estimates in its financial planning.

The following table shows forecast total enplaned passengers and total passengers at the Airport from fiscal year 2019 through fiscal year 2023, as well as forecast revenue per enplaned passenger, debt per enplaned passenger and airline cost per enplaned passenger, for the same period.

Logan Airport – Growth Forecast					
(000s)					
	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY2022</u>	<u>FY2023</u>
Enplaned Passengers	20,716	21,131	21,342	21,555	21,771
Total Passengers ¹	41,561	42,392	42,816	43,244	43,676
<i>Percentage Change</i>	--	2.0%	1.0%	1.0%	1.0%
Revenue Per Enplaned Passenger ³	\$33.66	\$34.71	\$35.55	\$38.35	\$39.43
Debt Per Enplaned Passenger ²	\$81.01	\$102.66	\$114.95	\$110.89	\$123.95
Airline Cost Per Enplaned Passenger ³	\$14.68	\$16.07	\$16.66	\$18.91	\$19.77

¹ Excludes general aviation.

² Calculation based upon outstanding principal amount of Bonds. Includes the 2019A Bonds. Includes the expected issuance of \$890.1 million aggregate par amount of 2019B Bonds (in the Summer of 2019) and 2020 Bonds (in the Summer of 2020). Includes the portion of 2019A Bond debt service expected to be paid from PFCs; excludes PFC Debt that may be issued during this period (see “CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges”).

³ Reflects actual data for the four months ended October 31, 2018, and budgeted data for the remaining eight months of fiscal year 2019.

The Authority has assumed that it will receive approximately \$50.3 million of federal TSA, AIP entitlement, noise and other discretionary grant reimbursements during the period from fiscal year 2018 through fiscal year 2022. If these funds are not received, projected landing fees and/or checked bag fees could increase over the coming years. There can be no assurance that such AIP or TSA grant funds will be available in the amounts or at the times projected. See “AVIATION INDUSTRY CONSIDERATIONS – Considerations Regarding Other Sources of Revenue; Federal Grants-in-Aid” and “– Considerations Regarding Other Sources of Revenue; FAA Reauthorization and Level of Federal Airport Grant Funding.”

Review of Airport Properties Net Revenues Forecasts by Consultants

LeighFisher prepared a review of the Authority’s Airport Properties Net Revenue Forecasts in connection with the issuance of the 2019A Bonds, which is included as APPENDIX C to the Official Statement. The review should be read in its entirety for a fuller understanding of the forecasts for the Airport Properties and the key underlying assumptions therein. In the opinion of LeighFisher, the assumptions upon which the Authority’s forecasts for the Airport Properties are based provide a reasonable basis for the forecasts. As stated in the review, any forecast is subject to uncertainties. Inevitably, some assumptions will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results and those differences may be material.

Port Properties

Maritime Operations Revenues are forecasted to increase 1.5% in fiscal year 2019, and then increase at an average annual rate of 4.5% thereafter through fiscal year 2023, while expenses are projected to decrease 1.9% in fiscal year 2019, and then increase at an average annual rate of 4.8% thereafter through fiscal year 2023. Maritime Operations is expected to have a surplus of \$21.6 million in Net Revenues in fiscal year 2019, primarily due to the increased containers serviced at Conley Terminal. The estimated fiscal year 2019 container volume is expected to be approximately 161,000 containers. Container volumes are forecasted to be 164,000 in fiscal year 2020, and then increase 2.0% in fiscal year 2021, increase by 6.0% in fiscal year 2022 (to reflect anticipated container activity on account of Conley Terminal investments), and then increase by 2.0% in each year thereafter through fiscal year 2023.

Revenues from Maritime Real Estate are forecasted to increase 39.7% in fiscal year 2019, largely due to a one-time \$14.7 million payment related to the sale of the ground lease for Parcel F1 (John Hancock building) in South Boston and a related one-time \$0.3 million payment to satisfy certain requirements of the ground lease. Excluding these one-time payments, revenues are forecast to grow at an average annual rate of 11.2% from fiscal year 2020 through fiscal year 2023, reflecting the development of certain South Boston parcels. Revenue forecasts are not included for projects currently without signed leases. See “PORT PROPERTIES – Maritime Properties.” Maritime Real Estate Operating Expenses are forecasted to increase 18.6% in fiscal year 2019, largely due to a one-time \$3.0 million net reimbursement to Millennium Partners for certain upfront costs in connection with the release

of their development rights for Parcel 5 of the MMT. Excluding the one-time expenditures, the forecast assumes a 2.1% average annual increase in expenses from fiscal year 2020 through fiscal year 2023.

Investment Income

The Authority's forecasts of investment income assume that existing investments are held until maturity at their respective stated rates of interest and that available cash will be reinvested at an interest rate of 1.5% in fiscal year 2019, 2.25% in fiscal year 2020, 2.50% in fiscal years 2021 and 2022, and 2.25% in fiscal year 2023.

Debt Service and Coverage

The Authority's forecasts include the issuance of additional Bonds in fiscal years 2020 and 2021 to provide adequate capital for the Bond funded projects identified in the FY18-FY22 Capital Program. See "CAPITAL PROGRAM – Funding Sources." In addition to the 2019A Bonds, the Authority plans to issue future bonds to fund a portion of the FY18-FY22 Capital Program, including: (i) \$446.7 million of project costs in fiscal year 2020 (2019-B Bonds), and (ii) \$278.6 million in fiscal year 2021 (2020 Bonds). There can be no assurance, however, that the amount and timing of these Bond issues will be as set forth in the preceding sentence. The 2019-B Bonds and the 2020 Bonds are assumed to include two years of capitalized interest during the construction period and bear interest at rates of 5.5% and 6.0%, respectively. The future bond issues are assumed to include bond proceeds to fully fund the Reserve Account to an amount equal to the Reserve Account requirement. See "SECURITY FOR THE 2019A BONDS – Reserve Accounts" in the Official Statement. The Authority does not project that this amount of additional debt will have an adverse impact on its ability to comply with the coverage requirements of the 1978 Trust Agreement.

Forecasted coverage for the Authority's forecasted annual debt service is set forth in the table on page A-52. There can be no assurance, however, that these coverage levels will be achieved. The coverage levels presented do not include PFC or CFC revenues or any debt service for debt payable from PFCs or CFCs, such as the PFC Debt that may be issued during the forecast period (see "CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges"). The coverage levels presented include the portion of the 2019A Bonds debt service expected to be paid from PFCs (see "CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges"). For a discussion of the requirements relating to issuance of additional Bonds, see the sections entitled "SECURITY FOR THE 2019A BONDS – Additional Bonds" and "SECURITY FOR THE 2019A BONDS – Modifications to the 1978 Trust Agreement" in the Official Statement.

The Authority expects that the non-Bond funded projects of the FY18-FY22 Capital Program will be financed from the expenditure of proceeds from commercial paper, the application of PFCs on a pay-as-you-go basis, the application of CFCs, private sources of capital, federal and other grants and cash flow from operations. The Authority's capital program is designed to be modular, and the Authority expects to undertake projects only after sufficient funding has been secured.

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DEBT SERVICE REQUIREMENTS UNDER THE 1978 TRUST AGREEMENT

The following table sets forth debt service on the Authority's outstanding Bonds⁽¹⁾ and the 2019A Bonds for each fiscal year in which such Bonds will be outstanding (rounded to the nearest dollar). Column totals may not add due to rounding.

Year Ending <u>July 1</u>	Other Outstanding Fixed Rate Bonds <u>Debt Service⁽²⁾⁽⁵⁾</u>	2019A Bonds <u>Debt Service⁽³⁾</u>		Total Debt <u>Service⁽⁴⁾</u>
		<u>Principal</u>	<u>Interest</u>	
2019	\$109,499,475	\$3,310,000	\$6,016,723	\$118,826,198
2020	110,094,995	8,735,000	15,596,500	134,426,495
2021	112,809,599	9,170,000	15,159,750	137,139,349
2022	113,127,208	9,630,000	14,701,250	137,458,458
2023	111,002,698	10,110,000	14,219,750	135,332,448
2024	107,633,208	10,615,000	13,714,250	131,962,458
2025	107,884,800	11,145,000	13,183,500	132,213,300
2026	108,096,706	11,705,000	12,626,250	132,427,956
2027	108,278,315	12,290,000	12,041,000	132,609,315
2028	97,349,963	12,905,000	11,426,500	121,681,463
2029	87,791,573	13,545,000	10,781,250	112,117,823
2030	80,263,438	14,225,000	10,104,000	104,592,438
2031	80,373,075	14,935,000	9,392,750	104,700,825
2032	80,418,575	15,685,000	8,646,000	104,749,575
2033	80,456,575	16,465,000	7,861,750	104,783,325
2034	67,661,575	17,290,000	7,038,500	91,990,075
2035	67,669,075	18,155,000	6,174,000	91,998,075
2036	56,312,600	19,060,000	5,266,250	80,638,850
2037	56,382,525	20,015,000	4,313,250	80,710,775
2038	53,730,600	21,015,000	3,312,500	78,058,100
2039	52,083,600	22,065,000	2,261,750	76,410,350
2040	52,078,525	23,170,000	1,158,500	76,407,025
2041	66,503,150	--	--	66,503,150
2042	66,502,650	--	--	66,502,650
2043	58,841,400	--	--	58,841,400
2044	58,840,900	--	--	58,840,900
2045	52,568,850	--	--	52,568,850
2046	40,851,900	--	--	40,851,900
2047	<u>6,158,250</u>	<u>--</u>	<u>--</u>	<u>6,158,250</u>
	<u>\$2,251,265,799</u>	<u>\$315,240,000</u>	<u>\$204,995,973</u>	<u>\$2,771,501,773</u>

⁽¹⁾ Does not include commercial paper or debt service on obligations of the Authority not secured on a parity with the Bonds under the 1978 Trust Agreement, such as subordinated indebtedness, CFC Revenue Bonds (defined herein) and special facilities revenue bonds. For a description of such other obligations, see "OTHER OBLIGATIONS." Excludes PFC Debt that may be issued during this period (see "CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges").

⁽²⁾ The figures shown in this column combine Bond Debt Service for the outstanding 2008-C Bonds, 2010 Bonds, 2012 Bonds, 2014 Bonds, 2015 Bonds, 2016 Bonds and 2017 Bonds.

⁽³⁾ Includes portion of 2019A Bond debt service expected to be paid from PFCs (see "CAPITAL PROGRAM – Funding Sources – Passenger Facility Charges").

⁽⁴⁾ Totals may not add due to rounding.

⁽⁵⁾ Amounts shown are net of capitalized interest.

OTHER OBLIGATIONS

The following describes the indebtedness and obligations of the Authority that are not secured under the 1978 Trust Agreement or that are secured on a subordinated basis. See APPENDIX B to the Official Statement – Financial Statements of the Authority for further information.

PFC Revenue Bonds

At various times since 1999, the Authority has issued revenue bonds (the “*PFC Revenue Bonds*”) pursuant to a PFC Trust Agreement dated as of May 6, 1999, as amended and supplemented (the “*PFC Trust Agreement*”), by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as trustee (the “*PFC Trustee*”), which PFC Revenue Bonds were secured by the PFCs imposed by the Authority at the Airport. Such PFC Revenue Bonds were not secured by the Revenues that secure the Bonds or the CFC Pledged Receipts (as defined in the CFC Trust Agreement described below) that secure the CFC Revenue Bonds, and PFCs are not included in such Revenues or CFC Pledged Receipts.

There are currently no PFC Revenue Bonds outstanding.

CFC Revenue Bonds

In June 2011, the Authority issued its Special Facilities Revenue Bonds (ConRAC Project), Series 2011A and 2011B (collectively, the “*2011 CFC Revenue Bonds*”) pursuant to a CFC Trust Agreement dated as of May 18, 2011 (the “*CFC Trust Agreement*”), by and between the Authority and U.S. Bank National Association, as trustee (the “*CFC Trustee*”). The proceeds of the 2011 CFC Revenue Bonds were used to finance the construction of the RCC.

The 2011 CFC Revenue Bonds and any additional bonds that may be issued under the CFC Trust Agreement on a parity with the 2011 CFC Revenue Bonds (collectively, the “*CFC Revenue Bonds*”) are secured by the CFC Pledged Receipts (as defined in the CFC Trust Agreement). The CFC Revenue Bonds are not secured by the Revenues that secure the Bonds or PFCs, and CFCs are not included in such Revenues or PFC revenues.

As of July 2, 2018, the 2011 CFC Revenue Bonds in an aggregate principal amount of \$190.8 million are the only CFC Revenue Bonds outstanding under the CFC Trust Agreement.

Special Facilities Revenue Bonds

The Authority has issued, and may in the future issue additional, special facilities revenue bonds to finance various capital projects on a non-recourse basis. The principal of and interest on the special facilities revenue bonds issued by the Authority are special obligations of the Authority, payable solely from the sources provided; none of such special facilities bonds are secured by the Revenues of the Authority. Each special facility revenue bond issue is secured differently and under a separate trust agreement.

As of July 2, 2018, the Authority has approximately \$461.8 million of special facilities revenue bonds outstanding, as follows:

1. \$83.8 million Special Facilities Revenue Bonds (BOSFUEL Project), Series 2007 (the “*BOSFUEL Bonds*”); and
2. \$378.0 million Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001A, 2001B and 2001C (the Terminal A Bonds).

The Authority is under no obligation to assume the liability for the special facilities revenue bonds listed above or to direct revenue, other than Terminal A Remitted Revenues, which are pledged to pay debt service on the Terminal A Bonds. See “AUTHORITY REVENUES – Airport Properties Revenues – *Terminal A Rental Revenues*.” The Terminal A Bonds are expected to be refunded and defeased in their entirety with proceeds of the 2019A Bonds and other funds of the Authority. See “PLAN OF FINANCE” in the Official Statement.

Subordinated Indebtedness

The Authority has issued, and may in the future issue additional, subordinated indebtedness to finance various capital projects, the principal of and interest on which is payable solely from funds on deposit in the Improvement and Extension Fund in a separate account not subject to the pledge of the 1978 Trust Agreement or the CFC Trust Agreement.

As of July 2, 2018, the Authority had \$74.0 million aggregate principal amount of subordinated indebtedness outstanding, consisting of its Subordinated Revenue Bonds, Series 2000-A, 2000-B and 2000-C (the “*Series 2000 Subordinated Obligations*”), and its Subordinated Revenue Bonds, Series 2001-A, 2001-B and 2001-C (the “*Series 2001 Subordinated Obligations*”), both of which were issued to finance the acquisition of the ParkEX facility. Funds on deposit in the separate accounts of the Improvement and Extension Fund held for the benefit of the Series 2000 Subordinated Obligations and the Series 2001 Subordinated Obligations are currently invested in two guaranteed investment contracts, which at their respective maturity dates are expected to provide for the \$74.0 million aggregate principal payments of the Series 2000 Subordinated Obligations and the Series 2001 Subordinated Obligations at their respective maturities on December 31, 2030 and January 1, 2031.

On November 20, 2018, the Authority issued its Subordinated Obligations, Series 2018-A (AMT) (the “*Series 2018 Subordinated Obligations*,” and together with the Series 2000 Subordinated Obligations and the Series 2001 Subordinated Obligations, the “*Subordinated Indebtedness*”), in the aggregate principal amount of up to \$107.5 million, to provide bridge financing for the Commonwealth’s portion of the costs of the design and construction of Berth 10 at Conley Terminal. See “PORT PROPERTIES – Maritime Properties – Conley Terminal,” “CAPITAL PROGRAM – Authority Funded Capital Projects – Maritime Improvements” and “CAPITAL PROGRAM – Funding Sources – Commonwealth Funds.” The Series 2018 Subordinated Obligations were sold in a private placement transaction to a bank lender, bear a variable rate of interest and mature on July 1, 2028. The Series 2018 Subordinated Obligations are subject to mandatory tender on July 1, 2023 (the “*Tender Date*”). If not repaid in full on the Tender Date, the remaining outstanding principal amount of the Series 2018 Subordinated Obligations must be repaid over a three year term in equal semi-annual principal installments, plus interest. Although the Authority expects to repay the principal of the Series 2018 Subordinated Obligations in full on or before July 1, 2022 from the Commonwealth’s payments under the Conley Terminal MOU, the Series 2018 Subordinated Obligations are secured by the moneys on deposit in the Improvement and Extension Fund available for such purpose and by a pledge of the Authority’s Revenues, subordinate to the pledge securing the Bonds, including the 2019A Bonds. In the event that the Commonwealth’s payments under the Conley Terminal MOU are delayed or not made, and the Authority reaches agreement with the purchaser on or before the Tender Date, the Series 2018 Subordinated Obligations are also subject to sinking fund payments of the principal thereof on each July 1, commencing July 1, 2023 through July 1, 2028.

The Authority has not agreed to any additional covenants for the benefit of the bank lender in connection with the Series 2018 Subordinated Obligations that are not contained in the 1978 Trust Agreement.

The Subordinated Indebtedness is subordinate to the 2019A Bonds and all other outstanding Bonds issued under the 1978 Trust Agreement.

Commercial Paper

On May 15, 2012, the Authority renewed its commercial paper program in an aggregate principal amount not to exceed \$100.0 million and entered into a three-year Letter of Credit and Reimbursement Agreement with TD Bank, N.A. (“*TDBank*”), to provide security for the commercial paper program. On March 4, 2014, the Authority amended the commercial paper program increasing the aggregate principal amount to up to \$150.0 million and extending the expiration of the Letter of Credit and Reimbursement Agreement with TD Bank to June 1, 2017. On June 1, 2017, the expiration date of the Letter of Credit and Reimbursement Agreement with TD Bank was extended to June 1, 2022. As of June 30, 2018, the Authority had outstanding \$142.0 million of commercial paper notes. The obligations of the Authority with respect to its commercial paper notes are secured by the Improvement and Extension Fund and the proceeds of Bonds subsequently issued for that purpose. While PFCs are not pledged to secure the Authority’s commercial paper, the Authority currently expects to repay a significant portion of the notes from the PFC Capital Fund.

DEBT ISSUANCE AND DEBT MANAGEMENT POLICY

In February 2010, the Authority initially adopted a Debt Issuance and Debt Management Policy (“*Debt Policy*”). The Debt Policy covers the types of debt that the Authority may issue; the legal, policy and financial limits that govern the issuance of debt; the use of derivatives; debt structuring practices; debt issuance practices; and debt management practices including compliance with tax law requirements, arbitrage regulations, investment of bond proceeds, disclosure and records retention. The policy requires the Members of the Authority to review and consider revisions to the policy every five years. Pursuant to the Debt Policy, projects that are funded with Bond proceeds should be central to the Authority’s core mission; debt issuance practices should support the maintenance of the Authority’s long term credit ratings; and Bond-funded projects must be included in the Authority’s five-year capital program. Specific financial metrics, including those listed below, were established for the five-year capital program in support of these objectives.

	Debt Policy Goal
Annual Debt Service Coverage ¹	2.00x
Contribution Margin ²	> or = 30%
Contribution Margin (Logan Airport)	> or = 30%
Operating Ratio ³	< or = 70%

¹ *Debt Service Coverage for the least robust year in the five-year period projections should not be below 1.75x.*

² *Contribution Margin: (operating revenues minus operating expenses and PILOT payments⁴)/total operating revenues.*

³ *Operating Ratio: (operating expense plus PILOT payments)/operating revenues.*

⁴ *Annual PILOT payments for fiscal years 2019 through 2023 are forecast to be \$21.4 million, \$21.8 million, \$22.4 million, \$28.1 million and \$28.9 million, respectively.*

The Members of the Authority most recently reviewed and re-adopted the Debt Policy in June 2018. Currently, the Authority has no outstanding Financial Hedges (as defined under “GENERAL OPERATIONAL FACTORS – Financial Hedge Policy”).

AVIATION INDUSTRY CONSIDERATIONS

General Economic Conditions

Historically, the financial performance of the air transportation industry has correlated with the state of the national and global economy. Following significant and dramatic changes that occurred in the financial markets in September 2008, the U.S. economy experienced a recession followed by weak economic growth. More recently, the significant improvement in economic conditions in the U.S. has contributed to the rebound in aviation activity levels nationwide. It is not known at this time whether the improving national unemployment rate or the current rate of national and global economic growth will persist beyond 2018 and what effect, if any, they will have on the air transportation industry.

Financial Condition of the Airline Industry

The number of passengers using the Airport will depend partly on the profitability of the U.S. airline industry and the associated ability of the industry and individual airlines to make the necessary investments to continue providing service. The airline industry has historically been highly cyclical and is characterized by intense competition, high operating and capital costs, and varying demand. Passenger and cargo volumes are highly sensitive to general and localized economic trends, and passenger traffic varies substantially with seasonal travel patterns. After an exceptional period of volatility in the 2000s, the outlook for U.S. carrier profitability in the near-term is positive, with the U.S. airline industry having posted its seventh consecutive year of profitability in 2017. This comes as U.S. carriers have continued to exercise significant capacity discipline in recent years by eliminating unprofitable routes and redundant services, reducing service at smaller hubs and in less profitable markets, beginning to grow operations strategically, often serving key hubs, and focusing on the use of right-sized aircraft to serve markets. In addition, an increase in fees for ancillary services, such as checked baggage, flight reservation and

cancellation, early boarding, seat selection and food service has also helped to increase revenues. After seven years of profitable operations by the major U.S. airlines, there is cautious optimism that the U.S. airline industry has moved to a cycle of sustainable profits, but the profitability of the airline industry, nonetheless, may still fluctuate dramatically from quarter to quarter and from year to year, even in the absence of catastrophic events such as the terrorist attacks of September 11, 2001 and the economic recession of 2008 and 2009.

Further, because of the discretionary nature of business and personal travel spending, airline passenger traffic and revenues are heavily influenced by a variety of factors, including: (i) the strength of the U.S. economy and other regional and world economies, (ii) the cost and availability of labor, fuel, aircraft and insurance, (iii) international trade, (iv) currency values, (v) competitive or partnership considerations, including the effects of airline ticket pricing, (vi) traffic and airport capacity constraints, (vii) governmental regulation, including security regulations and taxes imposed on airlines and passengers, evolving federal restrictions on travel to the United States from certain countries, and maintenance and environmental requirements, (viii) passenger demand for air travel, including the availability of business travel substitutes such as teleconferencing, videoconferencing and web-casting, (ix) strikes and other union activities, (x) disruptions caused by airline accidents, criminal incidents, acts of war or terrorism, outbreaks of disease and weather and natural disasters and (xi) disruptions caused by government policies or actions, such as a federal government shutdown.

The Review of Airport Properties Net Revenues Forecasts included in APPENDIX C reflects that, historically, airline travel demand has recovered from temporary decreases stemming from recessions, carrier liquidations, terrorist attacks and international hostilities. See APPENDIX C – Review of Airport Properties Net Revenues Forecasts under the heading “Key Factors Affecting the Net Revenues Forecast – Passenger Traffic – The Financial Health of the Airline Industry.” Given the strong origin-destination character of the Airport’s market, the travel intensity of Boston area’s key industries and the high per capita income of the region, the Authority’s airport consultant expects that future demand for airline travel at the Airport will depend primarily on economic factors, rather than the financial health of any given air carrier. See APPENDIX C – Review of Airport Properties Net Revenues Forecasts under the heading “Key Factors Affecting the Net Revenues Forecast” for a further discussion of certain factors affecting future airline traffic.

While the Authority believes that it is less vulnerable to the economic condition of individual airlines because of Logan Airport’s high percentage of origin-destination passengers and because no single airline accounts for a majority of enplaned passengers, no assurance can be given as to the financial stability or profitability of the airline industry or of any airline in particular. The Authority makes no representation with respect to the continued viability of any of the carriers serving the Airport, airline service patterns, or the impact of any Airport revenues. No assurance can be given that airlines serving the Airport will not eliminate or reduce service.

Airline Consolidation

In 2005, ten major airlines were flying inside the United States (AirTran, Alaska, American, America West, Continental, Delta, Northwest, Southwest, United and US Airways) and accounted for 87.0% of all available seats. Faced with declining profitability due to increased costs of aviation fuel, lower fares brought on by the proliferation of low cost carriers (as described below), reduced growth potential in the domestic markets and declining passenger activity based on security concerns, the airlines pursued consolidation. As a result of these consolidations, today there are four major airlines flying inside the United States (American, Delta, Southwest and United) that account for approximately 80% of domestic capacity (available seats). Most recently, in December 2016, Alaska acquired Virgin America, and a single operating certificate was issued in 2018. Such consolidation, combined with a focus on driving profitability via capacity discipline and unbundling of services and resulting increased fee income, has increased airline profitability. Airline analysts expect the consolidated entities will continue to remain profitable in the near-term with a continued focus on return on invested capital through capacity discipline.

Further airline consolidation remains possible. Depending on which airlines serving the Airport, if any, merge or join alliances, the result may be fewer flights or decreases in gate utilization by one or more airlines. Such decreases could result in reduced Airport revenues, reduced PFC collections and increased costs for the airlines serving the Airport. The Authority believes that the Airport is at a relatively low risk of losing passenger traffic due to further mergers, consolidations or liquidations, beyond some short-term disruption, because of the underlying strengths of the Boston market.

Growth of Low Cost Carriers

Low cost carriers (“LCCs”) are carriers that take advantage of an operating cost structure that is typically significantly lower than the cost structure of the network carriers and an increased reliance on fee revenues. These advantages can include lower labor costs, greater labor flexibility, a streamlined aircraft fleet (i.e., fewer different types of aircraft in a given airline’s fleet) and a generally more efficient operation. These low costs suggest that the LCCs can offer a lower fare structure to the traveling public than network carriers while still maintaining profitability. Further, increased access to major markets for LCCs may moderate average airfare increases that can typically result from airline consolidation. In calendar year 2017, LCCs provided approximately 29% of the airline seat capacity in the U.S. market.

As the larger U.S. carriers consolidated and became more focused on capacity discipline, fare increases took hold. LCCs began to emerge in larger markets where passenger levels were high enough for the LCCs to overcome certain barriers to entry caused by the larger carriers such as, for example, control of the majority of airport gates and slots. The cost structure of LCCs allows for lower fares, which has stimulated traffic and driven LCCs into more and larger markets. One result of the consolidation of carriers and their capacity discipline and the associated fare increases is that certain price-sensitive travelers are flying less. Recently, these budget conscious flyers have emerged as an underserved segment which has helped to expand the LCC market to include the ultra-low cost carriers (“ULCCs”), such as Allegiant, Frontier and Spirit. The ULCC business model is characterized by extreme unbundling of services; the purchase of a ticket on a ULCC covers only the seat. Other amenities such as seat choice, food or drink, checked or carry-on luggage or a paper boarding pass are then available for additional a la carte purchase.

LCCs and ULCCs have significantly increased their service at the Airport. Four domestic LCCs and ULCCs currently operate at the Airport—JetBlue, Southwest, Spirit Airlines and Sun Country. These airlines collectively lease (either directly from the Authority or through sublease arrangements with other carriers) 31 gates at the Airport. As mentioned under “AIRPORT PROPERTIES – Boston-Logan International Airport – Airline Passenger Services” herein, JetBlue has grown to become the largest carrier at the Airport with a market share of 27.9% in fiscal year 2018. In addition to these domestic LCCs, six foreign flag LCCs—Level, Norwegian (includes Air Shuttle and UK), Porter, Thomas Cook, WestJet and WOW Air—provide international service to nine destinations. The foreign flag LCCs use the common use gates in Terminal E with the exception of WestJet, which subleases a gate in Terminal A from Delta. Low cost carriers account for 42.2% of Airport-wide scheduled departing seats in fiscal year 2018.

To some extent, the distinction between LCCs and the major network airlines has blurred in recent years. As the LCCs have started to serve airports in major metropolitan areas (such as JetBlue at Logan, New York-JFK and New York-LaGuardia and Southwest at Logan and New York-LaGuardia) in an effort to capture business travelers, and some LCCs have faced increases in labor costs (e.g., the JetBlue pilots unionized in April 2014), the cost base of the traditional LCC has trended upwards. In calendar year 2017, Southwest had an average unit cost of 11.5 cents, which was the same as that of network carrier Hawaiian Airlines and just below that of Alaska (at 12.1 cents). At the same time, the major network carriers have been adopting some of the practices and operational norms of the LCCs, resulting in a general downtrend for major network airline costs. As a result, the fare differential between LCCs and network carriers has narrowed in recent years.

Structural Changes in the Travel Market

Many factors have combined to alter consumer travel patterns. The threat of terrorism against the United States remains high. As a result, the federal government has mandated various security measures that have resulted in new security taxes and fees and longer passenger processing and wait times at airports. Both add to the costs of air travel and make air travel less attractive to consumers relative to ground transportation, especially to short-haul destinations. Additionally, consumers have become more price sensitive. Efforts of airlines to stimulate traffic by heavily discounting fares have changed consumer expectations regarding airfares. Consumers have come to expect extraordinarily low fares. In addition, the availability of fully transparent price information on the internet now allows quick and easy comparison shopping, which has changed consumer purchasing habits. Consumers have shifted from purchasing paper tickets from travel agencies or airline ticketing offices to purchasing electronic tickets over the internet. This has made pricing and marketing even more competitive in the U.S. airline industry. Finally,

smaller corporate travel budgets, combined with the higher time costs of travel, have made business customers more amenable to communications substitutes such as teleconferencing and videoconferencing.

Effect of Bankruptcy of Air Carriers

Since 2001, several airlines with operations at the Airport have filed for and have subsequently emerged from bankruptcy protection, including United, Continental, Delta, Northwest, US Airways and, most recently, American Airlines in 2011. Additional bankruptcies, liquidations or major restructurings of other airlines could occur. The Authority's stream of payments from a debtor airline could be interrupted to the extent of unpaid fees for pre-petition goods and services, including accrued rent and landing fees. Under the U.S. Bankruptcy Code, a debtor airline that is a lessee under an unexpired lease with the Authority of non-residential real property, such as a lease of Terminal space or a hangar, is required within certain statutory time periods to assume or reject such lease. Rejection of a lease or other agreement or executory contract would give rise to an unsecured claim of the Authority for damages, the amount of which in the case of a lease or other agreement is limited by the U.S. Bankruptcy Code. The amount ultimately received in the event of a rejection of a lease or other agreement could be considerably less than the maximum amounts allowed under the U.S. Bankruptcy Code. Additionally, during the pendency of a bankruptcy proceeding, a debtor airline may not, absent a court order, make any payments to the Authority on account of goods and services provided prior to the bankruptcy. The Authority actively monitors past due balances to minimize any potential losses due to such proceedings, aggressively pursues overdue amounts and bankruptcy claims, and includes an allowance for uncollectible debts in its landing fee and terminal rental rates. Whether or not an airline agreement is assumed or rejected by a debtor airline in a bankruptcy proceeding, it is not possible to predict the subsequent level of utilization of the gates leased under such agreement.

It is not possible to predict the impact on the Airport of any future bankruptcies, liquidations or major restructurings of other airlines. Because of the Airport's high percentage of origin-destination passengers and because no single airline accounts for a majority of enplaned passengers, however, the Authority believes it is less vulnerable to the economic condition of individual airlines. In addition, the fact that no airline has given up a lease at Logan through decades of bankruptcies, although Delta renegotiated its lease, demonstrates the value airlines place on having a presence at Logan.

Potential investors are urged to review the airlines' financial information on file with the Securities and Exchange Commission (the "SEC") and USDOT. See also "AVIATION INDUSTRY CONSIDERATIONS – Information Concerning the Airlines."

Cost of Aviation Fuel

Airline earnings are significantly affected by changes in the price of aviation fuel. Fuel prices continue to be susceptible to, among other factors, political unrest in various parts of the world (particularly in the oil-producing nations in the Middle East and North Africa), Organization of Petroleum Exporting Countries policy, the rapid growth of economies such as China and India and resulting demand for oil-based fuels, the levels of inventory carried by industries, the amounts of reserves maintained by governments, the amount and availability of new sources of oil (e.g., U.S. "fracking" operations), disruptions to production and refining facilities, and weather.

There has been no shortage of aviation fuel since the "fuel crisis" of 1974, but there have been significant price increases for fuel. From 2000 to 2008, the price of aviation fuel more than tripled. Oil prices reached an all-time record high of approximately \$145 per barrel in July 2008, and while they have declined from this elevated level, they have fluctuated significantly since then. During the second half of calendar year 2014, an imbalance between worldwide supply and demand resulted in a significant drop in the price of oil and aviation fuel. As of December 26, 2018, according to CNBC, the price of Brent crude oil futures was \$53.38 a barrel. According to Form 41 (US DOT), for calendar year 2017 fuel expenses were approximately 15.8% of U.S. passenger airline operating costs. Historically, significant fluctuations and prolonged increases in the cost of aviation fuel have adversely affected air transportation industry profitability, causing airlines to reduce capacity, fleet and personnel, to invest in new, more fuel efficient aircraft and equipment and to increase airfares and institute fuel, checked baggage, and other extra surcharges, all of which may reduce demand for air travel.

Many airlines engage in or have engaged in fuel hedging – purchasing fuel in advance at a fixed price through derivative contracts – to help manage the risk of future increases in fuel costs. However, there can be no assurance that any fuel hedging contract can provide any particular level of protection from volatile fuel prices. One carrier has even gone as far as to purchase its own refinery in order to better manage its fuel costs.

Aviation Security, Health and Safety Concerns

Concerns about the safety of airline travel and the effectiveness of security precautions, particularly in the context of potential international hostilities and terrorist attacks, may influence passenger travel behavior and air travel demand. Travel behavior may be affected by anxieties about the safety of flying and by the inconveniences and delays associated with more stringent security screening procedures, both of which may give rise to the avoidance of air travel generally and the switching from air to surface travel modes.

Security concerns in the aftermath of the terrorist attacks on September 11, 2001 were largely responsible for the steep decline in airline travel nationwide in 2002. Since 2001, government agencies, airlines, and airport operators have upgraded security measures to guard against future terrorist incidents and maintain confidence in the safety of airline travel. These measures include strengthened aircraft cockpit doors, changed flight crew procedures, increased presence of armed sky marshals, federalization of airport security functions under the TSA, more effective dissemination of information about threats, more intensive screening of passengers, baggage and cargo, and deployment of new screening technologies. The airlines and the federal government were primarily responsible for, and bore most of the capital costs associated with, implementing the new security measures. No assurance can be given that these precautions will be successful. Also, the possibility of intensified international hostilities and further terrorist attacks involving or affecting commercial aviation are a continuing concern that may affect future travel behavior and airline passenger demand.

Public health and safety concerns have also affected air travel demand from time to time. In 2003, concerns about the spread of severe acute respiratory syndrome (SARS) led public health agencies to issue advisories against nonessential travel to certain regions of the world. In 2009, while the United States Centers for Disease Control and Prevention (“*CDC*”) and the World Health Organization (“*WHO*”) did not recommend that people avoid domestic or international travel, concerns about the spread of influenza caused by the H1N1 virus reduced international air travel, particularly to and from Mexico and Asia. In 2014, an outbreak of Ebola in West Africa and the discovery of a patient and health care workers infected with Ebola in the United States raised concerns about the spread of communicable disease through air travel. Most recently, in January 2016, the CDC issued a travel alert warning pregnant women to avoid travel to areas where the Zika virus, which has been linked to a type of birth defect called microcephaly, is spreading, a list that currently includes over 90 countries and territories, primarily in Africa, Asia, the Caribbean, Central America, South America and certain Pacific Islands, but also including certain portions of the United States.

Information Concerning the Airlines

Many of the principal domestic airlines serving the Airport, or their respective parent corporations, are subject to the information reporting requirements of the Securities Exchange Act of 1934, as amended, and in accordance therewith file reports and other information with the SEC. Likewise, foreign airlines serving the Airport that have American Depositary Receipts (“*ADRs*”) registered on a U.S. national exchange are subject to the same reporting requirements. Certain information, including financial information, concerning such domestic airlines, or their respective parent corporations, and such foreign airlines is disclosed in certain reports and statements filed with the SEC. Such reports and statements can be inspected and copied at the public reference facilities maintained by the SEC and on its website.

Foreign airlines serving the Airport, or foreign corporations operating airlines serving the Airport (unless such foreign airlines have ADRs registered on a national exchange), are not required to file information with the SEC. Such foreign airlines, or foreign corporations operating airlines, serving the Airport file limited information only with the USDOT.

The Authority does not undertake any responsibility for or make any representation as to the accuracy or completeness of: (i) any reports and statements filed with the SEC or USDOT or (ii) any material contained on the

SEC's website as described in the preceding paragraph, including, but not limited to, updated information on the SEC website or links to other Internet sites accessed through the SEC's website.

Forward-Looking Statements

This Appendix A contains forecasts, projections and estimates that are based on current expectations. In light of the important factors that may materially affect the financial condition of the Authority and the aviation industry generally and other economic and financial matters, the inclusion in this Appendix A of such forecasts, projections and estimates should not be regarded as a representation by the Authority that such forecasts, projections and estimates will occur. Such forecasts, projections and estimates are not intended as representations of fact or guarantees of results.

As discussed in the Review of Revenue Forecasts attached as APPENDIX C, the factors affecting aviation activity at the Airport include: the growth of population and of the economy in the Boston Primary and Secondary Market Service Area, airline service and route networks, the financial health and viability of the airline industry, national and international economic and political conditions, the availability and price of aviation fuel, levels of air fares, the capacity of the national air traffic control system and capacity at the Airport and elsewhere. See APPENDIX C – Review of Airport Properties Net Revenues Forecasts. This report should be read in its entirety for an understanding of all of the assumptions used to prepare the forecasts made therein. No assurances can be given that these or any of the other assumptions contained in the Review of Airport Properties Net Revenues Forecasts will materialize. Inevitably, some assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, the actual results achieved during the forecast period will vary, and the variations may be material. See “MANAGEMENT’S DISCUSSION OF FORECAST ASSUMPTIONS” herein and APPENDIX C – Review of Airport Properties Net Revenues Forecasts attached to the Official Statement relating to the 2019A Bonds.

Federal Law Affecting Airport Rates and Charges

Federal aviation law requires, in general, that airport fees be reasonable and that, subject to the “grandfather provisions” discussed below (see “Considerations Regarding Other Sources of Revenue – Federal Grants-in-Aid”), in order to receive federal grant funding, all airport generated revenues must be expended for the capital or operating costs of the airport, the local airport system, or other local facilities owned or operated by the airport owner that are directly and substantially related to air transportation of passengers or property. Pursuant to the requirements of the Federal Aviation Administration Authorization Act of 1994 (the “1994 Aviation Act”), the USDOT and FAA have promulgated regulations setting forth an expedited hearing process to be followed in determining the reasonableness of airport rates and charges, and have also promulgated a policy statement (the “Rates and Charges Policy”), which sets forth the standards that the USDOT uses in determining the reasonableness of the fees charged to airlines and other aeronautical users.

In 1997, the United States Court of Appeals for the District of Columbia Circuit vacated the Rates and Charges Policy in part, determined that a portion of the Rates and Charges Policy was arbitrary and capricious and remanded it to the USDOT. In 2008, USDOT amended the Rates and Charges Policy to permit “congested airports,” as defined therein, to charge a two part landing fee that includes a per operation charge intended to help reduce congestion and operating delays. Congested airports are also permitted to include certain other costs in their rate base, including the cost of certain construction in progress and costs associated with reliever airports, if owned by the same airport operator. The Airport does not currently qualify as a “congested airport.” The USDOT has not yet proposed any other revisions to the Rates and Charges Policy. If new guidelines are published, the costs that will be permitted to be included in determining an airport’s rate base and the extent to which such future guidelines may limit the Authority’s flexibility in negotiating new airline agreements or in setting rates and charges for use of the Airport’s airfield and non-airfield facilities cannot be determined at this time. Any new FAA guidelines or any standards promulgated by a court in connection with a dispute could limit the amounts and allocation of costs payable by airlines serving the Airport. Until the USDOT promulgates a new policy regarding rates and charges, the guiding principle for determining whether rates and charges established for use of airport assets is the requirement of federal law that such charges be “reasonable.”

The Authority is not aware of any formal dispute involving the Airport over any existing rates and charges, including the rates and charges for fiscal year 2019. The Authority believes that the rates and charges methodology utilized by the Authority and the rates and charges imposed by it upon air carriers, foreign air carriers and other aeronautical users operating at the Airport Properties are reasonable and consistent with applicable law. However, there can be no assurance that a complaint will not be brought against the Authority in the near-term with respect to the fiscal year 2019 rates and charges, or in the future, challenging such methodology and the rates and charges established by the Authority and, if a judgment is rendered against the Authority, there can be no assurance that rates and charges paid by aeronautical users of the Airport will not be reduced. See “AUTHORITY REVENUES – Airport Properties Revenues.”

Considerations Regarding Other Sources of Revenue

Passenger Facility Charges. Under the PFC Act, the FAA may authorize a public agency to impose a PFC of up to \$4.50 on each passenger of an air carrier enplaned at any commercial service airport controlled by the public agency, subject to certain limitations. PFCs are available to airports to finance certain projects that (i) preserve or enhance capacity, safety or security of the national air transportation system, (ii) reduce noise resulting from an airport, or (iii) furnish opportunities for enhanced competition among air carriers. Under certain circumstances, the FAA grants approval to commence collection of PFCs (“impose only” approval) before approval to spend the PFCs on approved projects (“use” approval) is granted. Approval to both collect and spend PFCs is referred to as an “impose and use” approval.

No assurance can be given that PFCs will actually be received in the amount or at the time contemplated by the Authority. The amount of actual PFC revenues will vary depending on actual levels of qualified passenger enplanements at the Airport. In addition, the FAA may terminate the Authority’s ability to impose PFCs, subject to informal and formal procedural safeguards, if the Authority’s PFC revenues are not being used for approved projects in accordance with the FAA’s approval, the PFC Act or the regulations promulgated thereunder or the Authority otherwise violates the PFC Act or regulations. The Authority’s ability to impose a PFC may also be terminated if the Authority violates certain provisions of the Airport Noise and Capacity Act of 1990 and its implementing regulations. Furthermore, no assurance can be given that the Authority’s authority to impose a PFC may not be terminated by Congress or the FAA, or that the PFC program may not be modified or restricted by Congress or the FAA so as to reduce PFC revenues available to the Authority.

Federal Grants-in-Aid. The Airport and Airway Improvement Act of 1982 created the AIP, which is administered by the FAA and funded by the Airport and Airway Trust Fund. This fund is financed by federal aviation user taxes. Grants are available to airport operators in the form of “entitlement” funds and “discretionary” funds. Entitlement funds are apportioned annually based upon enplaned passengers and discretionary funds are available at the discretion of the FAA based upon a national priority system. In addition, pursuant to the PFC Act, an airport’s annual federal entitlement grants are reduced by 50% following the imposition of PFCs of up to \$3.00, and 75% for PFCs in excess of \$3.00.

In fiscal years 2011 through 2015, the Authority was awarded TSA Other Transaction Agreement (OTA) grant funding for the Checked Baggage Inspection System in the amount of \$120.9 million, and through fiscal year 2018, the Authority collected the \$120.9 million for the CBIS and the OTA was closed in August 2017. No assurance can be given that federal grants-in-aid will actually be received in the amount or at the time contemplated by the Authority.

Before federal approval of any AIP grant applications can be given, eligible airports must provide written assurances that they will comply with a variety of specified requirements. One such assurance is the so-called “airport generated revenues” assurance, which provides that all airport generated revenues will be expended for the capital or operating costs of the airport, the local airport system, or other local facilities owned or operated by the applicant that are directly and substantially related to air transportation of passengers or property. The airport generated revenues assurance, however, does not apply where provisions in laws or a covenant in debt obligations predating September 2, 1982 provide that the revenues from any of the airport owner’s or operator’s facilities, including the airport, be used to support the general debt obligations or other facilities of the airport owner or operator (the “grandfather provisions”). The Authority falls within the group of airports for which, under the grandfather provisions, the airport generated revenues assurance does not apply to its combined operations, as in

effect in 1982. Therefore, the Authority is legally permitted to operate all of its Properties on a consolidated financial basis.

The Authority is not aware of any dispute involving the Authority concerning the use of Airport Revenues. The Authority believes that the grandfather provisions apply to its use of Airport Revenues and that the Authority's use of such Revenues is consistent with the applicable laws and regulations.

FAA Reauthorization and Level of Federal Airport Grant Funding. On October 5, 2018, the President signed into law a five-year reauthorization bill for the FAA—the FAA Reauthorization Act of 2018. The 2018 FAA reauthorization retains the federal cap on PFCs at \$4.50 and authorizes \$3.35 billion per year for AIP through federal fiscal year 2023, which is the same funding level as was in place for the preceding five years. The AIP provides federal capital grants to support airport infrastructure through entitlement grants (determined by formulas based on passenger, cargo and general aviation activity levels) and discretionary grants (allocated on the basis of specific set-asides and the national priority ranking system). The Authority is unable to predict the level of AIP funding at this time, since authorization is subject to Congressional appropriation. If there is a reduction in the amount of AIP grants awarded to the Authority for the Airport, it could: (1) increase by a corresponding amount the capital expenditures that the Authority would need to fund from other sources (including operating revenues, and Bond proceeds), (2) extend the timing to complete certain projects, or (3) reduce the scope of individual proposed projects or the overall program, or both. See “CAPITAL PROGRAM – Funding Sources – Federal Grants” for more information regarding federal grant funding received by the Authority.

Cybersecurity

The Authority, like many other large public and private entities, relies on a large and complex technology environment to conduct its operations, and faces multiple cybersecurity threats including, but not limited to, hacking, phishing, viruses, malware, ransomware and other attacks to its computing and other digital networks and systems (collectively, “*Systems Technology*”). As a recipient and provider of personal, private or sensitive information, the Authority may be the target of cybersecurity incidents that could result in adverse consequences to the Authority's Systems Technology, requiring a response action to mitigate the consequences.

Cybersecurity incidents could result from unintentional events, or from deliberate attacks by unauthorized entities or individuals attempting to gain access to the Authority's Systems Technology for the purposes of misappropriating assets or information or causing operational disruption or damage. To mitigate the risk of business operations impact and/or damage by cybersecurity incidents or cyber-attacks, the Authority invests in multiple forms of cybersecurity and operational safeguards.

While the Authority cybersecurity and operational safeguards are periodically tested, no assurance can be given by the Authority that such measures will ensure against other cybersecurity threats and attacks. Cybersecurity breaches could damage the Authority's Systems Technology and cause material disruptions to the Authority's finances or operations. The costs of remedying any such damage or protecting against future attacks could be substantial.

The airlines serving the Airports and other Airport tenants, as well as the FAA and TSA, also face cybersecurity threats that could affect their operations or finances.

Environmental Regulations

The FAA has jurisdiction over certain environmental matters, including soundproofing. Airport noise is a significant federal and local issue, which may require substantial capital investments by the industry and/or airport operators, including the Authority, from time to time to meet applicable standards. The Authority implemented an extensive soundproofing program in 1984, which remains ongoing. As of October 2018, the Authority has invested over \$172.0 million through this program to treat 36 local schools and more than 11,500 dwelling units. See “GENERAL OPERATIONAL FACTORS – Local Impact Considerations.”

The EPA is responsible for regulating air quality and water quality. The potential exists for additional federal regulation that may require capital expenditures or changes in operations at the Authority's facilities. See also "GENERAL OPERATIONAL FACTORS – Environmental and Regulatory Considerations."

Technological Innovations in Ground Transportation

One significant source of non-airline revenues is generated from ground transportation activity, including use of on-Airport parking facilities; trip fees paid by taxis, limousines and TNCs; and rental car transactions by Airport passengers. While passenger levels are increasing, the relative market share of these sources of revenue is shifting. As one example, the popularity of TNCs has increased because of the increasing number of cities where TNCs operate, the convenience of requesting a ride through a mobile application, the ability to pay for this service without providing cash or other payment to the hired driver, and competitive pricing. In accordance with state law, the Authority entered into operating agreements with TNCs Uber USA and Raiser LLC, both part of Uber Technologies, Inc. ("*Uber*"), and Lyft, Inc. ("*Lyft*"), in February 2017. Pursuant to their respective operating agreements, TNCs are now permitted to pick up passengers at the Airport, with a per-pick up fee being paid to the Authority.

In fiscal year 2018 (the first full year of authorized TNC operations at the Airport), TNCs recorded almost 2.5 million pickups. The Authority actively monitors all modes of ground transportation to assess trends, which include potential impacts from TNCs. Based on activity to date, the Authority believes TNCs are impacting three primary ground transportation modes to varying degrees:

- **Taxi/Limo/Livery.** The TNCs have had the most significant impact on similar, commercial for-hire modes such as Taxi/Limo/Livery. Historically, the mode share of Taxi/Limo/Livery represented approximately 35% of total ground access to the Airport. Since the introduction of TNCs to the Airport, the total mode share of similar, commercial for-hire modes has reached 38%, with TNCs accounting for 25% of total mode share.
- **Commercial Parking operation.** TNC activity to date may be adversely impacting the Airport's parking operation, where the Authority has seen a reduction of exits, primarily limited to short-term parking, over the past year that could be attributed to the introduction of TNCs at Logan.
- **Non-commercial pick-up/drop-offs.** This mode is defined as the pick-up and or drop-off of passengers by a family member or friend at Logan Airport. The Authority's tracks this mode of transportation indirectly through its roadway traffic counting system. Over the past year, the Authority has seen a slight reduction in this mode of transportation, which could be attributed to the introduction of TNCs.

Despite these shifts, the Airport's ground transportation revenue has continued to increase in fiscal year 2018 compared to fiscal year 2017.

In addition to TNCs, new technologies (such as autonomous vehicles and connected vehicles) and innovative business strategies in established markets such as commercial ground transportation and car rental may continue to occur and may result in further changes in Airport passengers' choice of ground transportation mode. While the Authority makes every effort to anticipate demand shifts, there may be times when the Authority's expectations differ from actual outcomes. In such event, revenue from one of more ground transportation modes may be lower than expected. The Authority cannot predict with certainty what impact these innovations in ground transportation will have over time on revenues from parking, other ground transportation services or rental cars. The Authority also cannot predict with certainty whether or to what extent it will collect non-airline revenues in connection with such new technologies or innovative business strategies.

GENERAL OPERATIONAL FACTORS

Personnel Considerations

Labor. As of October 31, 2018, the Authority had 1,275 full-time employees. In addition, the Authority had 23 regular part-time and job share employees. There are nine bargaining units, each with separate collective bargaining agreements between the Authority and the eight unions representing these units, which represent a total of 701 of these full-time employees and 12 of these part-time employees. Of these nine collective bargaining agreements, two expired on June 30, 2018, one expired on October 5, 2018, one expires on January 31, 2019, one expires on May 5, 2019 and four expire on June 30, 2019. The Authority is currently in negotiations for the three agreements that expired in calendar year 2018. The Authority anticipates being in negotiations for successor agreements for the other contracts that expire in 2019 between the spring and summer of 2019. In general, upon the expiration of a collective bargaining agreement, the Authority's practice is to continue honoring the terms of such agreement until a new agreement takes effect. The Authority seeks to control its labor costs to the most prudent extent possible and, accordingly, none of its labor agreements provides for an automatic cost-of-living escalator. The Authority considers its relations with its employees and their union representatives to be good.

Massachusetts law prohibits strikes by employees of the Authority. In addition, the Massachusetts Supreme Judicial Court has declared that labor unions negotiating collective bargaining agreements with certain entities, including the Authority, do not have a statutory right to demand "interest arbitration" in the event of an impasse. Therefore, successor collective bargaining agreements cannot be imposed upon the Authority by any outside entity.

Approximately 375 members of the International Longshoremen's Association Locals 799, 800, 805, 1604 and 1066 (the "ILA"), the members of which are not Authority employees, work at Conley Terminal and Flynn Cruiseport Boston on either a full time or casual basis. The Authority, along with various stevedoring companies, shipping lines and terminal operators, constitute the Boston Shipping Association ("BSA"), which is a multi-employer association responsible for the negotiation and administration of collective bargaining agreements with the ILA. Decisions by the BSA on matters concerning negotiations and administration of collective bargaining agreements are binding on member employers. The current collective bargaining agreements between the BSA and the ILA will expire on September 30, 2024.

Certain users of the Authority's facilities that generate a substantial portion of the Authority's Revenues, such as the air carriers, are dependent upon successful management of their own labor relations for continuation of their operations. These matters are beyond the control of the Authority, and significant labor disputes in these areas could have an adverse effect upon the Revenues of the Authority.

Non-Discrimination, Equal Opportunity and Affirmative Action. The Authority does not discriminate against any person, employee or applicant for employment because of the person's membership in any legally protected class, including, but not limited to, that person's race, color, gender, religion, creed, national origin, ancestry, age (40 years and over), sexual orientation, pregnancy, citizenship, gender expression and identity, handicap, disability, genetic information, or veteran status. The Authority does not discriminate against any person, employee, or applicant for employment who is a member of, or applies to perform service in, or has an obligation to perform service in, a uniformed military service of the United States, including the National Guard, on the basis of that membership, application, or obligation. The Authority is committed, in accordance with applicable law, to affirmative action in its hiring of minorities, women, persons with disabilities and veterans in order to attract and retain a diverse workforce.

The Authority is committed to equality of economic opportunity and, in accordance with applicable law, encourages and supports the inclusion of minority-owned business enterprises ("MBEs"), women-owned business enterprises ("WBEs"), disadvantaged business enterprises ("DBEs"), and airport concessions disadvantaged business enterprises ("ACDBEs") in its contracting and procurement opportunities including concessions, construction and design, and goods and services.

The Authority also encourages and supports economic opportunities for the businesses and residents of those neighboring communities (East Boston, South Boston, Charlestown, Chelsea, Winthrop, Revere, Leicester,

Worcester, Lexington, Lincoln, Concord and Bedford) most directly impacted by the operation of the Authority's facilities.

Environmental and Regulatory Considerations

Certain of the activities of the Authority are subject to review, or are otherwise affected, by a variety of environmental protection and other regulatory agencies including those set forth under this section.

Federal Aviation Administration. The FAA is responsible for the inspection and certification of various airfield facilities and procedures. In particular, federal law requires operators of air carrier airports (including the Authority) to hold a current airport certificate granted by the FAA evidencing satisfactory compliance with numerous operational and safety standards. The Authority holds valid Part 139 certificates from the FAA permitting all current operations at the Airport, Hanscom Field and Worcester Regional Airport. The FAA regulates the imposition, collection and use of PFCs and the FAA also administers federal AIP grants, and monitors compliance with numerous grant conditions. In addition, the FAA provides and maintains navigational aids at the Airport, Hanscom Field and Worcester Regional Airport and has exclusive control over airspace management and air traffic. See "AVIATION INDUSTRY CONSIDERATIONS."

Transportation Security Administration. Created in 2001 by the Aviation and Transportation Security Act and part of the Department of Homeland Security, the TSA is responsible for transportation security nationally. In particular, TSA is required to screen all commercial airline passengers and all baggage loaded onto commercial airplanes, and has promulgated regulations regarding both aviation and maritime security applicable to the Authority's facilities.

Federal Maritime Commission. Pursuant to certain provisions of the Shipping Act of 1984, certain of the Authority's rates, charges and terms for marine terminal services must be filed with the Federal Maritime Commission.

Environmental Protection Agency. The EPA is ultimately responsible for administering air and water pollution control regulations, which directly affect operations of the Authority. Pursuant to requirements promulgated by the EPA under the Clean Air Act of 1970 and subsequent amendments thereto, the Authority is subject to the SIP Parking Limitation and certain limitations regarding other activities at the Airport, including heating plant performance standards. See "AIRPORT PROPERTIES – Airport Facilities – Parking Facilities." Under the federal Water Pollution Control Act, the Authority holds permits for certain discharges into Boston Harbor. The Authority and certain of its tenants as co-permittees were issued an individual stormwater permit for the Airport in September 2007, in accordance with the relevant EPA stormwater discharge regulations. The Authority conducts regular outfall water quality monitoring in compliance with its permits and routinely makes filings with the EPA as required. The Authority has in place strategies for compliance with all EPA requirements in this regard.

Massachusetts Executive Office of Environmental Affairs. The Massachusetts Environmental Protection Act requires certain public instrumentalities such as the Authority to determine the effect of their activities on the environment and to use all practicable means to minimize environmental damage. Furthermore, environmental assessment procedures administered by the Executive Office of Environmental Affairs apply to certain of the Authority's projects as well to certain projects, leases or permits authorized by the Authority.

Other Regulatory Matters. Numerous activities of the Authority require approvals of, or are subject to oversight by, state and federal agencies with jurisdiction over historic structures, wetlands, shorelines, harbors and other areas and over contamination and hazardous waste. These agencies include the U.S. Coast Guard, the Commonwealth's Coastal Zone Management Office, the Massachusetts Water Resources Authority, the Department of Environmental Protection, the U.S. Army Corps of Engineers and conservation and historic preservation commissions in the cities and towns in which the Authority's facilities are located. The Authority also is subject to certain statutes and regulations governing public bidding, health and safety, access for the disabled and matters relating to equal opportunity employment.

Local Impact Considerations

The location of the Airport, bounded by residential neighborhoods and mixed residential and commercial areas, as well as wetland and open water habitats, necessitates that Airport development and operations be undertaken with sensitivity to environmental factors. The FAA's implementation of next generation flight procedures and technology has concentrated aircraft noise over a narrower band of properties. This has resulted in increased complaints from communities under these concentrated paths near Logan Airport and at other communities nationwide. To address this issue, the Authority has entered into a Memorandum of Understanding (the "*MOU*") with the FAA. The MOU provides for the establishment of a technical team led by the Massachusetts Institute of Technology to study and offer potential solutions to the aircraft noise concentration issue. This work is underway and expected to be completed in summer 2019.

Logan's location as an urban airport and the impact of aircraft operations on nearby communities has led to the development of noise abatement programs by the Authority consistent with maintaining high quality air service for the New England area. The programs include soundproofing of eligible homes, a computer-based program to monitor overall noise impact, noise abatement ground procedures, noise restrictions on certain runway ends, noise abatement turns on certain departure procedures, late night runway preference and restrictions on flights by certain aircraft types during late-night hours (although the restricted aircraft types are no longer in use), and advocating for single engine taxiing when appropriate. The Authority does not believe these programs have had, or are likely to have, a material effect on Airport Revenues.

A number of noise abatement programs have been instituted at Hanscom Field in order to reduce the impact of aircraft operations on surrounding communities. These programs include a computer-based program to monitor overall noise impact, noise abatement rules and regulations and nighttime fees and operations restrictions, and a 300-foot noise berm constructed adjacent to a residential neighborhood.

Massport Resiliency Program

The Airport's location directly adjacent to Boston Harbor also requires that the Authority carefully review and prepare for future changes in climate and its potential impact on Airport operations. To that end, in 2014, the Authority began the Massport Resiliency Program (the "*MRP*")—one of the first in the nation for airports—to protect the Authority's transportation facilities from flooding hazards caused by extreme storms and rising sea levels as a result of climate change. This comprehensive resiliency program is not only designed to protect the Authority's most important critical facilities, but also enables the Authority to serve the greater community by helping to ensure such facilities remain operational to serve as a resource for relief, transit and communication efforts, as necessary, in the case of a major storm or weather incident. Resiliency is the ability of a system to withstand a major disruption within acceptable degradation parameters, to recover within an acceptable time, and to prioritize projects by considering the likelihood of damage versus hardening costs. The Authority reviews and updates the MRP regularly.

Recent examples of the Authority's resiliency efforts include: creating a flood proofing Design Guide to assist designers, architects and planners engaged in building new or retrofitting existing infrastructure at Authority facilities to ensure such infrastructure is flood proof; developing Flood Operations Plans for the Airport and maritime facilities that detail the steps to help prevent and recover from any flood-related event; sealing and installing flood doors and fencing for electrical infrastructure like substations and transformers to prevent flooding; and establishing temporary flood barriers that can be deployed in the event of a flood-related emergency for the State Police building at Logan Airport, in addition to other locations.

Financial Considerations

Authority Pension Funding. The Massachusetts Port Authority Employees' Retirement System (the "*Plan*") is a single employer plan established on July 18, 1978, effective January 1, 1979, by enactment of Chapter 487 (an amendment to Chapter 32) of the General Laws of the Commonwealth to provide retirement benefits for substantially all employees of the Authority, and incidental benefits for their surviving spouses, beneficiaries and contingent annuitants. The Plan is a contributory defined benefit plan to which the Authority and its employees contribute such amounts as are necessary to provide assets sufficient to meet benefits to be paid to plan participants.

Each year the Authority funds the Plan with an amount equal to the actuarially determined annual contribution using the Frozen Entry Age Actuarial Cost Method. The Plan is administered by the Massachusetts Port Authority Employees' Retirement System Board (the "*Retirement Board*").

As of December 31, 2017, the Authority's actuarial accrued liability ("*AAL*") totaled approximately \$671.4 million, and the actuarial value of Plan assets available for Plan benefits was approximately \$623.4 million. In accordance with GASB 68, as of December 31, 2017, the Authority's total pension liability was approximately \$683.5 million and the Plan's fiduciary net position was approximately \$648.6 million, resulting in a net pension liability of \$34.9 million, as compared to \$88.3 million as of December 31, 2016. The Authority's pension expense in fiscal year 2018 was approximately \$8.8 million, as compared to approximately \$19.7 million for fiscal year 2017. The decrease was primarily due to favorable investment returns. See Note 6 and the Required Supplementary Information to the Financial Statements in APPENDIX B to the Official Statement for additional information regarding the Plan.

Other Post-Retirement Employee Benefits. The Authority extends other post-employment benefits ("*OPEB*") to its employees as provided under the Enabling Act and Chapter 32A of the Massachusetts General Laws. In June 2008, the Authority established an irrevocable trust (an "*OPEB Trust*") to partially fund the projected accrued liability for other post-employment benefits. Prior to the establishment of the OPEB Trust, the Authority funded other post-employment benefits exclusively on a pay-as-you-go basis. As of the January 1, 2018 valuation (the most recent one available), the Authority's AAL for OPEB was approximately \$308.3 million, and the actuarial value of assets held by the OPEB Trust was \$202.7 million or 65.7% of this AAL, resulting in an unfunded AAL of approximately \$105.6 million, as compared to approximately \$142.7 million as of the prior year.

In June 2015, GASB issued Statement No. 75, Accounting and Financial Reporting for Postemployment Benefit Other Than Pensions ("*GASB 75*") which sets forth new standards that modify the accounting and financial reporting of the Authority's OPEB obligations, effective June 30, 2018. The Authority adopted GASB 75 on June 30, 2018. This Statement requires governments, similar to the Authority, that participate in defined benefit OPEB plans to report a net OPEB liability or asset in their statement of net position. The net OPEB liability or asset is the difference between the total OPEB liability (the present value of projected benefit payments) and the assets (mostly investments reported at fair value) set aside in a trust and restricted to paying OPEB benefits to current employees, retirees and their beneficiaries. Additionally, the standard requires immediate recognition of annual service cost and interest on the OPEB liability and immediate recognition of the effect on the net OPEB liability of changes in benefit terms. Other components of OPEB expense will be recognized over a closed period that is determined by the average remaining service period of the plan members (both current and former employees, including retirees). These other components include the effects on the net OPEB liability of (a) changes in the economic and demographic assumptions used to project benefits and (b) differences between those assumptions and actual experience. Lastly, the effects on the net OPEB liability of differences between expected and actual investment returns will be recognized in OPEB expense over a closed five year period.

The Authority's OPEB Funding Policy, which establishes a methodology for funding benefits obligations accruing under the Massport Retiree Benefits Trust, was approved by the Retirement Board in June 2018. It is anticipated that current assets plus future assets from employer contributions and investment application and earnings should be sufficient to fund Massport Retiree Benefits Trust benefits. The OPEB Funding Policy is intended to reflect a reasonable, conservative approach for Authority financing, to the greatest extent possible, the cost of post-employment benefits earned and being accrued. This OPEB Funding Policy recognizes that there will be investment marketplace volatility and that actual economic and demographic experience will differ from assumed experience. Accordingly, the OPEB Funding Policy is intended to provide flexibility to address such volatility and experience in a reasonable, systematic, actuarially and financially sound manner.

The Authority's OPEB expense in fiscal year 2018 is approximately \$20.2 million, as compared to approximately \$19.2 million for fiscal year 2017. See Note 7 and the Required Supplementary Information to the Financial Statements in APPENDIX B to the Official Statement for additional information regarding the Authority's OPEB obligations.

Payments in Lieu of Taxes. The Enabling Act and the 1978 Trust Agreement authorize and direct the Authority, subject to certain standards and limitations, to enter into agreements to make annual payments in lieu of

taxes to the City of Boston and the Town of Winthrop. The Enabling Act, the 1978 Trust Agreement and the payment in lieu of tax agreements provide that the payments under these agreements for any fiscal year may not exceed the balance of revenues remaining for such fiscal year after payment of debt service and required reserve account deposits on outstanding Bonds, payment of operating expenses and payment of required deposits to the Maintenance Reserve Fund. See Note 10 to the Financial Statements in APPENDIX B to the Official Statement.

Pursuant to the terms of the amended payment in-lieu-of-taxes agreement between the Authority and the City of Boston (the "*Boston PILOT Agreement*"), the Boston PILOT Agreement terminates on June 30, 2022; provided, however, that absent an annual election by either party to terminate the Boston PILOT Agreement, the term is subject to automatic one-year extensions of the term on each July 1. In November 2016, the City of Boston notified the Authority of its election to terminate the Boston PILOT Agreement on June 30, 2022, and the parties expect to commence negotiations on a successor agreement or an amendment to the existing agreement. The Boston PILOT Agreement provides for the Authority to pay an annual base amount that increases annually by the annual percentage change in the consumer price index, provided that such increase shall be no less than 2.0%, nor greater than 8.0%, per year. Pursuant to the Boston PILOT Agreement, the Authority made annual payments of \$17.9 million and \$18.2 million in fiscal years 2017 and 2018, respectively, and expects to make an annual payment of \$18.6 million in fiscal year 2019.

In fiscal year 2006, the Authority and the Town of Winthrop entered into an Amended and Restated Payment-In-Lieu-Of-Taxes Agreement (the "*Winthrop PILOT Agreement*"), which extended the base in-lieu-of-tax payments through fiscal year 2025. Pursuant to the Winthrop PILOT Agreement, the Authority made annual payments of \$900,000 in fiscal years 2017 and 2018, respectively. The Winthrop PILOT Agreement was amended in November 2018, and pursuant thereto the Authority expects to make adjusted annual payments for the remainder of the term, commencing with a payment of \$1.2 million in fiscal year 2019 and increasing annually to \$2.0 million by fiscal year 2025.

Risk Management

Under the 1978 Trust Agreement the Authority is required to maintain insurance substantially in compliance with the recommendations of the Risk Management Consultant. See APPENDIX D to the Official Statement – Summary of Certain Provisions of the 1978 Trust Agreement – Insurance. The Authority maintains a program of risk management designed to afford insurance protection meeting the requirements of the 1978 Trust Agreement and of sound business practice at the best available cost. The Authority's insurance program includes coverages from domestic and international insurance markets. The program also includes a reserve held in the Self-Insurance Account designed to fund deductibles and self-insurance of certain risks. The Authority is a legislatively authorized self-insurer for its workers' compensation risk. The self-insurance program is administered with assistance from a third party administrator and losses are funded through a dedicated Self-Insurance Account within the Operating Fund under the 1978 Trust Agreement (the "*Self-Insurance Account*").

The Authority's risk management program is designed to provide an appropriate level of protection against catastrophic loss, including direct damage to its projects, loss of revenue and third party legal liability obligations. The program utilizes a combination of purchased insurance and the Self-Insurance Account to provide this level of protection. The principal areas of risk exposure covered by self-insurance are: insurance policy deductibles, workers' compensation self-insured retention, uninsurable risks (e.g., flood above \$250,000 and certain environmental pollution), directors' and officers' liability and excess liability.

Prior to September 11, 2001, the Authority's liability insurance and property insurance policies provided coverage for acts of war and terrorism. On November 26, 2002, President Bush signed into law the Terrorism Risk Insurance Act of 2002 ("*TRIA*"). TRIA effectively nullified all existing exclusions for acts of terrorism carried out by foreign terrorists. All insured entities covered by TRIA were given the opportunity to continue this coverage upon payment of an additional premium quoted by underwriters. Following the recommendations of the Authority's Risk Management Consultant, the Authority has obtained terrorism insurance under either TRIA, where available and not cost prohibitive, or by purchasing coverage under a War Risk buy back option.

The Authority maintains a Self-Insurance Account to cover all areas of self-insurance. See APPENDIX D to the Official Statement – Summary of Certain Provisions of the 1978 Trust Agreement – Insurance. As of October

31, 2018, the balance in the Self-Insurance Account was \$32.1 million. Annual contributions, consistent with the recommendations of the Authority's Risk Management Consultant, are made to this account as part of the Authority's annual budget process. Losses within the self-insurance area are administered by Authority personnel, use of outside adjusters on a case specific basis and a third-party administrator for workers' compensation losses. The Authority's most recent annual Risk Management Assessment Report states that the extent of the Authority's funding of future liabilities within the Self Insurance Account represents what the Authority's Insurance Consultant considers to be a "best practice" among complex public agencies. Workers' compensation losses and losses within the retained layer are predictable and level over time which makes this an appropriate area for risk retention. The report also notes that the combination of internal administration and third-party administration of self-insured claims is sound and cites a demonstrated reduction in loss adjustment expenses, particularly, in the general liability and workers' compensation areas.

Insurance markets are cyclical. The Authority believes that its proactive risk management program is critical in its effort to contain cost and will continue to yield better results than alternative approaches.

Investment Policy

All investments of Authority funds are made in accordance with the provisions of the 1978 Trust Agreement, the PFC Depositary Agreement or the CFC Trust Agreement and the investment policy adopted in 2000 (and most recently updated in June 2018) by the Authority (the "*Investment Policy*"). The goals of the Investment Policy, in order of importance, are: (1) to preserve capital, (2) to provide liquidity to meet payment obligations, and (3) to generate investment income. As authorized by the Investment Policy, the Investment Oversight Committee, chaired by the Director of Administration and Finance of the Authority, oversees the Authority's investments. The Investment Oversight Committee has established diversification requirements for its investments. The Investment Oversight Committee meets quarterly and determines the general strategies for investment activities and monitors investment results against external benchmarks.

Financial Hedge Policy

In October 2004, the Members of the Authority approved a formal Financial Hedging Policy, which provides general guidelines regarding the use, procurement and execution of all interest rate swaps, options, caps, collars and related financial transactions ("*Financial Hedges*") by the Authority. The Financial Hedging Policy was most recently revised and reauthorized by the Members of the Authority in June 2018. No Financial Hedge may be executed without the approval of the Members of the Authority and review by the State Finance and Governance Board. Prior to seeking the approval of the Authority of any proposed Financial Hedge, the Investment Oversight Committee must undertake an identification and evaluation of the financial benefits and risks involved in the Financial Hedge transaction, including certain enumerated risks, and summarize them for the Members of the Authority. Financial Hedges may not be entered into for speculative purposes, where the Authority does not have sufficient liquidity to terminate an existing Financial Hedge at current market values, or where there is insufficient price transparency to permit reasonable valuation of the Financial Hedge. Counterparty exposure may not exceed prudent limits, and only entities rated "A" or better (or guarantors of such entities) may be counterparties. Financial Hedges are to be used only to lower the cost of the Authority's borrowing; to reduce exposure to changes in interest rates; or to manage the Authority's credit exposure to existing Financial Hedge counterparties. Currently, the Authority has no outstanding Financial Hedges.

LEGISLATIVE DEVELOPMENTS

From time to time legislation has been introduced in the Massachusetts Legislature for the purpose of altering the responsibilities of the Authority, reducing its independence, limiting its planning and operations, taxing its commercial tenants directly, or requiring it to make payments to other governmental entities in the Commonwealth.

In addition, the Authority is subject to state and federal laws of general application, changes to which could have a material effect on the operations or financial position of the Authority. See "AVIATION INDUSTRY CONSIDERATIONS" and "GENERAL OPERATIONAL FACTORS."

LITIGATION

No litigation is pending or, to the knowledge of the Authority, threatened against or affecting the Authority seeking to restrain or enjoin the issuance, sale or delivery of the 2019A Bonds or in any way contesting or affecting the validity of the 2019A Bonds.

The Authority is engaged in numerous matters of routine litigation. These routine matters include personal injury and property damage claims for which the Authority's liability is covered in whole or in part by insurance. Others include such matters as disputes with employees; disputes with contractors, subcontractors, engineers and others arising out of construction and maintenance of its properties; disputes over leases and concessions; and property, theft and damage claims arising from the Authority's parking operations, as to which the Authority is self-insured. The Authority does not expect that these matters will require any amounts to be paid that, singly or in the aggregate, will have a material effect on the operations or financial position of the Authority.

[End of Information Statement of the Authority.]

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MASSACHUSETTS PORT AUTHORITY

Financial Statements, Required Supplementary Information, and
Supplementary Schedules

Years Ended June 30, 2018 and 2017

(With Report of Independent Auditors)

MASSACHUSETTS PORT AUTHORITY

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Report of Independent Auditors

To the Members of the Massachusetts Port Authority

Report on the Financial Statements

We have audited the accompanying financial statements of the Massachusetts Port Authority (the Authority), as of and for the years ended June 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements 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 conformity 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 of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of 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 auditor's 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 Port Authority as of June 30, 2018 and 2017, and the changes in its financial position and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

Adoption of New Accounting Pronouncement

As discussed in Note 1 to the financial statements, as of July 1, 2016, the Authority adopted Governmental Accounting Standards Board Statement No. 75, *Accounting and Financial Reporting for Postemployment Plans Other Than Pension Plans*. Our opinion is not modified with respect to this matter.



Required Supplementary Information

U.S. generally accepted accounting principles require that management's discussion and analysis, the schedule of pension contributions, schedule of changes in the net pension liability and related ratios, schedule of OPEB contributions, and schedule of changes in the net OPEB liability and related ratios, as listed in the table of contents, 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 which 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, 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 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 schedules, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements. The supplementary schedules are the responsibility of management and were 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. In our opinion, the information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Ernst + Young LLP

September 28, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following Management's Discussion and Analysis (MD&A) of the activities and financial performance of the Massachusetts Port Authority (the Authority) provides an introduction to the financial statements of the Authority for the fiscal years ended June 30, 2018 and 2017. This discussion was prepared by management, and it should be read in conjunction with the audited financial statements and notes that follow this section.

Overview of the Financial Statements

The Authority's financial statements consist of: (1) the Statements of Net Position; (2) the Statements of Revenues, Expenses and Changes in Net Position; and (3) the Statements of Cash Flows. These financial statements have been prepared in accordance with U.S. generally accepted accounting principles as promulgated by the Governmental Accounting Standards Board (GASB).

The comparative Statements of Net Position depict the Authority's financial position as of a point in time, specifically June 30, 2018, 2017 and 2016, and include all assets, deferred outflows of resources, liabilities and deferred inflows of resources of the Authority. Net position represents the residual interest in the Authority's assets and deferred outflows of resources after liabilities and deferred inflows of resources are deducted. The Authority's net position is divided into three components: 1) net investment in capital assets, 2) restricted, and 3) unrestricted. Please see Note 1 in the financial statements attached hereto for a discussion on the Authority's net position.

The Statements of Revenues, Expenses and Changes in Net Position report operating revenues, operating expenses, non-operating revenue and expenses, and other changes in net position. Revenues and expenses are categorized as either operating or non-operating based upon management's policies as established in accordance with definitions set forth by the GASB. Certain sources of the Authority's revenues, including Passenger Facility Charges (PFCs), Customer Facility Charges (CFCs), investment income and capital grants are reported as other than operating revenue and their uses are restricted and generally are not available for operating purposes.

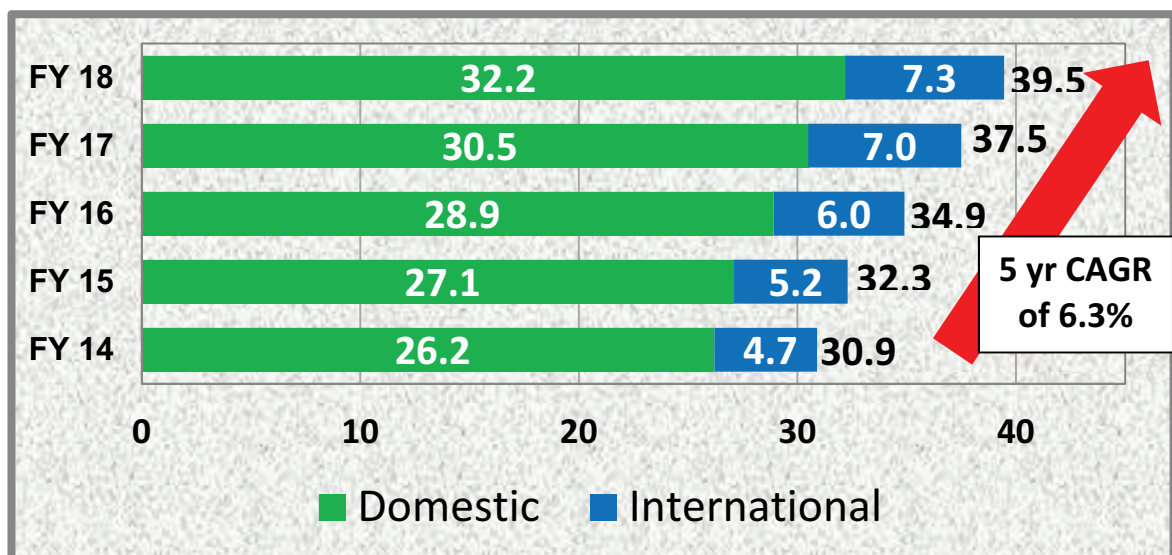
The Statements of Cash Flows present information showing how the Authority's cash and cash equivalents changed during the fiscal year. The Statements of Cash Flows classify cash receipts and cash payments resulting from operating activities, capital and related financing activities, and investing activities.

Business Activity Highlights for Fiscal Year 2018


Logan Airport sets new record by serving 39.5 million passengers, 2.0 million more passengers than prior year

- **Passengers** ↑ **5.4%** versus prior year.
- Domestic passengers of 32.2 million were up 1.7 million or 5.8%. Major contributors to growth were JetBlue Airways (+0.8 million passengers), Delta Air Lines (+0.4 million passengers) and Spirit Airlines (+0.2 million passengers).
- International passengers of 7.3 million were up 0.3 million or 3.7%. Factors contributing to the increase included new services by low cost carriers Norwegian Airlines and WestJet Airlines, the full year impact of Avianca's Bogota service initiated in late FY 2017, growth by Cathay Pacific to Hong Kong and the addition of service by Delta Air Lines to Dublin.
- Record number of 132 nonstop destinations served; 75 domestic and 57 international.
- Logan Express High Occupancy Vehicle (HOV) bus ridership between Logan Airport and Braintree, Framingham, Peabody and Woburn grew by 5.7%, in line with Logan Airport passenger growth.

LOGAN INTERNATIONAL AIRPORT Passengers Served (Millions)

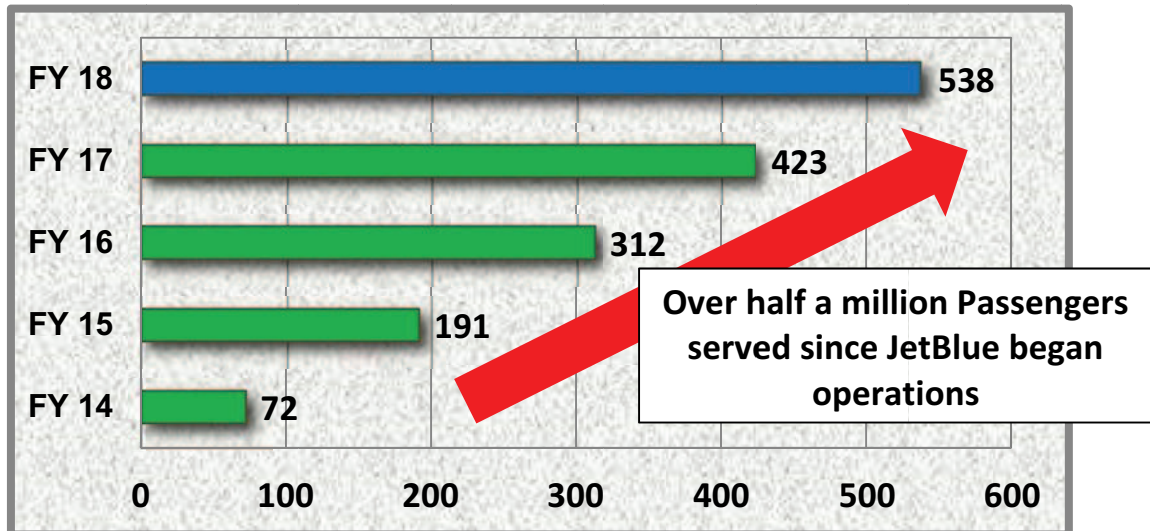


Worcester Regional Airport welcomes new JetBlue service to New York – JFK and American Airlines announces service


- **New airlines to serve Worcester**  **by 1** as American Airlines announced plans to introduce service between Worcester and its Philadelphia hub beginning in October 2018.
- Load Factors on Orlando and Ft. Lauderdale flights remained above 80%.
- Completed installation of CAT III Instrument Landing System to allow aircraft to use the airport during periods of poor visibility.

WORCESTER REGIONAL AIRPORT

Cumulative JetBlue Passengers (thousands)

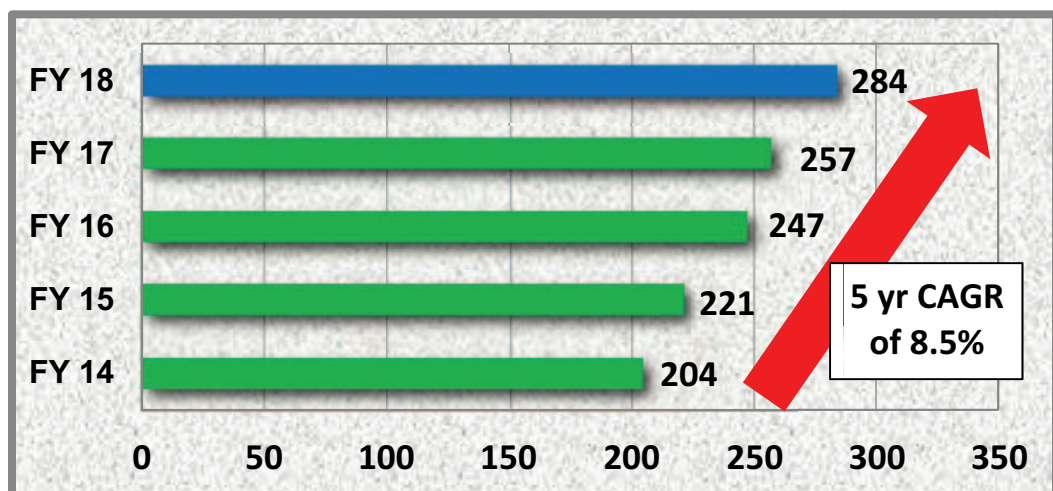


Conley Terminal continued record-setting growth by handling 283,720 TEUs (Twenty-foot Equivalent Units)

- **TEU volume**  **10.4%** versus prior year.
- Higher volume driven by strong New England economy, the efficiency of the terminal as demonstrated by minimal congestion for truckers accessing the terminal, highly productive workforce as evidenced by an average of 33 container lifts per hour per crane, and a strong focus on customer service.

- The trend toward larger container ships continued in FY18 as Conley was visited on May 23 by the largest ship ever to call on the terminal, the *Seaspan Elbe*, with a capacity of 10,000 TEUs.
- Significant progress was made to accommodate the larger container ships during FY18. The Boston Harbor Dredging project advanced with the completion of the maintenance dredging component, which increased the depth of the inner portion of the harbor. The improvement dredging component to deepen the outer portion of the harbor leading into Conley Terminal was bid in FY18 and actual dredging began in July 2018. It is expected to be completed by the Army Corp of Engineers in FY22. When finished, the South North channel depth will be increased to 51 feet, and the Main Shipping Channel (MSC) and turning basin will be deepened and widened to 47 feet.
- The Conley Terminal modernization initiative, funded in part with a \$42 million FASTLANE grant from the federal government, also advanced during FY18. At Berth 12, 20 new fenders capable of accommodating the larger cargo vessels were installed to replace the older obsolete ones. At Berth 11, structural improvements began and a contract to deepen that berth was awarded. Finally, the procurement process to replace all 14 of the yard tractors began, with the first seven scheduled for delivery in November 2018.
- Construction of the new deep-water Berth 10 began in June 2018, and the Authority is in the process of acquiring three new cranes capable of servicing the larger container ships. This work is being partially funded with \$107.5 million of state funds.

CONLEY CONTAINER TERMINAL
TEUs PROCESSED (thousands)

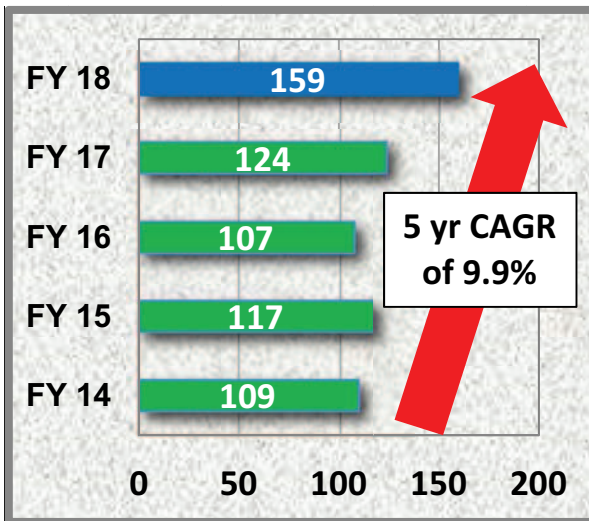


Flynn Cruiseport sets new record by serving 159 Cruise Ships and 406,369 Passengers

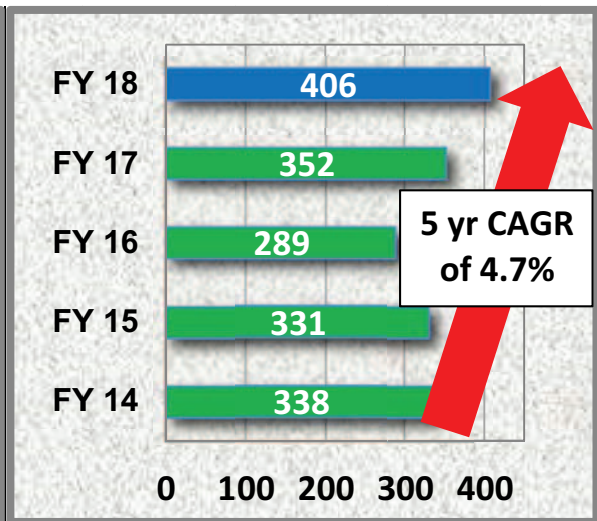
- Number of **ship calls** ↑**28.2%** or 35 ships versus prior year.
- **Cruise passengers** ↑**15.5%** or 54,455 passengers versus prior year.
- Ship and Passenger volume increased due to an earlier start to cruise season 2018 and more ship calls early and late in the season as well as introduction of new itineraries such as Cuba.
- Flynn Cruiseport Boston welcomed three new cruise lines during FY18, including TUI with Mein Schiff 6, Hurtigruten with the MS Fram, and Noble Caledonia with the Hebridean Sky.

FLYNN CRUISEPORT BOSTON

SHIP CALLS



PASSENGERS (thousands)



Real Estate opens South Boston Waterfront Transportation Center (SBWTC); Construction begins on other parcels


- The South Boston Waterfront Transportation Center opened for business in May 2018. This facility includes a 1,550-space garage to support the rapid growth in the Seaport District, and also serves as a mobility hub for the community with a connection to the MBTA and other transportation modes. It

is located near the Boston Convention and Exhibition Center and next to the new Omni Hotel that is under construction.

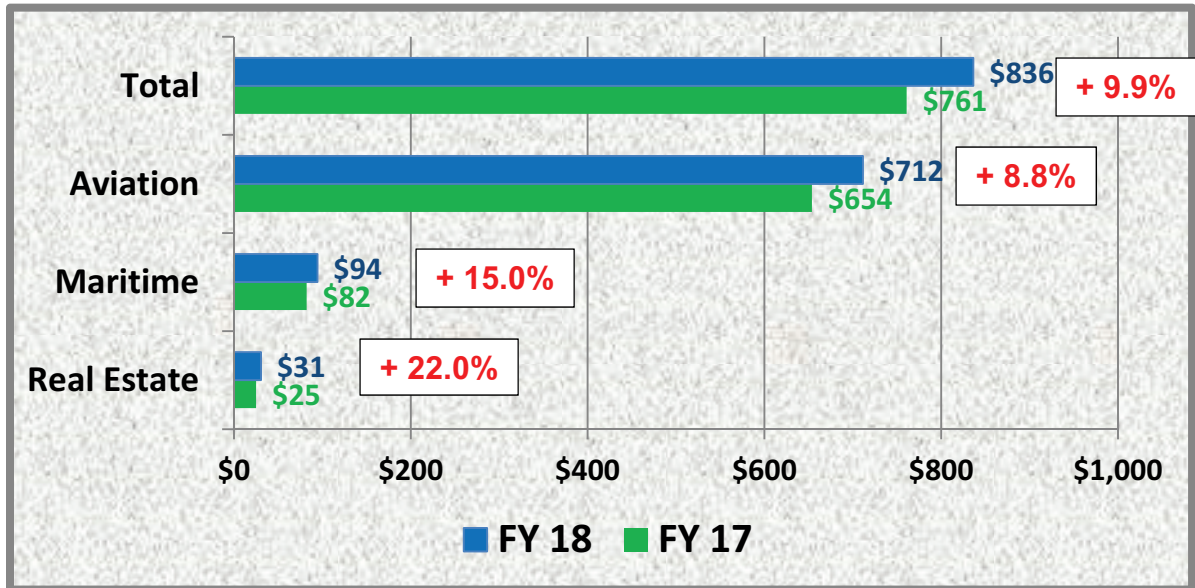
- Held groundbreaking ceremony for the 1,000+ room Omni Hotel being constructed on land owned by the Authority across from the Boston Convention and Exhibition Center. In addition to providing hotel capacity to support convention center demand, the Authority's decision to select Omni was based in part on first of its kind diversity and inclusion criteria to have minority-owned businesses participate in the equity, design, construction, development and hotel operations.
- Developers began construction on two properties in South Boston, a mixed-use development on land owned by the Authority known as Parcel K that will have a Hyatt Place hotel as well as an apartment complex, and on Gables Seaport, which is the next phase of the Waterside Place apartment complex.

Financial Highlights for Fiscal Year 2018

Operating Revenue increased \$75 million to \$836 million

- **Total Operating Revenue**  **9.9%** versus prior year.
- Aviation revenue up \$57.7 million or 8.8% due to recovery of operating and capital costs from airlines, \$11 million in additional parking revenue due mainly to a \$3.00 rate increase, and volume-related revenues such as concessions driven by the 5.4% increase in passengers. This revenue is being used to fund Massport's strategic initiatives and its FY18 – FY22 capital program of \$2.4 billion that was approved by the board of directors.
- Maritime revenue up \$12.3 million or 14.9% due to a 10% increase in container volume, 15% increase in cruise passengers, and 3%-8% increases in demurrage, usage, wharfage and dockage rates effective January 1, 2018. This revenue is being used to fund Boston Harbor dredging, new cranes, new berths and other improvements for Conley Terminal with an estimated total cost of \$850 million.
- Real Estate revenue up \$5.5 million or 22.0% due to a one-time closing payment by a developer and higher ground rents, which will be used to support the Conley Terminal strategic plan.

OPERATING REVENUES (\$ Millions)



Expenses increased \$30 million to \$757 million

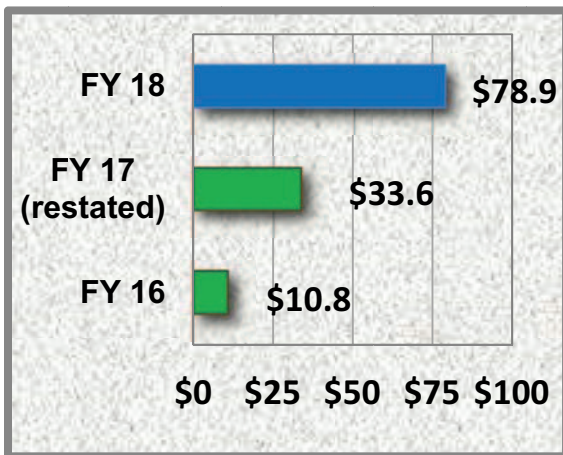
- Higher business activity caused expenses to increase by \$5.9 million for items including stevedoring, shuttle bus operation, overtime for container handling, cruise terminal operations and Logan Airport traffic control, credit card processing fees and airport terminal cleaning.
- Payroll expense increased by \$5.5 million or 3.0% due primarily to the annual merit and collectively bargained wage increases.
- Utilities expenses were higher by \$5.3 million or 16.8% due to a 23% increase in electricity rates.
- Weather-related expenses were up \$3.2 million due to 60 inches of snow in fiscal year 2018 versus 48 inches in fiscal year 2017.
- Supplies, Materials, Repairs and Services expenses increased by \$3.6 million to enable the airports and port to operate safely and efficiently.
- Miscellaneous expenses were up \$5.2 million due primarily to Logan Terminal B and C roadway work, training of a new State Police class, and asset write down for Logan Airport Hangar 16.
- Pension and Other Post-Employment Benefits (OPEB) expense decreased by \$9.9 million or 25.4% due to favorable net investment returns of 16.51% (Pension) and 7.59% (OPEB).

- PILOT (Payment in Lieu-of-Taxes) expense was higher by \$1.1 million due to the annual increase attributed to growth in the Consumer Price Index and community mitigation payments.
- Depreciation and Amortization expense increased \$9.3 million or 3.7% due to \$294.3 million of new investment in the Authority's assets.

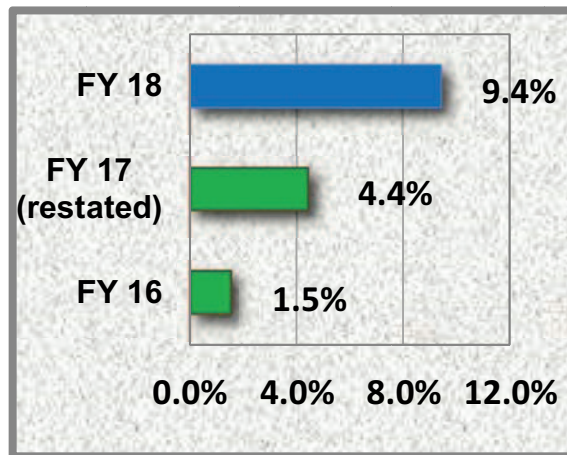
Operating income was \$78.9 million, up from \$33.6 million in prior year

- In order to fund Massport's \$2.4 billion capital program, management's plan called for revenue growth from airline cost recovery, a Logan Airport parking fee increase, and higher business volume revenues to exceed expense growth of 4% resulting in operating income margin expansion.
- FY2018 operating income margin of 9.4% higher than the restated FY2017 margin of 4.4%, but still well below peer airport levels.

OPERATING INCOME
(\$ Millions)



OPERATING MARGIN



Net Position increased by 7.8%

- Net position is a key indicator of the financial health of the Authority and is comprised primarily of capital assets owned by the Authority. Growth in these capital assets as the Authority invests more in its businesses has resulted in a steady increase in net position over the last several years.
- The fiscal year 2018 increase in net position of \$156.2 million was due to \$78.9 million of operating income, \$51.9 million of non-operating income, and \$25.4 million of capital grant revenue.

- Expansion of the Authority's net income will be used to fund the \$2.4 billion of capital programs. It will fund critical strategic initiatives such as adding parking capacity and reducing roadway congestion at Logan Airport, the expansion of Terminal E to accommodate more international flights, and the dredging of Boston Harbor and modernization of Conley Terminal to support the industry trend toward larger 10,000+ TEU container ships.
- The impact of GASB 75, which required the Authority to restate fiscal year 2017 results to include the OPEB liability, was a reduction to net position by \$165.1 million.

Condensed Statement of Revenues, Expenses and Changes in Net Position (\$ millions)

	FY 2018	FY 2017 (Restated)	\$ Change	% Change
Operating revenues	\$ 836.4	\$ 760.9	\$ 75.5	9.9%
Operating expenses including depreciation and amortization	757.5	727.3	30.2	4.2%
Operating income	78.9	33.6	45.3	134.8%
Total non-operating revenues (expenses), net	51.9	43.1	8.8	20.4%
Capital grant revenues	25.4	12.6	12.8	101.6%
Increase (decrease) in net position	156.2	89.3	66.9	74.9%
Net position, beginning of year	2,008.1	1,918.8	89.3	4.7%
Net position, end of year	\$ 2,164.3	\$ 2,008.1	\$ 156.2	7.8%

Note: Fiscal year 2017 results were restated to conform to GASB No. 75 standards for reporting OPEB costs.

	FY 2017 (Restated)	FY 2016	\$ Change	% Change
Operating revenues	\$ 760.9	\$ 699.5	\$ 61.4	8.8%
Operating expenses including depreciation and amortization	727.3	688.7	38.6	5.6%
Operating income	33.6	10.8	22.8	211.1%
Total non-operating revenues (expenses), net	43.1	38.5	4.6	11.9%
Capital grant revenues	12.6	56.0	(43.4)	-77.5%
Increase (decrease) in net position	89.3	105.3	(16.0)	-15.2%
Net position, beginning of year	2,083.9	1,978.6	105.3	5.3%
Cumulative effect of implementing GASB no. 75	(165.1)	0.0	0.0	0.0%
Net position, beginning of year	1,918.8	0.0	0.0	0.0%
Net position, end of year	\$ 2,008.1	\$ 2,083.9	(\$ 75.8)	-3.6%

Detailed descriptions of operating revenues and expenses, and non-operating revenues and expenses are described in the following sections.

OPERATING REVENUES

The Authority's operating revenues for fiscal year 2018 were \$836.4 million, an increase of \$75.5 million or 9.9% over fiscal year 2017. This growth was primarily the result of additional concession revenue driven by the 5.4% increase in passengers at Logan Airport, higher parking revenue due to a fee increase to fund strategic initiatives, higher container volume at Conley Terminal, and the recovery of operating and capital investment expenses from the airlines in the form of higher Landing Fees and Terminal Rent. This revenue increase will help fund the Authority's \$2.4 billion capital program.

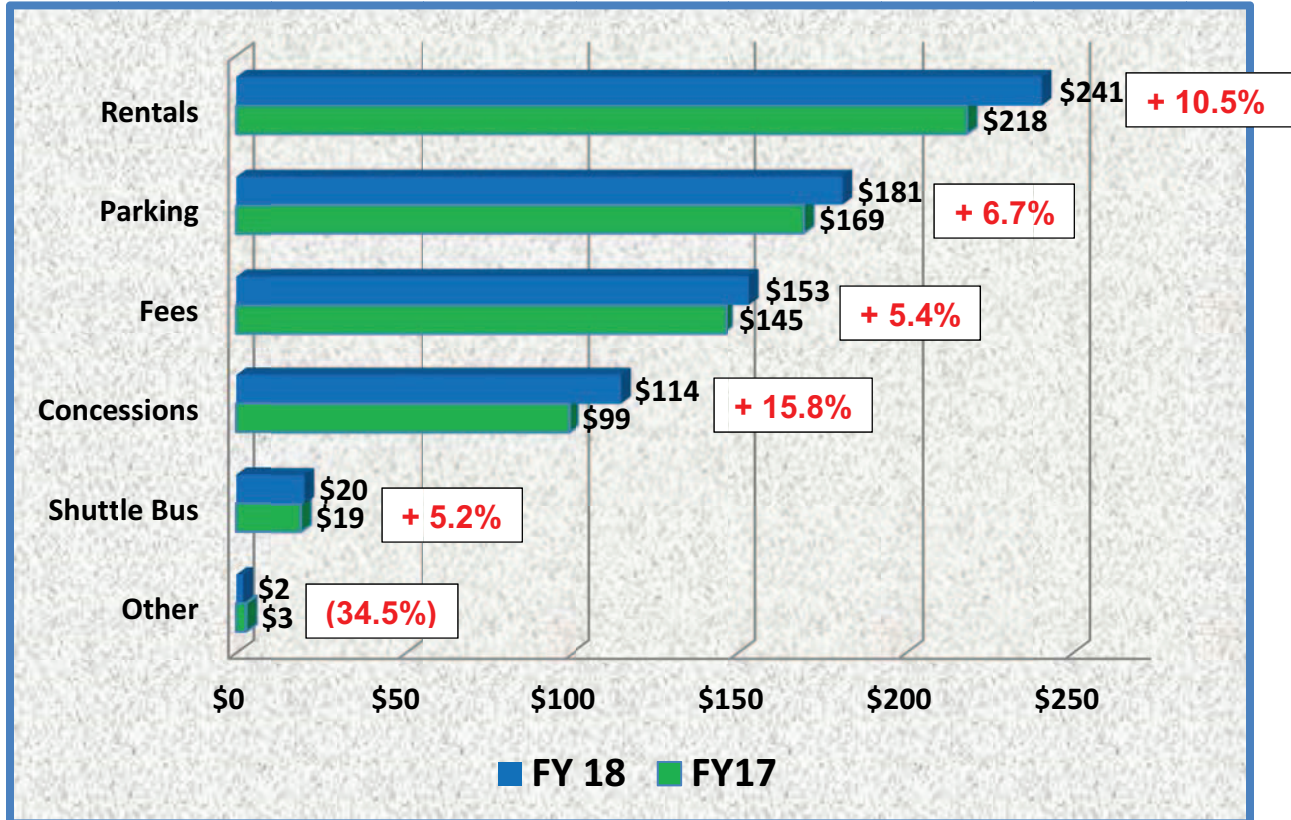
Operating Revenues (\$ millions)

	FY 2018	FY 2017	\$ Change	% Change
Aviation Rentals	\$ 240.8	\$ 217.9	\$ 22.9	10.5%
Aviation Parking	180.8	169.4	11.4	6.7%
Aviation Fees	153.2	145.4	7.8	5.4%
Aviation Concessions	114.5	98.9	15.6	15.8%
Shuttle Bus	20.3	19.3	1.0	5.2%
Aviation Operating Grants and Other	1.9	2.9	(1.0)	-34.5%
Total Aviation Revenues	\$ 711.5	\$ 653.8	\$ 57.7	8.8%
Maritime Fees, Rentals and Other	94.4	82.1	12.3	15.0%
Real Estate Fees, Rentals and Other	30.5	25.0	5.5	22.0%
Total	\$ 836.4	\$ 760.9	\$ 75.5	9.9%

	FY 2017	FY 2016	\$ Change	% Change
Aviation Rentals	\$ 217.9	\$ 198.1	\$ 19.8	10.0%
Aviation Parking	169.4	154.6	14.8	9.6%
Aviation Fees	145.4	139.4	6.0	4.3%
Aviation Concessions	98.9	87.4	11.5	13.2%
Shuttle Bus	19.3	18.0	1.3	7.2%
Aviation Operating Grants and Other	2.9	2.8	0.1	3.6%
Total Aviation Revenues	\$ 653.8	\$ 600.3	\$ 53.5	8.9%
Maritime Fees, Rentals and Other	82.1	74.7	7.4	9.9%
Real Estate Fees, Rentals and Other	25.0	24.5	0.5	2.0%
Total	\$ 760.9	\$ 699.5	\$ 61.4	8.8%

AVIATION REVENUES

Aviation Revenues by Category (\$ Millions)



Fiscal Year 2018 Compared to 2017

The Authority's aviation revenues are derived from its three airport facilities: Logan Airport, Hanscom Field and Worcester Regional Airport. The Authority earned \$711.5 million in revenues from its aviation operations in fiscal year 2018.

Aviation Revenues (\$ millions)

	FY 2018	FY 2017
Logan	\$ 695.4	\$ 639.3
Hanscom	14.3	12.9
Worcester	1.8	1.6
Total	\$ 711.5	\$ 653.8

Logan Airport Revenues

Logan Airport generated \$695.4 million in revenues in fiscal year 2018, a \$56.1 million, or 8.8% increase over last year due to another record-breaking year of 39.5 million passengers that favorably impacted concessions and other passenger volume driven revenues. Other major contributors to the increase were a \$3.00 parking rate increase and the recovery of terminal operating and capital costs from the airlines using the airport.

Logan Airport Revenues (\$ millions)

	FY 2018	FY 2017
Logan Rentals	\$ 233.3	\$ 211.3
Logan Parking	180.3	168.9
Logan Fees	146.0	138.9
Logan Concessions	113.6	98.0
Shuttle Bus	20.3	19.3
Logan Operating Grants and Other	1.9	2.9
Total	\$ 695.4	\$ 639.3

Aviation rentals revenues are earned through terminal building, non-terminal building and ground lease agreements. Revenue from Logan Airport rentals was \$233.3 million, a \$22.0 million or 10.4% increase over prior year. Terminal rent accounts for 77.4% of this revenue, and increased by \$18.9 million. This was driven primarily by the recovery of terminal operating and capital costs from the airlines in the form of higher terminal rental rates. Some of the capital projects responsible for the cost and associated recovery increase include the Terminal E Renovation and Enhancement project, the Terminal B, C and E Heating, Ventilation and Air Conditioning (HVAC) system upgrade, and Improvements to the Customs and Border Patrol (CBP) area in Terminal E. The other contributor was the 3.7% increase in international passengers as the airlines pay an arrival and departure fee per international passenger to use Terminal E.

Aviation parking revenues are primarily generated from the Authority's on-airport and off-airport parking facilities. This revenue is essential to fund the Authority's \$2.4 billion capital investment program. In fiscal year 2018, Logan parking revenue was \$180.3 million, up \$11.4 million or 6.7% versus prior year due primarily to a \$3.00 rate increase at all Logan parking facilities that was introduced at the beginning of fiscal year 2018. Commercial parking on-site at Logan Airport accounted for \$9.6 million of the increase and grew by 6.2%, while employee parking increased by \$1.2 million. Parking revenue from the three off-airport Logan Express parking locations was \$6.2 million, up \$0.7 million or 12.7% due to a 6% increase in passengers and an increase in the average number of days parked to 5.5.

Revenues from aviation fees consist of revenues earned from aircraft landing fees, utility reimbursements, and other aviation related fees such as aircraft parking and fueling. During fiscal year 2018, Logan Airport aviation fees were \$146.0 million, a \$7.1 million or 5.1% increase over prior year. Logan Airport aircraft landing fees, which account for 81.6% of Logan aviation fees, were higher by \$6.0 million or 5.3% versus fiscal year 2017. These landing fees are collected from scheduled and non-scheduled airlines based on the landed weight of aircraft serving Logan Airport. The landing fee rate is determined annually based on full cost recovery of landing field operating and capital costs required to operate and maintain the airfield at Logan Airport in a safe and efficient manner for the Authority’s airline customers. The increase in costs recovered in fiscal year 2018 was driven by higher operating costs for items including repairs, maintenance, snow removal and utilities, as well as an increase in capital costs for items including Logan Airport Terminal E ramp area renovations and enhancements, new in-ground snow melters and the rehabilitation of two taxiways.

Logan Airport Aviation Fees
(\$ millions)

	FY 2018	FY 2017
Landing Fees	\$ 119.2	\$ 113.2
Utilities	15.7	15.3
Other	11.1	10.4
Total	\$ 146.0	\$ 138.9

Aviation concessions revenues are earned from airport terminal retail operations, on-airport car rental transactions, and the activities of ground transportation and other service providers including taxis, bus, limousine, Transportation Network Companies (TNCs), aircraft ground handling, and in-flight catering. In fiscal year 2018, Logan Airport earned \$113.6 million from concessions compared to \$98.0 million in fiscal year 2017, an increase of \$15.6 million or 15.9%. Revenues from in-terminal concessions totaled \$48.5 million, an increase of \$8.5 million or 21.2% compared to the prior year. This increase was mainly due to a \$5.5 million increase in food and beverage and retail revenues due to the 5.4% increase in passengers coupled with a new concessions management agreement with MarketPlace Logan LLC that went into effect in FY18. This agreement is providing new restaurant and retail offerings for Logan Airport customers while also allowing the Authority to enjoy a larger share of the revenue versus prior management agreements. Duty Free revenues increased by \$1.4 million and foreign exchange revenues increased by \$0.7 million in FY18 due in part to more international passengers, and advertising revenue was up by \$0.9 million due to a higher volume of ads at Logan Airport.

During fiscal year 2018, Logan Airport earned \$34.0 million from rental car companies, an increase of \$0.7 million or 2.0% primarily due to a 5.3% growth in revenue per transaction versus the prior year partially offset by fewer transactions. Ground transportation fees collected from Taxis, Limos, and TNCs totaled \$15.2 million, an increase of \$3.7 million or 31.8% driven by a 23% increase in pick-ups. This increase in revenue is being used to fund modifications to Logan Airport’s roadways as the increase in vehicle volume is significantly increasing roadway congestion. Other concession revenues from commercial services and ground servicing increased by \$2.7 million or 20.7% due to higher levels of passengers and aircraft operations.

Logan Airport Concession Fees
(\$ millions)

	FY 2018	FY 2017
In-Terminal	\$ 48.5	\$ 40.0
Rental Car	34.0	33.3
Ground Transportation & Other	31.1	24.7
Total	\$ 113.6	\$ 98.0

The Authority earned \$20.3 million of revenue in fiscal year 2018 for the Logan Airport shuttle bus operations, an increase of \$1.1 million over last year. Shuttle bus operations are comprised of an on-airport shuttle that links the terminal buildings, rental car center, and MBTA station, as well as the bus operations from four off-airport Logan Express sites in the Boston metropolitan region and Boston’s Back Bay area. Revenue from the on-airport shuttle bus increased by \$0.7 million or 11.7% due to the recovery of operating expenses required to maintain the Rental Car Facility. Logan Express revenue from the four sites at Braintree, Framingham, Peabody and Woburn increased by \$0.2 million due to a 5.7% increase in ridership.

During fiscal year 2018, Logan Airport received \$1.9 million in revenues from federal operating grants compared to \$2.9 million in the prior year. The \$1.0 million decline was due to \$1.1 million in reimbursements received in fiscal year 2017 from FEMA for Blizzard Juno in fiscal year 2015.

Logan Airport Shuttle Bus and Other Revenues
(\$ millions)

	FY 2018	FY 2017
Shuttle Bus	\$ 20.3	\$ 19.2
Other	1.9	2.9
Total	\$ 22.2	\$ 22.1

Hanscom Field and Worcester Regional Airport Revenues

Hanscom Field revenues were \$14.3 million in fiscal year 2018, up \$1.4 million or 10.9% from the prior year. The increase was due to higher ground rent of \$0.9 million primarily from the new Jet Aviation Hangar and FBO Terminal, which opened in June 2017. Aircraft fuel flowage and landing fees at the airport also contributed to the revenue increase. Worcester Regional Airport had \$1.8 million in operating revenues in fiscal year 2018, up \$0.2 million due to higher aircraft fuel flowage, utility reimbursement, parking and other miscellaneous items.

Hanscom and Worcester Revenues (\$ millions)

	FY 2018	FY 2017
Hanscom	\$ 14.3	\$ 12.9
Worcester	1.8	1.6
Total	\$ 16.1	\$ 14.5

Fiscal Year 2017 Compared to 2016

The Authority earned \$653.8 million in revenues from its aviation operations in fiscal year 2017, up \$53.5 million or 8.9% compared to prior year.

Revenue from Logan Airport rentals was \$211.3 million, a \$19.8 million or 10.3% increase over prior year. Terminal rent accounts for 76.5% of this revenue, and increased by \$19.5 million. This was driven primarily by the recovery of terminal operating and capital costs from the airlines in the form of higher terminal rental rates. The other major contributor was the 15.9% increase in international passengers as the airlines pay an arrival and departure fee per international passenger to use Terminal E.

Aviation parking revenues are primarily generated from the Authority's on-airport and off-airport parking facilities. Logan parking revenue was \$168.9 million, up \$14.8 million or 9.6% versus prior year due primarily to a rate increase at all Logan parking facilities. Parking revenue from the three off-airport Logan Express locations was \$5.5 million, up \$0.7 million or 14.1% due to a 6% increase in passenger use and a longer duration in the average number of days parked.

During fiscal year 2017, Logan Airport aviation fees were \$138.9 million, a \$5.2 million or 3.9% increase over prior year. Logan Airport aircraft landing fees, which account for more than 80% of Logan aviation fees, were higher by \$8.7 million or 8.3% in fiscal year 2017 and reflect operating and capital cost recovery.

Logan concessions revenues earned from airport terminal food, beverage and retail operations, on-airport car rental transactions, the activities of ground transportation and other service providers including taxis, bus, limousine, TNCs, aircraft ground handling, advertising and in-

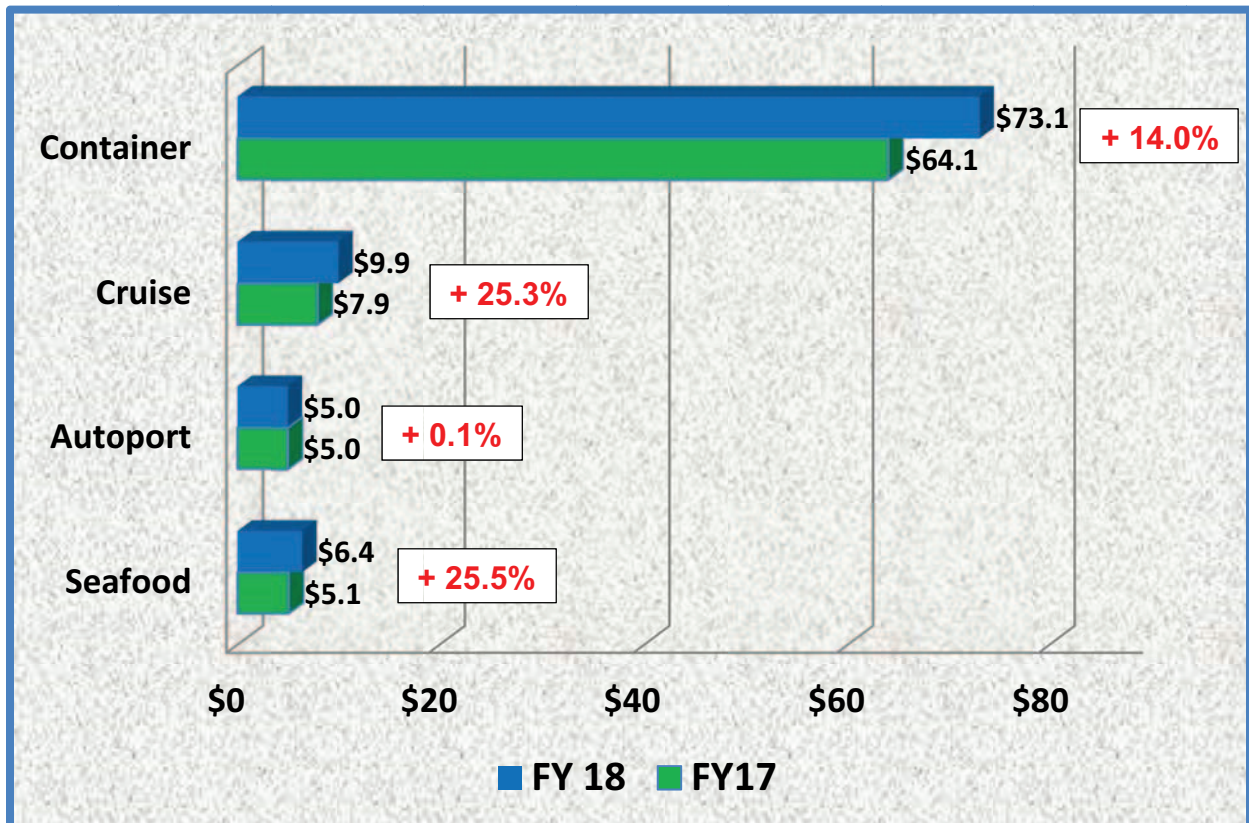
flight catering totaled \$98.0 million in fiscal year 2017. This was \$11.4 million or 13.2% higher than the \$86.6 million in fiscal 2016 due to the 7.4% increase in passengers, stronger advertising sales, and higher rental car revenues per transaction.

Logan Airport shuttle bus operations generated \$1.2 million over prior year due to an increase in Logan Express ridership. Federal operating grant revenue was \$0.3 million higher.

Hanscom Field revenues were up \$0.7M or 5.7% from prior year due to higher aircraft fuel flowage and landing fees at the airport, while Worcester Regional Airport revenues were comparable to prior year.

MARITIME REVENUES

Maritime Revenues by Category
(\$ Millions)



Fiscal Year 2018 Compared to 2017

Maritime fees, rentals and other revenues are collected primarily from container shipping lines, cruise ship lines and other customers that use the Authority's Port facilities. The Authority's maritime business includes cargo container ship operations at Conley Terminal, cruise activity at the Flynn Cruiseport, rental facilities for seafood processors and commercial parking at the Boston Fish Pier in South Boston, and the Moran Terminal, which houses an automobile import/export facility and other port properties in Charlestown. The Authority collected \$94.4 million in fees, rentals and other income from its maritime operations in fiscal year 2018.

Maritime Revenues (\$ millions)

	FY 2018	FY 2017
Containers	\$ 73.1	\$ 64.1
Cruise	9.9	7.9
Seafood	6.4	5.1
Autoport	5.0	5.0
Total	\$ 94.4	\$ 82.1

During fiscal year 2018, the container business at Conley Terminal earned \$73.1 million in revenues, which was \$9.0 million or 14.0% higher than the prior year. Revenue is generated through the collection of fees from ocean shipping lines for the loading and unloading of containers at Conley Terminal and for related services through tariffs and contracts with the shipping lines and shippers using the Port. Conley Terminal processed a record 283,720 TEUs, a 10.4% increase over the prior year.

Revenues from operations at the Flynn Cruiseport were \$9.9 million in fiscal year 2018, up \$2.0 million or 25.3% versus prior year. The Authority collects per passenger fees as well as dockage, water and equipment rental charges from home-port and port-of-call cruise ships that dock at the Cruiseport. Fiscal year 2018 cruise passengers increased by 15.5% over prior year as the benefits from marketing incentive programs to reward cruise lines for meeting certain targets and expanding itineraries continued to have a positive impact. Ship calls increased by 28% as the length of the cruise season increased and there were more sailings in the shoulder seasons.

Seafood revenues grew to \$6.4 million in fiscal year 2018, up 25.5% from the prior year. Revenues are earned through space and ground rents from seafood processing and office tenants, commissions, utility charges, fees and parking lots at the Fish Pier. The \$1.3 million increase in seafood revenues in fiscal year 2018 is due to a \$0.5 million increase in rental

income, contractual increases in ground lease revenues of \$0.4 million, higher parking revenue of \$0.2 million and utility fee reimbursements of \$0.2 million.

The Autoport earned \$5.0 million in fiscal year 2018, which was comparable to the fiscal year 2017 amount. Revenue increases from ground leases, commissions on fuel sales and utility reimbursement fees were offset by a reduction in supplemental revenue due to the payment of property taxes to the City of Boston.

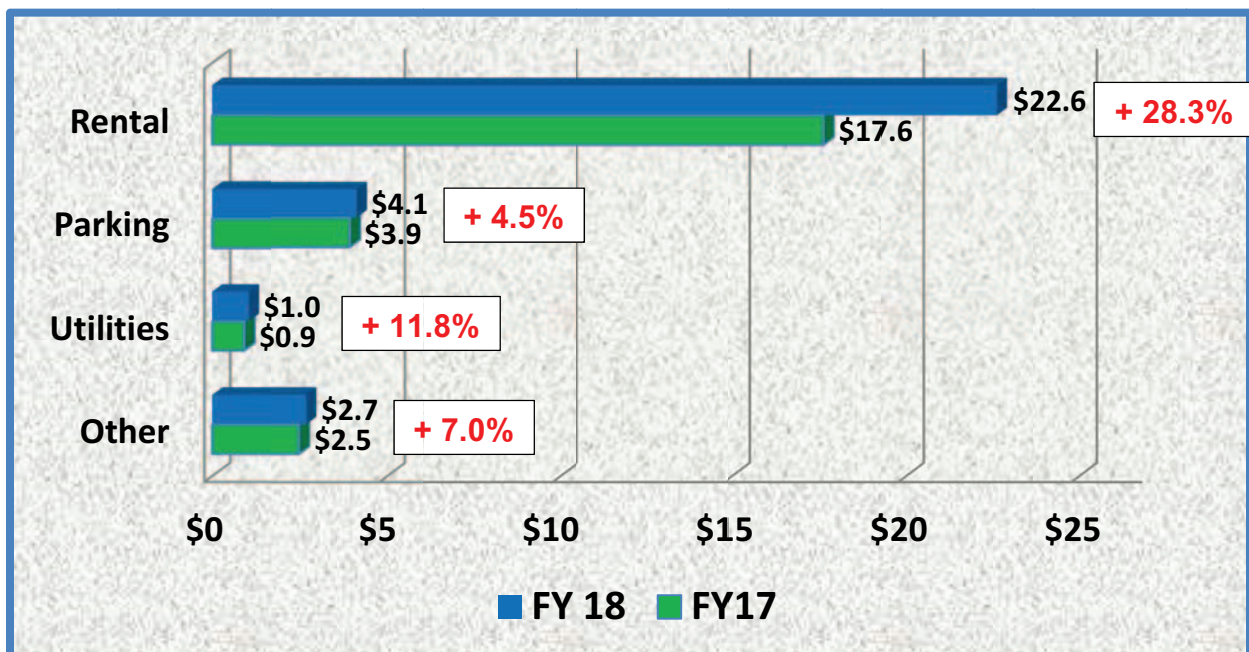
Fiscal Year 2017 Compared to 2016

The Authority collected \$82.1 million in fees, rentals and other income from its maritime operations in fiscal year 2017. This was \$7.4 million or 9.9% higher than the prior year.

Container revenues were higher by \$4.8 million or 8.1% as Conley Terminal set a new record by processing 256,951 TEUs, a 3.9% increase over prior year. Cruiseport revenues increased by \$2.1 million or 36.1% due to 21.7% more passengers as the result of a new marketing incentive program and a full season of sailings by Norwegian Cruise Lines’ Norwegian Dawn. Seafood and Autoport revenues increased by a combined \$0.5 million primarily due to higher ground lease and utility reimbursement revenues.

REAL ESTATE REVENUES

Real Estate Revenues by Category
(\$ Millions)



Fiscal Year 2018 Compared to 2017

The Authority's commercial real estate line of business earns revenues from ground leases, district service fees and parking on properties owned by the Authority in South Boston, East Boston and Charlestown. Revenues from the Authority's real estate activities totaled \$30.5 million in fiscal year 2018, up \$5.5 million or 22.0% versus prior year.

Real Estate Revenues (*\$ millions*)

	FY 2018	FY 2017
Real Estate	\$ 30.5	\$ 25.0

The increase in revenue was primarily due to a \$5.0 million increase in ground rent income due to a one-time closing payment on a parcel in South Boston from a developer, along with annual escalations to existing leases. Parking revenue increased by \$0.2 million due in part to the opening of the South Boston Waterfront Transportation Center in May 2018. This new facility has 1,550 spaces, and will be supplemented during FY2019 with branding, public realm, and other enhancements. Other revenue increases included higher utility fee reimbursements of \$0.1 million and other miscellaneous increases of \$0.2 million.

Fiscal Year 2017 Compared to 2016

Revenues from the Authority's real estate activities in fiscal year 2017 totaled \$25.0 million and reflected an increase of \$0.5 million versus fiscal year 2016. The increase was primarily due to a \$0.3 million increase in ground rent income due to annual adjustments to leases, higher utility fee reimbursements of \$0.1 million and other miscellaneous increases of \$0.1 million.

OPERATING EXPENSES

The Authority's total operating expenses in fiscal year 2018 were \$757.5 million, an increase of \$30.2 million or 4.2% over the prior year. The increase was due primarily to a \$27.8 million or 8.0% increase in operations and maintenance expenses to support higher business activity. Pension and other post-employment benefits expense declined by a combined \$9.9 million or 25.4% due to favorable net investment returns of 16.51% (Pension) and 7.59% (OPEB). Depreciation and amortization expense increased by \$9.3 million or 3.7% as \$294.3 million of assets were placed into service.

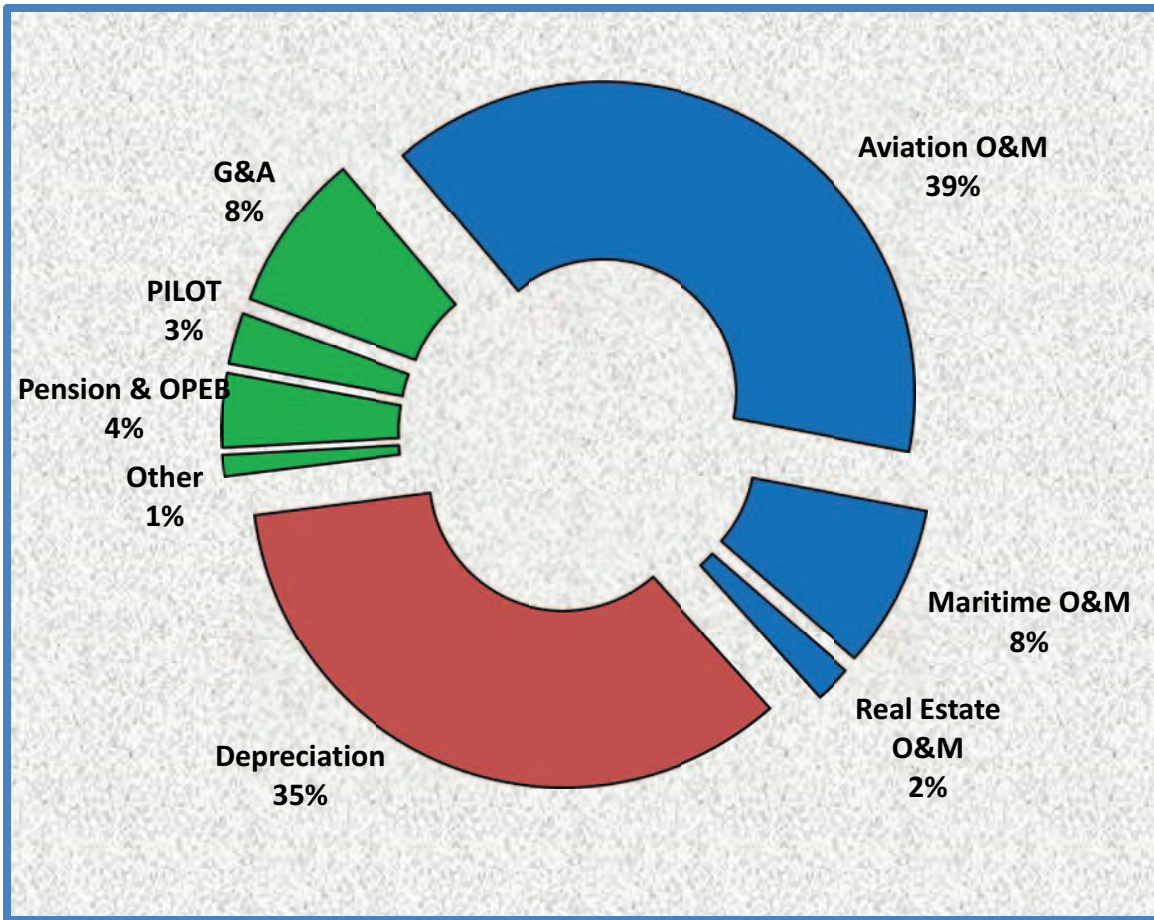
Operating Expenses (\$ millions)

	FY 2018	FY 2017 (Restated)	\$ Change	% Change
Aviation Operations and Maintenance	\$ 296.2	\$ 274.5	\$ 21.7	7.9%
Maritime Operations and Maintenance	64.0	59.6	4.4	7.4%
Real Estate Operations and Maintenance	14.9	13.2	1.7	12.9%
General and Administrative	62.5	59.4	3.1	5.2%
Payments in Lieu of Taxes	20.4	19.3	1.1	5.7%
Pension and Other Post-employment Benefits	29.0	38.9	(9.9)	-25.4%
Other	8.4	9.6	(1.2)	-12.5%
Depreciation and Amortization	262.1	252.8	9.3	3.7%
Total Operating Expenses	\$ 757.5	\$ 727.3	\$ 30.2	4.2%

	FY 2017 (Restated)	FY 2016	\$ Change	% Change
Aviation Operations and Maintenance	\$ 274.5	\$ 261.1	\$ 13.4	5.1%
Maritime Operations and Maintenance	59.6	53.4	6.2	11.6%
Real Estate Operations and Maintenance	13.2	11.9	1.3	10.9%
General and Administrative	59.4	58.2	1.2	2.1%
Payments in Lieu of Taxes	19.3	19.4	(0.1)	-0.5%
Pension and Other Post-employment Benefits	38.9	29.7	9.2	31.0%
Other	9.6	7.6	2.0	26.3%
Depreciation and Amortization	252.8	247.5	5.3	2.1%
Total Operating Expenses	\$ 727.3	\$ 688.7	\$ 38.6	5.6%

Note: Fiscal Year 2016 Pension and Other Post-employment Benefits expense does not reflect the changes in accounting for OPEB costs proscribed by GASB No. 75.

**FY18 Operating Expenses by Category
(% of Total Expenses)**



Aviation Operations and Maintenance Expenses – FY 2018

In fiscal year 2018, aviation operations and maintenance expenses were \$296.2 million, an increase of \$21.7 million or 7.9% over the previous year. The breakdown of aviation operations and maintenance expenses by each of Massport’s aviation facilities is provided below:

**Aviation Operating and Maintenance Expenses
(\$ millions)**

	FY 2018	FY 2017	FY 2016
Logan	\$ 277.4	\$ 257.8	\$ 245.1
Hanscom	11.8	10.2	9.3
Worcester	7.0	6.5	6.7
Total	\$ 296.2	\$ 274.5	\$ 261.1

Logan Airport Operations and Maintenance Expenses – FY 2018

Operations and maintenance expenses for Logan Airport in fiscal year 2018 were \$277.4 million and accounted for approximately 93.7% of all aviation operations and maintenance expenses and 74.0% of the Authority's total operations and maintenance expenses. In fiscal year 2018, operations and maintenance expenses for Logan Airport increased by \$19.6 million, or 7.6% over the prior year.

Increased business activity resulted in a \$2.7 million cost increase for items including shuttle bus operations, terminal building cleaning, overtime for Logan Airport ground traffic control and credit card processing fees for parking operations. Utility expenses increased by \$3.5 million due to a 23% increase in the cost of electricity. Payroll expense was higher by \$4.3 million due to merit increases and collectively bargained wage adjustments. Weather-related costs increased by \$2.5 million as the Authority required more overtime, materials and services to keep the airport open and safe due to 60 inches of snowfall in FY18 versus 48 inches in FY17. Expenses were also higher by \$2.8 million for remediation work required on the old Air Traffic Control tower and other assets at Logan Airport slated for demolition or renovation. Miscellaneous expenses were up \$4.6 million due primarily to Logan Terminal B and C roadway work, training of a new State Police class, and a one-time asset write down of \$0.7 million for Logan Airport Hangar 16.

Logan Airport Operations and Maintenance Expenses – FY 2017

Operations and maintenance expenses for Logan Airport in fiscal year 2017 were \$257.8 million and accounted for approximately 94% of all aviation operations and maintenance expenses and 74% of the Authority's total operations and maintenance expenses. They increased by \$12.7 million, or 5.2% over the prior year.

Increased business activity resulted in a \$2.6 million cost increase for items including shuttle bus operations, ground transportation staff, terminal building cleaning and credit card processing fees. Airfield and structural repairs and maintenance resulted in a \$2.8 million increase, and utility expenses increased by \$2.6 million. Payroll expense was higher by \$2.5 million and security-related costs increased by \$2.1 million.

Hanscom Field and Worcester Airport Operations and Maintenance Expenses – FY 2018

In fiscal year 2018, operations and maintenance expenses for Hanscom Field were \$11.8 million, an increase of \$1.6 million or 15.7% over the prior year. The majority of the increase was due to \$1.0 million for property repairs related to flooding from the July 13, 2017 rain storm, and most of this expense is being recovered through an insurance claim. The remaining \$0.5 million increase was attributable to higher payroll and benefits expense.

Operations and maintenance expenses for Worcester Regional Airport were \$7.0 million, a \$0.5 million or 7.7% increase. Contributors to the expense increase included \$0.2 million for higher payroll and benefits expense, \$0.1 million for higher utility costs, and \$0.2 million for additional materials, supplies and other miscellaneous expenses.

Hanscom Field and Worcester Airport Operations and Maintenance Expenses – FY 2017

In fiscal year 2017, operations and maintenance expenses for Hanscom Field were \$10.2 million, an increase of \$0.9 million or 10.7% over the prior year. The increase was due to \$1.0 million for environmental remediation expenses related to the demolition of a hangar.

Operations and maintenance expenses for Worcester Regional Airport were \$6.5 million, a decrease of \$0.2 million or 4.2% due primarily to lower equipment rental expense of \$0.2 million as fire rescue equipment that was rented in fiscal year 2016 was replaced with purchased equipment in fiscal year 2017.

Maritime Operations and Maintenance Expenses – FY 2018

Maritime operations and maintenance expenses were \$64.0 million, \$4.4 million or 7.4% higher than the prior year. Higher business activity resulted in a \$3.2 million increase in expenses, \$2.9 million of which was for stevedoring container handling costs to support the 10.4% increase in container volume while the remainder was for overtime required to support record container and cruise activity. Other increases included \$0.6 million for higher weather-related expenses due to 60 inches of snow in FY18 versus 48 inches in FY17, an increase of \$0.5 million for utility expenses due to higher electricity costs, and payroll and benefits expense of \$0.3 million.

Maritime Operations and Maintenance Expenses – FY 2017

Maritime operations and maintenance expenses in FY2017 were \$59.6 million, \$6.2 million or 11.6% higher than the prior year. Maritime incurred an additional \$2.5 million of stevedoring expense driven by the 3.9% increase in TEUs coupled with additional weekend container ship visits causing higher stevedoring pay. Other increases included \$1.5 million for the Sail Boston event for overtime, security screening, equipment rental and other expenses, \$0.9 million for maintenance improvements to the Flynn Cruiseport, \$0.7 million for additional services related to equipment maintenance and snow removal, and higher payroll and benefits expense of \$0.4 million.

Real Estate Operations and Maintenance Expenses – FY 2018

Real Estate operations and maintenance costs in fiscal year 2018 were \$14.9 million, up by \$1.7 million or 12.9% versus the prior year. Repair expenses were up by \$0.6 million due to

damages to the pier at 88 Black Falcon caused by a container ship that broke free from Conley Terminal in a storm. The Authority has filed an insurance claim to recoup these costs. Professional fees increased by \$0.4 million for engineering and legal resources to help advance the development of several parcels of land. The Authority incurred a \$0.3 million asset write off as part of a parcel development, and payroll and benefits expenses were higher by \$0.3 million.

Real Estate Operations and Maintenance Expenses – FY 2017

Real Estate operations and maintenance costs in fiscal year 2017 were \$13.2 million, up by \$1.3 million or 10.9% versus the prior year. The increase was due to higher security costs of \$0.3 million for state police growth in the Seaport District, higher payroll and benefits expense of \$0.2 million, \$0.4 million for repairs related to roadway surfaces and higher public affairs expense for special events, and \$0.1 million for increased utilities costs.

General and Administrative Expenses – FY 2018

The Authority’s general and administrative costs were \$62.5 million in fiscal year 2018, \$3.1 million or 5.2% higher than fiscal year 2017. The drivers of the increase include additional payroll costs for administrative employees of \$1.7 million primarily for merit based pay increases as new hiring was minimal, and a \$0.4 million increase in materials and supplies expense mainly related to computers and copy machines.

The following table shows the allocation of the Authority’s general and administrative expenses by business line for fiscal years 2018, 2017 and 2016.

**General and Administrative Expenses
(\$ millions)**

	FY 2018	FY 2017 (Restated)	FY 2016
Logan	\$ 43.6	\$ 42.5	\$ 42.3
Hanscom	2.3	2.1	1.9
Worcester	2.8	2.3	2.0
Maritime	8.5	8.1	8.2
Real Estate	5.3	4.4	3.8
Total	\$ 62.5	\$ 59.4	\$ 58.2

General and Administrative Expenses – FY 2017

The Authority’s restated FY2017 general and administrative costs were \$59.4 million, \$1.2 million or 2.1% higher than fiscal year 2016. The GASB 75 restatement related to health

care benefits resulted in an expense increase of \$0.3 million over FY2016. Payroll costs for administrative employees were higher by \$1.6 million for merit based pay increases, and benefits expense was up by \$0.5 million. These increases were partially offset by a \$1.3 million decrease in Airline Business Incentive Program expenses due primarily to the completion of incentive programs for Turkish Airlines and Emirates Airlines in fiscal year 2016.

PILOT, Pension & OPEB and Other Expenses – FY 2018

In fiscal year 2018, the Authority’s PILOT payments to the City of Boston and the Town of Winthrop totaled \$20.4 million and reflect a \$1.1 million or 5.7% increase versus fiscal year 2017. The City of Boston’s PILOT payments are contractually linked to the annual rise in the Consumer Price Index (CPI), which added \$0.4 million of new costs. The remainder of the increase is related to community mitigation payments to organizations such as the East Boston Foundation for new facilities being constructed at Logan Airport.

The Authority’s expenses for pension and OPEB were \$29.0 million, a decrease of \$9.9 million or 25.4% compared to fiscal year 2017. The Authority’s pension expense decreased by \$10.9 million, primarily due to a 16.51% favorable net return on pension plan assets versus the 7.25% rate used to project the pension liability. The Authority’s OPEB expense increased by \$1.0 million due to a 7.59% favorable net return on the OPEB assets versus the 7.25% rate used to project the OPEB liability net of amortization of prior year losses. The investment return on the pension assets was higher than the return for the OPEB assets as the measurement period for the pension assets was calendar year ended December 31, 2017, while the measurement period for OPEB was fiscal year ended June 30, 2017.

The following table shows the allocation of PILOT, Pension, OPEB, and other expenses by business line for fiscal years 2018 and 2017.

FY18 - PILOT, Pension, OPEB, and Other Expenses
(\$ millions)

	PILOT	PENSION	OPEB	OTHER	TOTAL
Logan	\$ 18.2	\$ 7.0	\$ 15.9	\$ 5.8	\$ 46.9
Hanscom	0.0	0.3	0.6	0.3	1.2
Worcester	0.0	0.3	0.4	0.2	0.9
Maritime	1.3	0.8	2.4	1.8	6.3
Real Estate	0.9	0.4	0.9	0.3	2.5
Total	\$ 20.4	\$ 8.8	\$ 20.2	\$ 8.4	\$ 57.8

FY17 - PILOT, Pension, OPEB, and Other Expenses
(\$ millions)

	PILOT	PENSION	OPEB (Restated)	OTHER	TOTAL
Logan	\$ 17.2	\$ 15.6	\$ 15.1	\$ 7.4	\$ 55.3
Hanscom	0.0	0.6	0.6	0.2	1.4
Worcester	0.0	0.7	0.3	0.2	1.2
Maritime	1.3	1.9	2.4	1.6	7.2
Real Estate	0.8	0.9	0.8	0.2	2.7
Total	\$ 19.3	\$ 19.7	\$ 19.2	\$ 9.6	\$ 67.8

PILOT, Pension & OPEB and Other Expenses – FY 2017

In fiscal year 2017, the Authority's PILOT payments to the City of Boston and the Town of Winthrop totaled \$19.3 million and reflect a 0.5% or \$0.1 million decrease versus fiscal year 2016. The decrease reflects the end of a 10-year agreement that required the Authority to pay a \$0.7 million per year supplemental payment to the City of Boston from FY07 through FY16. The City of Boston's PILOT payments are contractually linked to the CPI, which added \$0.4 million of new costs, and also incorporate an agreement for mitigation payments to the East Boston Foundation for new facilities being constructed at Logan Airport. The amount of these mitigation payments increased by \$250,000 in fiscal year 2017.

The Authority's expenses for pension and OPEB were \$38.9 million, an increase of \$9.2 million or 31.0% compared to fiscal year 2016. The Authority's net pension liability increased \$33.4 million, primarily due to a reduction in the plan's discount rate resulting in a \$4.1 million pension expense increase in FY2017. The Authority's OPEB expense increased by \$5.1 million due to revisions to the mortality tables used in calculating benefits and the addition of approximately 100 beneficiaries previously omitted from the prior year's actuarial OPEB valuation.

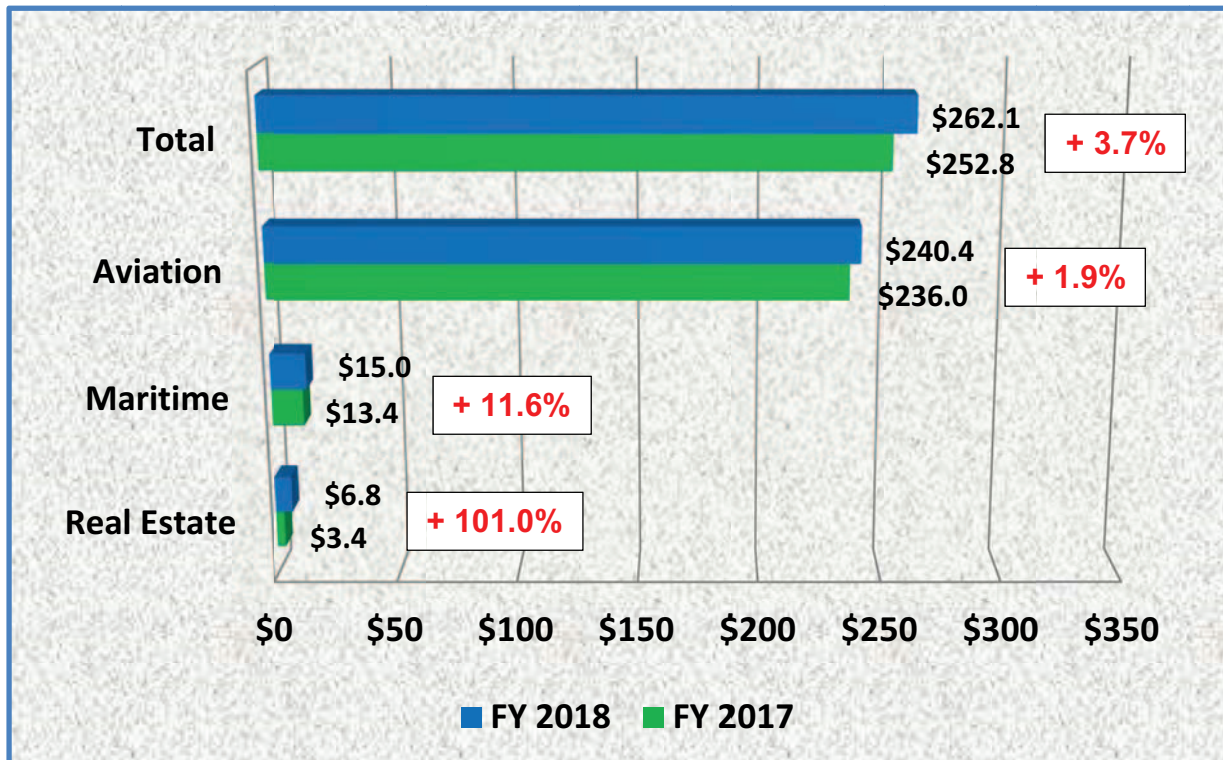
Please see Note 6 (Pension Plan), Note 7 (OPEB) and Note 10 (PILOT) in the attached financial statements.

Depreciation and Amortization Expenses – FY 2018

The Authority recognized \$262.1 million in depreciation and amortization expenses in fiscal year 2018, an increase of \$9.3 million or 3.7% compared to fiscal year 2017. This increase is the result of \$294.3 million in new assets being placed into service. During fiscal year 2018, the Authority completed and placed into service assets in the Real Estate business unit including the South Boston Waterfront Transportation Center at a cost of \$84.4 million, assets in the Maritime unit including the Conley Terminal Dedicated Freight Corridor at a cost of \$36.8 million, and assets in the Aviation unit including the CAT III Instrument Landing System at

Worcester Airport at a cost of \$30.2 million and modifications to Gates 37 and 38 at Logan Airport at a cost of \$19.4 million. These amounts represent the amount of capital actually placed into service and not necessarily the total project cost.

Depreciation and Amortization Expense (\$ millions)



Depreciation and Amortization Expenses – FY 2017

The Authority recognized \$252.8 million in depreciation and amortization expenses in fiscal year 2017, an increase of \$5.3 million or 2.1% compared to fiscal year 2016. This increase is the result of \$384.9 million in new assets being placed into service. During fiscal year 2017, the Authority completed and placed into service projects including the Logan Airport Terminal E Renovation and Enhancement at a cost of \$155.8 million, the final portion of the Checked Baggage Inspection System (CBIS) at Logan Airport at a cost of \$52.2 million, phase two of the Heating, Ventilation and Air Conditioning (HVAC) system replacement at Logan Airport Terminals B, C and E at a cost of \$14.8 million, and the Rehabilitation of Runway 4L/22R at Logan Airport at a cost of \$14.7 million.

NON-OPERATING REVENUES (EXPENSES) AND CAPITAL CONTRIBUTIONS

The Authority recognized a net \$51.9 million in non-operating revenues in fiscal year 2018, an increase of \$8.8 million, or 20.4%, over fiscal year 2017. Non-operating revenues in fiscal year 2017 were \$43.1 million, an increase of \$4.6 million or 11.9% over the \$38.5 million recognized in fiscal year 2016.

Non-operating Revenues and Expenses and Capital Contributions (\$ millions)

	FY 2018	FY 2017	\$ Change	% Change
Passenger facility charges	\$ 81.0	\$ 76.3	\$ 4.7	6.2%
Customer facility charges	33.0	33.1	(0.1)	-0.3%
Investment income	18.6	13.1	5.5	42.0%
Other income (expense), net	(1.0)	(0.3)	(0.7)	233.3%
Terminal A debt service contributions	(12.2)	(11.9)	(0.3)	2.5%
Interest expense	(67.5)	(67.2)	(0.3)	0.4%
Total Non-operating Revenues (Expenses)	\$ 51.9	\$ 43.1	\$ 8.8	20.4%
Capital Contributions	\$ 25.4	\$ 12.6	\$ 12.8	101.6%

	FY 2017	FY 2016	\$ Change	% Change
Passenger facility charges	\$ 76.3	\$ 70.7	\$ 5.6	7.9%
Customer facility charges	33.1	32.3	0.8	2.5%
Investment income	13.1	9.5	3.6	37.9%
Other income (expense), net	(0.3)	1.5	(1.8)	-120.0%
Terminal A debt service contributions	(11.9)	(11.9)	0.0	0.0%
Interest expense	(67.2)	(63.6)	(3.6)	5.7%
Total Non-operating Revenues (Expenses)	\$ 43.1	\$ 38.5	\$ 4.6	11.9%
Capital Contributions	\$ 12.6	\$ 56.0	(\$ 43.4)	-77.5%

For fiscal year 2018, PFCs were \$81.0 million, a \$4.7 million or 6.2% increase over the prior year due to increased passenger activity at Logan Airport. Revenues from CFCs totaled \$33.0 million, basically flat versus prior year as rental car transaction days at Logan Airport's Rental Car Center were relatively constant with prior year. The Authority also generated \$18.6 million of investment income, an increase of \$5.5 million due to higher interest rates on fixed income investments and an increase in the Authority's cash balance available for investment. Other expense was \$1.0 million, which was \$0.7 million higher than prior year due to miscellaneous items including settlement claims, gains or losses on short term investments and gains or losses on sale of equipment. The Authority made a voluntary contribution of

\$12.2 million in PFCs to the Terminal A debt service fund to help reduce terminal rental rates, which was slightly higher than the contribution made in the prior year. Interest expense on long term debt was \$67.5 million, which was \$0.3 million or 0.4% higher than fiscal year 2017.

For fiscal year 2017, PFCs were \$76.3 million, a \$5.6 million or 7.9% increase over the prior year due to increased passenger activity at Logan Airport. Revenues from CFCs totaled \$33.1 million, \$0.8 million higher than the prior year due to a 2.0% increase in rental car transaction days at Logan Airport's Rental Car Center. The Authority also generated \$13.1 million of investment income, an increase of \$3.6 million due to higher interest rates on fixed income investments and an increase in the Authority's cash balance available for investment. Other income (expense), which is comprised of settlement claims, gains or losses on short term investments, gains or losses on the sale of equipment, and any other Authority income, was (\$0.3) million, a decrease of \$1.8 million due in part to a decrease in the fair market value on its investments as higher interest rates reduced bond prices. The Authority also made a voluntary contribution of \$11.9 million in PFCs to the Terminal A debt service fund to help reduce terminal rental rates, which was comparable to the contribution made in the prior year. Interest expense on long term debt was \$67.2 million, which was \$3.6 million or 5.7% higher than fiscal year 2016.

Capital Contributions

The majority of the Authority's capital contributions are grants awarded by the Federal Aviation Administration (FAA) and by the Maritime Administration (MARAD) unit of the United States Department of Transportation. The FAA grants are for the Airport Improvement Program (AIP) to construct runways, taxiways, apron lighting, residential sound proofing projects, and other capital related projects, primarily at Logan Airport. The MARAD grant is a FASTLANE grant that is being used to improve Conley Terminal. The Authority also receives capital contributions from the Department of Homeland Security, as well as grants from the Federal Emergency Management Administration, the Environmental Protection Agency and the Massachusetts Executive Office of Public Safety and Security related to the State Homeland Security Program, which safeguards the Airport and Port of Boston.

Capital contributions in fiscal year 2018 were \$25.4 million, an increase of \$12.8 million versus the prior year. The major components of the 2018 revenues were from the FAA AIP grant program for project expenditures related to runway rehabilitation and improvements at Logan Airport and the CAT III ILS project at Worcester Regional Airport, and from MARAD for the rehabilitation of Conley Terminal Berths 11 and 12 and the replacement of RTG (Rubber Tired Gantry) drives. The \$12.8 million increase versus last year was primarily due to \$10.2 million of MARAD FASTLANE grant funding, which began in FY 2018, and \$2.3 million of additional FAA AIP funding versus the prior year.

The majority of the \$12.6 million of fiscal year 2017 revenues were from the FAA AIP grant program for project expenditures related to runway rehabilitation and improvements at Logan Airport and the CAT III ILS project at Worcester Regional Airport. The \$43.4 million decline versus the prior year was primarily due to the CBIS project as the Authority received \$37.8 million of Transportation Security Administration (TSA) reimbursements for this project in fiscal year 2016 versus no reimbursements in fiscal year 2017 as that project was completed.

THE AUTHORITY'S STATEMENTS OF NET POSITION

The Statements of Net Position present the financial position of the Authority at the end of each fiscal year. The Statements include all assets, deferred outflows of resources, liabilities and deferred inflows of resources of the Authority. Net Position is the difference between total assets plus deferred outflows of resources less total liabilities and deferred inflows of resources and is an indicator of the current fiscal health of the Authority. A summarized comparison of the Authority's assets, deferred outflows of resources, liabilities, deferred inflows of resources and net position at June 30, 2018, 2017 and 2016 is as follows:

Condensed Statements of Net Position for FY 2018 and FY 2017 (\$ millions)

	FY 2018	FY 2017 (Restated)	\$ Change	% Change
Assets				
Current assets	\$ 948.4	\$ 803.9	\$ 144.5	18.0%
Capital assets, net	3,216.3	3,142.5	73.8	2.3%
Other non-current assets	402.6	420.1	(17.5)	-4.2%
Total Assets	4,567.3	4,366.5	200.8	4.6%
Deferred Outflows of Resources				
Deferred loss on refunding of bonds	16.2	18.0	(1.8)	-10.0%
Deferred outflows of resources related to Pension plan	13.9	37.3	(23.4)	-62.7%
Deferred outflows of resources related to OPEB	29.0	37.7	(8.7)	-23.1%
Total Deferred Outflows of Resources	59.1	93.0	(33.9)	-36.5%
Liabilities				
Current liabilities	\$ 360.6	\$ 308.0	\$ 52.6	17.1%
Bonds payable, including current portion	1,835.3	1,850.7	(15.4)	-0.8%
Other non-current liabilities	233.8	285.9	(52.1)	-18.2%
Total Liabilities	2,429.7	2,444.6	(14.9)	-0.6%
Deferred Inflows of Resources				
Deferred gain on refunding of bonds	6.1	6.8	(0.7)	-10.3%
Deferred inflows of resources related to Pension plan	25.4	0.0	25.4	100.0%
Deferred inflows of resources related to OPEB	0.8	0.0	0.8	100.0%
Total Deferred Inflows of Resources	32.3	6.8	25.5	375.0%
Total Net Position	\$ 2,164.3	\$ 2,008.1	\$ 156.2	7.8%

Column totals might not add due to rounding.

The Authority ended fiscal year 2018 with total assets of \$4,567.3 million, an increase of \$200.8 million or 4.6% over the prior year. This increase is primarily due to growth in current assets due to higher investment balances from bond proceeds and additional income from FY18 operations. Deferred outflows of resources for fiscal year 2018 were \$59.1 million, a \$33.9 million decrease from the previous year due to a reduction in the deferred outflows on the OPEB and Pension Plan investments from favorable investment gains on plan assets and less amortization of prior year losses. The Authority's total assets consist primarily of capital assets, net, which represent approximately \$3,216.3 million or 69.5% of the Authority's total assets and deferred outflows of resources as of June 30, 2018.

The Authority's total liabilities as of June 30, 2018 were \$2,429.7 million, a decrease of \$14.9 million or 0.6% due mainly to the decline in the Authority's pension and OPEB liabilities due to favorable investment returns. The Authority's liabilities consist primarily of bonds payable (including current portion), which accounted for 74.5% of the Authority's total liabilities and deferred inflows at June 30, 2018.

The Authority's total net position for fiscal year 2018 was \$2,164.3 million, a \$156.2 million or 7.8% increase over the prior year. This increase reflects the Authority's net operating income of \$78.9 million, net non-operating income of \$51.9 million and capital contributions of \$25.4 million. The growth in net position will be used to fund the Authority's strategic initiatives.

Condensed Statements of Net Position for FY 2017 and FY 2016 (\$ millions)

	FY 2017 (Restated)	FY 2016	\$ Change	% Change
Assets				
Current assets	\$ 803.9	\$ 632.3	\$ 171.6	27.1%
Capital assets, net	3,142.5	3,086.9	55.6	1.8%
Other non-current assets	420.1	496.7	(76.6)	-15.4%
Total Assets	4,366.5	4,215.9	150.6	3.6%
Deferred Outflows of Resources				
Deferred loss on refunding of bonds	18.0	17.9	0.1	0.6%
Deferred outflows of resources related to Pension plan	37.3	47.0	(9.7)	-20.6%
Deferred outflows of resources related to OPEB	37.7	0.0	37.7	100.0%
Total Deferred Outflows of Resources	93.0	64.9	28.1	43.3%
Liabilities				
Current liabilities	\$ 308.0	\$ 331.9	(\$ 23.9)	-7.2%
Bonds payable, including current portion	1,850.7	1,724.5	126.2	7.3%
Other non-current liabilities	285.9	132.4	153.5	115.9%
Total Liabilities	2,444.6	2,188.8	255.8	11.7%
Deferred Inflows of Resources				
Deferred gain on refunding of bonds	6.8	8.1	(1.3)	-16.0%
Total Deferred Inflows of Resources	6.8	8.1	(1.3)	-16.0%
Total Net Position	\$ 2,008.1	\$ 2,083.9	(\$ 75.8)	-3.6%

The Authority ended fiscal year 2017 with total assets of \$4,366.5 million, an increase of \$150.6 million or 3.6% over the prior year. This increase was primarily due to growth in current assets due to higher investment balances. Deferred outflows of resources for fiscal year 2017 were \$93.0 million, a \$28.1 million increase from the previous year due primarily to the recording of the \$37.7 million deferred outflow of resources related to OPEB as required by GASB 75. The Authority's total assets consist primarily of capital assets, which represent approximately \$3,142.5 million or 70.5% of the Authority's total assets and deferred outflows of resources as of June 30, 2017.

The Authority's total liabilities as of June 30, 2017 were \$2,444.6 million, an increase of \$255.8 million or 11.7% due mainly to the growth in the Authority's debt to finance strategic initiatives and the reporting for the first time of the net OPEB liability as required by GASB 75. The Authority's liabilities consist primarily of bonds payable (including current portion), which accounted for 75.5% of the Authority's total liabilities and deferred inflows at June 30, 2017.

The Authority's total net position for fiscal year 2017 was \$2,008.1 million, a \$75.8 million or 3.6% decrease compared to the prior year. This decrease reflects the impact of GASB 75 of \$165.1 million partially offset by net operating income of \$33.6 million, net non-operating income of \$43.1 million and capital contributions of \$12.6 million. The growth in net position will be used to fund the Authority's strategic initiatives.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

As of June 30, 2018 and 2017, the Authority had \$3,216.3 million and \$3,142.5 million of capital assets (net of depreciation), respectively. These include land, construction in process, buildings, runways, roadways, machinery and equipment, air rights and parking rights. The Authority's net capital assets increased by \$73.8 million or 2.3% in fiscal year 2018 primarily as the result of \$337.3 million in capital expenditures partially offset by \$262.1 million of depreciation expense.

In fiscal year 2018, the Authority placed \$294.3 million of new assets into service. Major projects included the South Boston Waterfront Transportation Center which includes 1,550 parking spaces and other transportation amenities at a cost of \$84.4 million, the Conley Terminal Dedicated Freight Corridor at a cost of \$36.8 million, the CAT III Instrument Landing System at Worcester Airport to enable aircraft to land at that airport in poor visibility conditions at a cost of \$30.2 million, and modifications to Gates 37 and 38 at Logan Airport at a cost of \$19.4 million.

The Authority placed \$384.9 million of assets into service for completed capital projects during fiscal year 2017. Major projects included the Logan Airport Terminal E Renovation and Enhancement at a cost of \$155.8 million and the final component of the new Checked Baggage Inspection System (CBIS) at a cost of \$52.2 million. Other assets placed into service in fiscal year 2017 included a new Heating, Ventilation and Air Conditioning (HVAC) system for Terminals B, C, and E at Logan Airport at a costs of \$14.8 million and the rehabilitation of Runway 4L/22R at Logan Airport at a cost of \$14.7 million.

Capital assets, net comprised approximately 69.5%, 70.5% and 72.1% of the Authority's total assets and deferred outflows of resources at June 30, 2018, 2017 and 2016, respectively. During fiscal years 2018, 2017 and, 2016, the Authority spent approximately \$293.2 million, \$322.7 million and \$351.0 million, respectively, constructing new assets and improving existing assets already in service, inclusive of construction in process.

The Authority's capital assets are principally funded by the proceeds of revenue bonds, Authority generated revenues, PFCs, CFCs, and federal and state grants. The Authority's aviation facilities account for approximately 90% of all capital assets. The following chart provides a breakdown of total capital assets at June 30 2018, 2017 and 2016.

Capital Assets by Type
(\$ thousands)

	FY 2018	FY 2017	FY 2016	% Change 2018-2017	% Change 2017-2016
Land	\$ 230,600	\$ 230,593	\$ 226,497	0.0%	1.8%
Construction in progress	192,782	149,730	225,930	28.8%	-33.7%
Buildings	1,727,729	1,727,657	1,594,212	0.0%	8.4%
Runways and other pavings	389,082	364,152	356,538	6.8%	2.1%
Roadways	345,881	327,839	351,920	5.5%	-6.8%
Machinery and equipment	258,063	262,306	243,958	-1.6%	7.5%
Air rights	52,143	58,628	64,711	-11.1%	-9.4%
Parking rights	20,047	21,588	23,131	-7.1%	-6.7%
Capital assets, net	\$ 3,216,327	\$ 3,142,493	\$ 3,086,897	2.3%	1.8%

Please see Note 4, Capital Assets in the attached financial statements.

Debt Administration

The Authority's bond sales must be approved by the Members of the Authority (the "Board") and must comply with the rules and regulations of the United States Treasury Department. The Authority, through its 1978 Trust Agreement, has a covenant to maintain a debt service coverage ratio of not less than 1.25. Debt service coverage is calculated based on a formula set forth in the 1978 Trust Agreement. Historically, the Authority has maintained a debt service

coverage ratio higher than its 1978 Trust Agreement requirement to maintain its high investment grade bond ratings and keep capital costs low. As of June 30, 2018, 2017, and 2016, the Authority's debt service coverage under the 1978 Trust Agreement was 3.43, 3.27 and 2.98 respectively.

The 1999 PFC Trust Agreement requires a First Lien Sufficiency covenant ratio in excess of 1.05. There was no PFC debt as of June 30, 2018 as all debt was paid off on July 3, 2017. As of June 30, 2017 and 2016, the Authority's PFC First Lien Sufficiency covenant under the PFC Trust Agreement was 63.44 and 10.68 respectively. The ratio was much higher as of June 30, 2017 because the Authority's remaining long term PFC debt was paid off in full on July 3, 2017.

The CFC Trust Agreement requires that the Authority maintain a debt service coverage ratio of at least 1.30. As of June 30, 2018, 2017, and 2016, the CFC debt service coverage ratio was 2.65, 2.60 and 2.50 respectively.

The Authority had net bonds payable outstanding as of June 30, 2018 in the amount of \$1,684.0 million, a net decrease of \$34.8 million compared to fiscal year 2017. During fiscal year 2018, the Authority issued \$169.5 million of Massachusetts Port Authority Revenue Bonds Series 2017-A with an original issue premium of \$27.2 million. Approximately \$91.4 million of the proceeds from the Series 2017-A Bonds was used to refund the entire outstanding balances of the Authority's 2007 Series C and 2010 Series D bonds, resulting in a net present value benefit to the Authority of \$2.8 million. The remaining \$91.0 million of Series 2017-A proceeds is being used to finance capital improvements, with the primary project being the consolidation and optimization of Terminal B at Logan Airport. Due to the "private activity" nature of the construction projects, the bonds were sold as Alternative Minimum Tax (AMT) bonds.

The Authority had net bonds payable outstanding as of June 30, 2017 in the amount of \$1,718.8 million, a net increase of \$93.3 million compared to fiscal year 2016. During fiscal year 2017, the Authority issued \$230.3 million of Massachusetts Port Authority Revenue Bonds in two series. The proceeds from the Series 2016 A Revenue Refunding Bonds, in the principal amount of \$50.0 million, were used to refund a portion of the outstanding balance of the Authority's 2007 Series A bonds and the entire outstanding balance of the Authority's 2008 Series A bonds, resulting in a net present value benefit to the Authority of \$6.8 million. The Series 2016 B Revenue Bonds were issued in the amount of \$180.3 million and were used to finance capital improvements, including renovations and enhancements to Terminal E and the consolidation of Terminal B. Due to the "private activity" nature of the construction projects, they were sold as Alternative Minimum Tax (AMT) bonds.

The Official Statements relating to the Authority's Bond issuances are available from the Authority or by accessing the Authority's website.

Please see Note 5, Bonds and Notes Payable in the attached Financial Statements.

THE AUTHORITY'S CONDENSED CASH FLOWS

The following summary shows the major sources and uses of cash during the following fiscal years:

Statements of Cash Flows (\$ millions)

	FY 2018	FY 2017	\$ Change	% Change
Net cash provided by operating activities	\$ 334.0	\$ 315.1	\$ 18.9	6.0%
Net cash (used in) capital and related financing activities	(228.1)	(164.3)	(63.8)	38.8%
Net cash (used in) investing activities	(166.3)	(128.3)	(38.0)	29.6%
Net (decrease)/increase in cash and cash equivalents	(60.4)	22.5	(82.9)	-368.4%
Cash and cash equivalents, beginning of year	273.0	250.5	22.5	9.0%
Cash and cash equivalents, end of year	\$ 212.6	\$ 273.0	(\$ 60.4)	-22.1%

	FY 2017	FY 2016	\$ Change	% Change
Net cash provided by operating activities	\$ 315.1	\$ 280.7	\$ 34.4	12.3%
Net cash (used in) capital and related financing activities	(164.3)	(318.3)	154.0	-48.4%
Net cash (used in) investing activities	(128.3)	(125.1)	(3.2)	2.6%
Net (decrease)/increase in cash and cash equivalents	22.5	(162.7)	185.2	-113.8%
Cash and cash equivalents, beginning of year	250.5	413.2	(162.7)	-39.4%
Cash and cash equivalents, end of year	\$ 273.0	\$ 250.5	\$ 22.5	9.0%

The Authority's cash and cash equivalents at June 30, 2018 was \$212.6 million, a decrease of \$60.4 million, or 22.1% from the \$273.0 million in cash and cash equivalents reported in fiscal year 2017. The Authority generated \$334.0 million in cash from operations during fiscal year 2018 compared to \$315.1 million in the prior year, an increase of \$18.9 million, or 6.0%, primarily from increased business activity at Logan Airport, record container volumes at Conley Terminal, and activity at its other facilities. The Authority used \$228.1 million in cash for capital and related financing activities to finance the Authority's capital program and to pay debt service expenses during the year. This was a \$63.8 million increase in the use of cash from the \$164.3 million in cash used for capital and related financing activities in fiscal year 2017 due mainly to lower proceeds from the issuance of bonds, net. The Authority used \$166.3 million in cash from investments towards its capital and operating needs, an increase of \$38.0 million from the amount of cash used for investing activities in fiscal year 2017.

The Authority's cash and cash equivalents at June 30, 2017 was \$273.0 million, an increase of \$22.5 million, or 9.0% from the \$250.5 million in cash and cash equivalents reported in fiscal

year 2016. The Authority generated \$315.1 million in cash from operations during fiscal year 2017 compared to \$280.7 million in the prior year, an increase of \$34.4 million, or 12.3%, primarily from increased business activity at Logan Airport, record container volumes at Conley Terminal, and activity at its other facilities. The Authority used \$164.3 million in cash for capital and related financing activities to finance the Authority's capital program and to pay debt service expenses during the year. This was a \$154.0 million decrease in the use of cash from the \$318.3 million in cash used for capital and related financing activities in fiscal year 2016, which included a debt refunding payment. The Authority used \$128.3 million in cash from investments towards its capital and operating needs, an increase of \$3.2 million from the amount of cash used for investing activities in fiscal year 2016.

Contacting the Authority's Financial Management

For additional information concerning the Authority and the Retirement System, please see the Authority's website, www.massport.com. Financial information can be found by clicking on "Finance". The Authority's executive offices are located at One Harborside Drive, Suite 200S, East Boston, Massachusetts 02128, and the main telephone number is (617) 568-5000. Questions may be directed to John P. Pranckevicius, CPA, Director of Administration and Finance, and Secretary-Treasurer for the Massachusetts Port Authority.

MASSACHUSETTS PORT AUTHORITY

Statements of Net Position

June 30, 2018 and 2017

(In thousands)

	<u>2018</u>	<u>2017</u> <u>(Restated)</u>
Current assets:		
Cash and cash equivalents	\$ 73,299	\$ 82,095
Investments	170,039	132,021
Restricted cash and cash equivalents	139,285	190,914
Restricted investments	478,519	317,441
Accounts receivable		
Trade, net	68,085	67,630
Grants receivable	9,948	5,811
Total receivables (net)	<u>78,033</u>	<u>73,441</u>
Prepaid expenses and other assets	9,171	7,964
Total current assets	<u>948,346</u>	<u>803,876</u>
Noncurrent assets:		
Investments	132,105	152,661
Restricted investments	261,576	259,040
Prepaid expenses and other assets	5,796	5,637
Investment in joint venture	3,130	2,843
Capital assets-not being depreciated	423,382	380,323
Capital assets-being depreciated-net	<u>2,792,945</u>	<u>2,762,170</u>
Total noncurrent assets	<u>3,618,934</u>	<u>3,562,674</u>
Total assets	<u>4,567,280</u>	<u>4,366,550</u>
Deferred outflows of resources		
Deferred loss on refunding of bonds	16,243	17,983
Deferred outflows of resources related to pensions	13,869	37,298
Deferred outflows of resources related to OPEB	<u>28,974</u>	<u>37,729</u>
Total deferred outflows of resources	<u>59,086</u>	<u>93,010</u>
Current liabilities:		
Accounts payable and accrued expenses	160,488	133,949
Compensated absences	1,327	1,400
Contract retainage	6,022	8,729
Current portion of long term debt	62,951	123,000
Commercial notes payable	142,000	109,000
Accrued interest on bonds payable	40,552	39,015
Unearned revenues	<u>10,185</u>	<u>15,939</u>
Total current liabilities	423,525	431,032
Noncurrent liabilities:		
Accrued expenses	11,300	14,621
Compensated absences	17,566	17,908
Net pension liability	34,927	88,322
Net OPEB liability	143,858	150,451
Contract retainage	5,778	1,236
Long-term debt, net	1,772,365	1,727,665
Unearned revenues	<u>20,419</u>	<u>13,374</u>
Total noncurrent liabilities	<u>2,006,213</u>	<u>2,013,577</u>
Total liabilities	<u>2,429,738</u>	<u>2,444,609</u>
Deferred inflows of resources		
Deferred gain on refunding of bonds	6,074	6,809
Deferred inflows of resources related to pensions	25,390	—
Deferred inflows of resources related to OPEB	<u>831</u>	<u>—</u>
Total deferred inflows of resources	<u>32,295</u>	<u>6,809</u>
Net position		
Net investment in capital assets	1,379,079	1,290,338
Restricted		
Bond funds	212,738	209,333
Project funds	271,003	196,738
Passenger facility charges	51,133	102,914
Customer facility charges	67,161	48,550
Other purposes	<u>31,233</u>	<u>28,101</u>
Total restricted	<u>633,268</u>	<u>585,636</u>
Unrestricted	151,986	132,168
Total net position	<u>\$ 2,164,333</u>	<u>\$ 2,008,142</u>

The accompanying notes are an integral part of these financial statements.

MASSACHUSETTS PORT AUTHORITY

Statements of Revenues, Expenses, and Changes in Net Position

Years ended June 30, 2018 and 2017

(In thousands)

	<u>2018</u>	<u>2017</u> <u>(Restated)</u>
Operating revenues:		
Aviation rentals	\$ 240,798	\$ 217,906
Aviation parking	180,803	169,354
Aviation shuttle bus	20,303	19,278
Aviation fees	153,236	145,418
Aviation concessions	114,492	98,913
Aviation operating grants and other	1,911	2,909
Maritime fees, rentals and other	94,351	82,088
Real estate fees, rents and other	30,497	25,037
Total operating revenues	<u>836,391</u>	<u>760,903</u>
Operating expenses:		
Aviation operations and maintenance	296,186	274,506
Maritime operations and maintenance	63,976	59,629
Real estate operations and maintenance	14,852	13,215
General and administrative	62,470	59,342
Payments in lieu of taxes	20,408	19,276
Pension and other post-employment benefits	28,952	38,903
Other	8,449	9,631
Total operating expenses before depreciation and amortization	<u>495,293</u>	<u>474,502</u>
Depreciation and amortization	262,162	252,846
Total operating expenses	<u>757,455</u>	<u>727,348</u>
Operating income	<u>78,936</u>	<u>33,555</u>
Nonoperating revenues and (expenses):		
Passenger facility charges	81,016	76,296
Customer facility charges	33,003	33,055
Investment income	18,577	13,093
Net decrease in the fair value of investments	(4,373)	(4,501)
Other revenues	1,364	4,062
Settlement of claims	2,019	248
Terminal A debt service contribution	(12,232)	(11,941)
Other expenses	(195)	(198)
Gain on sale of equipment / property	182	125
Interest expense	(67,490)	(67,157)
Total nonoperating revenues (expenses), net	<u>51,871</u>	<u>43,082</u>
Increase in net position before capital contributions	130,807	76,637
Capital contributions	25,384	12,635
Increase in net position	156,191	89,272
Net position, beginning of year	<u>2,008,142</u>	<u>1,918,870</u>
Net position, end of year	\$ <u>2,164,333</u>	\$ <u>2,008,142</u>

The accompanying notes are an integral part of these financial statements.

MASSACHUSETTS PORT AUTHORITY

Statements of Cash Flows
Years ended June 30, 2018 and 2017
(In thousands)

	<u>2018</u>	<u>2017</u>
		(Restated)
Cash flows from operating activities:		
Cash received from customers and operating grants	\$ 833,354	\$ 765,757
Payments to vendors	(298,606)	(255,538)
Payments to employees	(165,669)	(161,571)
Payments in lieu of taxes	(19,383)	(19,276)
Other post-employment benefits	(15,682)	(14,300)
Net cash provided by operating activities	<u>334,014</u>	<u>315,072</u>
Cash flows from capital and related financing activities:		
Acquisition and construction of capital assets	(293,228)	(322,735)
Proceeds from the issuance of bonds	196,155	268,866
Principal payments on refunded debt	(94,855)	(63,382)
Interest paid on bonds and notes	(82,151)	(78,220)
Principal payments on long-term debt	(109,425)	(75,240)
Proceeds from commercial paper financing	64,000	9,000
Principal payments on commercial paper	(31,000)	(25,000)
Terminal A debt service contribution	(12,232)	(11,941)
Proceeds from passenger facility charges	79,908	72,039
Proceeds from customer facility charges	32,546	33,059
Proceeds from capital contributions	20,698	28,851
Settlement of claims	1,274	248
Proceeds from sale of equipment	170	178
Net cash used in capital and related financing activities	<u>(228,140)</u>	<u>(164,277)</u>
Cash flows from investing activities:		
Purchases of investments, net	(887,039)	(726,630)
Sales of investments, net	703,791	586,428
Realized (loss)/gain on sale of investments	(20)	(34)
Interest received on investments	16,969	11,987
Net cash used in investing activities	<u>(166,299)</u>	<u>(128,249)</u>
Net increase (decrease) in cash and cash equivalents	<u>(60,425)</u>	<u>22,546</u>
Cash and cash equivalents, beginning of year	273,009	250,463
Cash and cash equivalents, end of year	\$ <u>212,584</u>	\$ <u>273,009</u>
Reconciliation of operating income to net cash provided by operating activities:		
Cash flows from operating activities:		
Operating income	\$ 78,936	\$ 33,555
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	262,162	252,846
Provision for uncollectible accounts	439	1,642
Changes in operating assets and liabilities:		
Trade receivables	406	(4,835)
Prepaid expenses and other assets	3,574	3,481
Accounts payable and accrued expenses	(12,494)	10,657
Net pension liability and deferred inflows/outflows	(4,576)	6,141
Net OPEB liability and deferred inflows/outflows	2,993	3,563
Compensated absences	(415)	(227)
Unearned revenue	2,989	8,249
Net cash provided by operating activities	\$ <u>334,014</u>	\$ <u>315,072</u>
Noncash investing activities:		
Net increase in the fair value of investments	\$ <u>(5,666)</u>	\$ <u>(1,314)</u>

The accompanying notes are an integral part of these financial statements.

MASSACHUSETTS PORT AUTHORITY

Notes to Financial Statements

June 30, 2018 and 2017

1. Summary of Significant Accounting Policies and Practices

Reporting Entity

The Massachusetts Port Authority (the "Authority") is a body politic and corporate and a public instrumentality of The Commonwealth of Massachusetts (the "Commonwealth") created and existing pursuant to Chapter 465 of the Acts of 1956, as amended, (the "Enabling Act"). The Authority controls, operates and manages Boston-Logan International Airport ("Logan Airport"), Laurence G. Hanscom Field, Worcester Regional Airport, the Port of Boston and other facilities in the Port of Boston.

The Authority has no stockholders or equity holders, and the Authority's financial statements are not a component unit of the Commonwealth's financial statements. The provisions of the Enabling Act and the Trust Agreement, dated as of August 1, 1978 as amended and supplemented (the "1978 Trust Agreement"), between the Authority and U.S. Bank National Association (as successor in interest to State Street Bank and Trust Company), as trustee (the "Trustee"), the Passenger Facility Charges ("PFC") Revenue Bond Trust Agreement dated May 6, 1999, as amended and supplemented (the "PFC Trust Agreement"), between the Authority and The Bank of New York Mellon, as trustee (the "PFC Trustee"), which was superseded by the PFC Depository Agreement dated July 3, 2017, and the Customer Facility Charges ("CFC") Revenue Bond Trust Agreement dated May 18, 2011, as amended and supplemented (the "CFC Trust Agreement"), between the Authority and U.S. Bank National Association, as trustee (the "CFC Trustee"), govern all funds, with limited exceptions, received by the Authority pursuant to the Enabling Act.

In April 1981, the Authority adopted a retiree benefit plan whereby the Authority assumed the full cost of group health insurance including basic life insurance, dental insurance and catastrophic illness coverage to those retirees and surviving spouses (and qualifying dependents) who have retired under the Authority's retirement system (collectively referred to as the "OPEB Plan"). In June 2009 and May 2016, the Board made changes to the plan benefits to be paid by the Authority for certain existing and future retirees. For additional details, see Note 7.

In June 2008, the Authority created the Retiree Benefits Trust (the "RBT" or the "Trust") to fund its OPEB Plan obligations. It was established as an irrevocable governmental trust under Section 115 of the Internal Revenue Code. In no event shall any part of the principal or income of the RBT be paid or revert back to the Authority or be used for any purpose whatsoever other than for the exclusive benefit of retirees and their beneficiaries.

Basis of Accounting

The Authority's activities are accounted in a manner similar to that often utilized in the private sector. The Authority's financial statements are prepared using the accrual basis of accounting and the economic resources measurement focus in accordance with U.S. generally accepted accounting principles ("GAAP").

MASSACHUSETTS PORT AUTHORITY

Notes to Financial Statements

June 30, 2018 and 2017

Revenues from airlines, rentals, parking fees, tolls and concessions are reported as operating revenues. Capital grants, PFCs, CFCs and financing or investing related transactions are reported as non-operating revenues and expenses. All expenses related to operating the Authority's facilities are reported as operating expenses.

Accounting per Applicable Trust Agreements

Under the 1978 Trust Agreement, cash of the Authority is deposited daily into the Revenue Fund established pursuant to the 1978 Trust Agreement and is transferred to the cash concentration account. All such revenues are then transferred to the various funds established pursuant to the 1978 Trust Agreement. After providing for operating expenses, including pension expense and transfers to the self insurance account, cash revenues are then transferred to the Interest and Sinking Fund, which are applied to debt service on any outstanding revenue bonds, the Maintenance Reserve Fund, the Payment In Lieu of Taxes Fund, the Capital Budget Fund, if applicable, and finally, the Improvement and Extension Fund.

Prior to July 3, 2017, all PFC revenue was deposited in the PFC Pledged Revenue Fund established pursuant to the PFC Trust Agreement and was utilized to pay debt service on PFC Revenue Bonds as required in the PFC Trust Agreement. Any remaining funds were transferred to the PFC Capital Fund. The Authority paid the final maturities of the PFC Revenue Bonds outstanding of \$52.9 million on July 3, 2017 and established a new PFC Depository Agreement with The Bank of New York, Mellon, as custodian (the "PFC Custodian").

CFC revenue is deposited in the CFC Revenue Fund established pursuant to the CFC Trust Agreement and is utilized to pay debt service on CFC Special Facilities Bonds as required in the CFC Trust Agreement. Any remaining funds are transferred to the CFC Stabilization Fund.

See Note 2 for a reconciliation between the increase in net position as calculated per GAAP and net revenues as calculated per accounting practices prescribed by the 1978 Trust Agreement.

a) Net Position

The Authority follows the "business type" activity requirements of GASB Statement No. 34, *Basic Financial Statements and Management's Discussion and Analysis for State and Local Governments*, as amended, which requires that resources be classified for accounting and reporting purposes into the following three net position components:

- Net investment in capital assets: Capital assets, net of accumulated depreciation and outstanding principal balances of debt and the deferred outflows / inflows of resources attributable to the acquisition, construction or improvement of those assets.
- Restricted: Net position of assets whose use by the Authority is subject to externally imposed stipulations that can be fulfilled by actions of the Authority pursuant to those stipulations or that expire by the passage of time. Such assets include the construction funds held pursuant to the 1978 Trust Agreement, the PFC Trust Agreement (which was

MASSACHUSETTS PORT AUTHORITY

Notes to Financial Statements

June 30, 2018 and 2017

superseded by the PFC Depositary Agreement dated July 3, 2017), the CFC Trust Agreement and the self insurance fund.

- **Unrestricted:** Net position of assets that are not subject to externally imposed stipulations. Net amounts of assets, deferred outflows of resources, liabilities and deferred inflows of resources not included in the determination of net investment in capital assets or restricted components of net position. Unrestricted net position may be designated for specific purposes by action of management or the Members of the Authority (the "Board") or may otherwise be limited by contractual agreements with outside parties. When both restricted and unrestricted resources are available for a particular restricted use, it is the Authority's policy to use restricted resources first, and then unrestricted resources as needed.

b) Deferred outflows/inflows of resources

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net assets that applies to a future period and so will not be recognized as an outflow of resources (expense) until then. At June 30, 2018 and 2017, the Authority has several items that qualify for reporting in this category. The first deferred outflow results from refunding long term debt and is the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. The second item is related to the difference in the expected versus actual experience of the Pension Plan and the OPEB Trust. This amount is deferred and amortized over approximately seven years. The third item is related to the change in Pension Plan assumptions, the reduction in the discount rate, which is being amortized over approximately seven years. The fourth item is related to OPEB Trust contributions made subsequent to the measurement date which will reduce the net OPEB liability in fiscal year 2019.

In addition to liabilities, the statement of net position reports a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net assets that applies to a future period and so will not be recognized as an inflow of resources (revenue) until that time. At June 30, 2018 and 2017, the Authority has two items that qualify for reporting in this category. The first deferred inflow of resources results from refunding long term debt and is the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. The second item is related to the net deferred gain on Pension Plan and OPEB Trust investments, which is being amortized over a five year period.

c) Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments, including restricted assets, with an original maturity date of 30 days or less to be cash equivalents.

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d) *Investments*

Investments with a maturity greater than one year are recorded at their fair value with all investment income, including changes in the fair value of investments, reported as investment income in the financial statements. Investments with a maturity date of less than one year are carried at amortized cost, which approximates fair value. Fair value is determined based on quoted market prices. The Authority recorded to investment income an unrealized decrease in the fair value of investments of \$4.4 million and a realized loss of \$0.02 million at June 30, 2018 and an unrealized decrease in the fair value of investments of \$4.5 million and a realized gain of \$0.03 million at June 30, 2017.

e) *Restricted Cash and Investments*

Certain cash, cash equivalents and investments are restricted for use by the 1978 Trust Agreement, the PFC Depository Agreement, the CFC Trust Agreement, and other external requirements. These amounts have been designated primarily for expenditures related to future construction or asset acquisitions, debt service and debt service reserves.

f) *Capital Assets*

Capital assets are recorded at cost and include land, land improvements, buildings, machinery and equipment, runways, roadways and other paving and non-maintenance dredging. Such costs include, where appropriate, capitalized interest and related legal costs. The costs of normal upkeep, maintenance, maintenance dredging and repairs are not capitalized.

The capitalization threshold is noted below:

<u>Asset Category</u>	<u>Dollar Threshold</u>
Buildings	\$ 10,000
Machinery & Equipment	5,000
Equipment Repair/Overhaul (Major)	25,000
Runway, Roadways & Other Paving	50,000
Land Improvements	50,000

The Authority capitalizes certain interest costs associated with taxable and tax-exempt borrowing, less any interest earned on the proceeds of those borrowings, during the period of construction. Interest expense of \$10.4 million and \$8.6 million, reduced by interest income of \$537.8 thousand and \$282.0 thousand resulted in capitalized interest of \$9.9 million and \$8.3 million for the years ended June 30, 2018 and 2017, respectively.

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g) Depreciation

The Authority provides for depreciation using the straight-line method. Depreciation is intended to distribute the cost of depreciable properties over the following estimated useful lives:

<u>Asset Category</u>	<u>Years</u>
Buildings	25
Runways (original construction)	25
Other airfield paving	12
Roadway	25
Dredging	15
Machinery and equipment	5 to 10

h) Other Assets and Prepaid Items

Other assets consist of certain payments to vendors reflecting costs applicable to future accounting periods and are recorded as prepaid items in the financial statements.

i) Amortization

Revenue bond premiums and discounts are deferred and amortized on a straight-line basis over the term of the bonds, as this approximates the effective interest method. Unamortized amounts are presented as a (reduction) addition of the face amount of bonds payable.

The difference between the reacquisition price and net carrying amount of defeased bonds is amortized on the straight-line method over the shorter of the maturity of the new debt or the defeased debt and is recorded as deferred inflows/outflows of resources on the statement of net position.

j) Revenue Recognition

Fees and other services consist of parking fees, landing fees, and container handling fees. Revenues from parking fees and container handling fees are recognized at the time the service is provided. Landing fees are recognized as part of operating revenue when airline related facilities are utilized and are principally based on the landed weight of the aircraft. The scheduled airline fee structure is determined and approved annually by the Board and is based on full cost recovery pursuant to an arrangement between the Authority and the respective airlines.

Rental and concession fees are generated from airlines, rental car companies, and other commercial tenants. Rental revenue on leases is recognized over the term of the associated lease. Concession revenue is recognized partially based on self-reported concession revenue by the tenants and partially based on minimum rental rates. Unearned revenue consists primarily of amounts received in advance for future rents or other

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services. These amounts are recognized as revenue as they are earned over the applicable period.

Rates and charges are set annually based on the budgeted operating costs and actual capital costs. A true-up calculation is performed for landing fees, terminal rents, and baggage fees at year-end based on the actual results. In the event the actual costs are more than the budgeted amounts for the year, the Authority will recover additional rates and charges. In the event the actual costs are less than the budgeted amounts, the Authority will issue credits to the respective airlines.

The Authority presents its accounts receivable at the expected net realizable value. Accordingly, the Authority has recorded an allowance for doubtful accounts against its accounts receivable of \$4.4 million and \$3.5 million at June 30, 2018 and 2017, respectively.

k) Passenger Facility Charges

In 1993, the Authority received initial approval from the Federal Aviation Administration (“FAA”) to impose a \$3.00 PFC on all outbound tickets purchased at Logan Airport. PFCs collected by the Authority can be used for capital projects determined by the FAA to be eligible in accordance with the Aviation Safety and Capacity Expansion Act of 1990. Effective October 1, 2005, the Authority received approval from the FAA to increase the PFC collection to \$4.50. All PFC’s collected by the Authority are presently deposited under the PFC Depository Agreement with The Bank of New York Mellon, as PFC Custodian.

Through June 30, 2018, the Authority had cumulative PFC cash collections of \$1,203.1 million, including interest thereon.

As part of the Final Agency Decision issued by the FAA in 2011, the Authority was authorized, but not required, to use up to \$14.4 million per year in PFCs to pay approximately one-third of the debt service on the Terminal A Special Facility bonds. The Authority chose to make this use of PFC revenue in order to offset the increase in Terminal A rates and charges that would have resulted from the scheduled increase in Terminal A debt service associated with the beginning of principal payments on January 1, 2012 for the Terminal A bonds. This use of PFCs will maintain the rate consistency across all terminals and facilitate the Authority’s ability to assign carriers to Terminal A.

At June 30, 2018, the Authority’s collection authorization and total use approval is \$1.65 billion.

As of June 30, 2018 and 2017, \$0.0 million and \$52.9 million of PFC bonds were outstanding, respectively.

Revenues derived from the collection of PFCs are recognized on the accrual basis, based on the month the charges were levied and collected by the airlines. Due to their restricted use, PFCs are categorized as non-operating revenues. The Authority recognized \$81.0

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million and \$76.3 million in PFC revenue for the fiscal years ended June 30, 2018 and 2017, respectively.

l) Customer Facility Charges

Effective December 1, 2008, the Board established a CFC of \$4.00 per day for rental cars which originated out of Logan Airport. Effective December 1, 2009, this charge was increased to \$6.00 per day. The proceeds of the CFC are being used to finance the Rental Car Center (the "RCC") and associated bus purchases. Revenues derived from the collection of CFCs are recognized on the accrual basis, based on the month the charges were levied and collected by the rental car companies. Due to their restricted use, CFCs are categorized as non-operating revenues. Pursuant to the CFC Trust Agreement, the Authority issued two series of Special Facilities Revenue Bonds in June 2011 (the "Series 2011 Bonds"). The Series 2011 Bonds were issued for the purpose of providing funds sufficient, together with other available funds of the Authority, to finance the development and construction of the RCC and related improvements at Logan Airport, fund certain deposits to the Debt Service Reserve Fund and the Supplemental Reserve Fund, and pay certain costs of issuance of the Series 2011 Bonds. The Series 2011 Bonds and any additional bonds that may be issued under the CFC Trust Agreement on parity with the Series 2011 Bonds are secured by CFC Pledged Revenues and by Contingent Rent, if any, payable by the rental car companies and other funds. The Series 2011 Bonds are not secured by any other revenues of the Authority.

The Authority recognized \$33.0 million and \$33.1 million in CFC revenue for the fiscal years ended June 30, 2018 and 2017, respectively.

As of June 30, 2018 and 2017, \$194.6 million and \$198.2 million of CFC bonds were outstanding, respectively.

m) Capital Contributions

The Authority receives capital contributions from various federal agencies and the Commonwealth in support of specific operational programs and its Capital Program. Grant revenues are recognized as related expenditures are incurred and all eligibility requirements are met. Grants for capital asset acquisition, facility development, runway/airfield rehabilitation and long-term planning are reported as capital contributions. Capital contributions are reported in the Statement of Revenues, Expenses and Changes in Net Position after non-operating revenues and expenses and their use is restricted. In fiscal years 2018 and 2017, the Authority recognized \$25.4 million and \$12.6 million of capital contributions, respectively. The 2018 and the 2017 capital contributions were generated from reimbursements under the FAA AIP grant program and the Nationally Significant Freight and Highway Project Program - Fastlane.

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n) Compensated Absences

The Authority accrues for vacation and sick pay liabilities when they are earned by the employee. The liability for vested vacation and sick pay is reflected in the accompanying statements of net position as compensated absences. The current portion of compensated absences at June 30, 2018 and 2017 was \$1.3 million and \$1.4 million, respectively. The table below presents the Authority's compensated absences activity at June 30, 2018 and 2017 and for the years then ended (in thousands):

	<u>2018</u>	<u>2017</u>
Liability balance, beginning of year	\$ 19,308	19,536
Vacation and sick pay earned during the year	16,471	16,107
Vacation and sick pay used during the year	<u>(16,886)</u>	<u>(16,335)</u>
Liability balance, end of year	<u>\$ 18,893</u>	<u>19,308</u>

o) Pensions

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 Massachusetts Port Authority Employees Retirement System (the "Plan") and additions to/deductions from Plan's fiduciary net position have been determined on the same basis as they are reported by the Plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

p) Postemployment Benefits Other Than Pensions (OPEB)

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the Massachusetts Port Authority Retiree Benefits Trust (the "Trust") and additions to/deductions from Trust's fiduciary net position have been determined on the same basis as they are reported by the Trust. For this purpose, the Trust recognizes benefit payments when due and payable in accordance with the benefit terms. Investments are reported at fair value.

q) Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenditures during the reporting period. Actual results could differ from those estimates.

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r) New Accounting Pronouncements

In June 2015, GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("OPEB") ("GASB No. 75"). The objective of this Statement is to address reporting by governments that provide OPEB to their employees and for governments that finance OPEB for employees of other governments. The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2017.

The requirements of GASB 75 apply to the financial statements of all state and local governmental employers whose employees (or volunteers that provide services to state and local governments) are provided with OPEB through OPEB plans that are administered through trusts that meet certain criteria and to the financial statements of state and local governmental nonemployer contributing entities that have a legal obligation to make contributions directly to such pension plans. The requirements apply whether the government's financial statements are presented in stand-alone financial reports or are included in the financial reports of another government.

GASB 75 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, and deferred inflows of resources, and expense/expenditures. For defined OPEB plans, GASB 75 identifies the methods and assumptions that should be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employer service. Note disclosure and required supplementary information requirements about OPEB are also addressed.

GASB 75 replaces the requirements of Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions*. The requirements of Statement 45 remain applicable for OPEB that are not covered by the scope of this Statement.

The Authority adopted GASB 75 effective July 1, 2016. In connection with the adoption of this new standard all accounts were analyzed by management in order to assess the impact on the financial statements. The implementation of GASB 75 resulted in the Authority reporting a Net OPEB Liability of \$121.2 million as of July 1, 2016. The Authority's Net Position as of July 1, 2016 and the Authority's Statement of Net Position as of June 30, 2017 and Statement of Revenues and Expenses and Changes in Net Position for the year ended June 30, 2017 have been restated to reflect the required adjustments.

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(in thousands)	As Previously Reported	Adjustment	Restated
As of July 1, 2016:			
Net Position	\$ 2,083,942	\$ (165,072)	\$ 1,918,870
For the year ended June 30, 2017:			
General and administrative	59,142	200	59,342
Pension and other post employment benefits	37,603	1,300	38,903
Total operating expense	725,848	1,500	727,348
Operating income	35,055	(1,500)	33,555
Increase in Net Position	90,772	(1,500)	89,272
As of June 30, 2017:			
Net OPEB liability	-	150,451	150,451
Net OPEB asset	53,850	(53,850)	-
Deferred outflows of resources related to OPEB	-	37,729	37,729
Net Position	\$ 2,174,714	\$ (166,572)	\$ 2,008,142

In January 2017, GASB issued Statement No. 84, *Fiduciary Activities*, (“GASB No. 84”). This Statement establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and post employment benefit arrangements that are fiduciary activities.

An activity meeting the criteria should be reported in a fiduciary fund in the basic financial statements. Governments with activities meeting the criteria should present a statement of fiduciary net position and a statement of changes in fiduciary net position. An exception to that requirement is provided for a business-type activity that normally expects to hold custodial assets for three months or less.

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This Statement describes four fiduciary funds that should be reported, if applicable: (1) pension (and other employee benefit) trust funds, (2) investment trust funds, (3) private-purpose trust funds, and (4) custodial funds. Custodial funds generally should report fiduciary activities that are not held in a trust or equivalent arrangement that meets specific criteria.

A fiduciary component unit, when reported in the fiduciary fund financial statements of a primary government, should combine its information with its component units that are fiduciary component units and aggregate that combined information with the primary government's fiduciary funds. This Statement also provides for recognition of a liability to the beneficiaries in a fiduciary fund when an event has occurred that compels the government to disburse fiduciary resources. Events that compel a government to disburse fiduciary resources occur when a demand for the resources has been made or when no further action, approval, or condition is required to be taken or met by the beneficiary to release the assets. The requirements of this Statement are effective for financial statements for periods beginning after December 15, 2018.

The Authority is currently evaluating the impact of the implementation of GASB No. 84 on its financial statements.

In March 2017, GASB issued Statement No. 85, *Omnibus 2017* ("GASB No. 85"). The objective of this Statement is to address practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and OPEB.

Specifically, this Statement addresses the following topics:

- Blending a component unit in circumstances in which the primary government is a business-type activity that reports in a single column for financial statement presentation.
- Reporting amounts previously reported as goodwill and "negative" goodwill.
- Classifying real estate held by insurance entities.
- Measuring certain money market investments and participating interest-earning investment contracts at amortized cost.
- Timing of the measurement of pension or OPEB liabilities and expenditures recognized in financial statements prepared using the current financial resources measurement focus.
- Recognizing on-behalf payments for pensions or OPEB in employer financial statements.
- Presenting payroll-related measures in required supplementary information for purposes of reporting by OPEB plans and employers that provide OPEB.
- Classifying employer-paid member contributions for OPEB.
- Simplifying certain aspects of the alternative measurement method for OPEB.

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- Accounting and financial reporting for OPEB provided through certain multiple-employer defined benefit OPEB plans.

The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2017. The Authority adopted this Statement as of July 1, 2016 and there was no significant impact on its financial statements.

In May 2017, GASB issued Statement No. 86, *Certain Debt Extinguishment Issues*, (“GASB No. 86”). The primary objective of this Statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources—resources other than the proceeds of refunding debt—are placed in an irrevocable trust for the sole purpose of extinguishing debt. This Statement also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance.

The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2017. The Authority adopted this Statement and there was no impact on its financial statements.

In June 2017, GASB issued Statement No. 87, *Leases*, (“GASB No. 87”). The objective of this Statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This Statement increases the usefulness of governments’ financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments’ leasing activities.

The requirements of this Statement are effective for financial statements for periods beginning after December 15, 2019.

The Authority is currently evaluating the impact of the implementation of GASB No. 87 on its financial statements.

In April 2018, GASB issued Statement No. 88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements*, (“GASB No. 88”) The primary objective of this Statement is to improve the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt.

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This Statement defines debt for purposes of disclosure in notes to financial statements as a liability that arises from a contractual obligation to pay cash (or other assets that may be used in lieu of cash) in one or more payments to settle an amount that is fixed at the date the contractual obligation is established.

This Statement requires that additional essential information related to debt be disclosed in notes to financial statements, including unused lines of credit; assets pledged as collateral for the debt; and terms specified in debt agreements related to significant events of default with finance-related consequences, significant termination events with finance-related consequences, and significant subjective acceleration clauses.

For notes to financial statements related to debt, this Statement also requires that existing and additional information be provided for direct borrowings and direct placements of debt separately from other debt.

The requirements of this Statement are effective for reporting periods beginning after June 15, 2018.

The Authority is currently evaluating the impact of the implementation of GASB No. 88 on its financial statements.

In June 2018, GASB issued Statement No. 89, *Accounting for Interest Cost Incurred Before The End Of A Construction Period*, ("GASB No. 89") The objectives of this Statement are (1) to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and (2) to simplify accounting for interest cost incurred before the end of a construction period. This Statement establishes accounting requirements for interest cost incurred before the end of a construction period. Such interest cost includes all interest that previously was accounted for in accordance with the requirements of paragraphs 5–22 of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, which are superseded by this Statement. This Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. As a result, interest cost incurred before the end of a construction period will not be included in the historical cost of a capital asset reported in a business-type activity or enterprise fund.

This Statement also reiterates that in financial statements prepared using the current financial resources measurement focus, interest cost incurred before the end of a construction period should be recognized as an expenditure on a basis consistent with governmental fund accounting principles.

The requirements of this Statement are effective for reporting periods beginning after December 15, 2019.

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The Authority is currently evaluating the impact of the implementation of GASB No. 89 on its financial statements.

In September 2018, GASB issued Statement No. 90, *Majority Equity Interests – an amendment of GASB Statements No. 14 and No. 61* (“GASB No. 90”). The primary objectives of this Statement are to improve the consistency and comparability of government’s majority equity interest in legally separate organizations and to improve the relevance of financial statement information for certain component units.

The requirements of this Statement are effective for reporting periods beginning after December 15, 2018.

The Authority is currently evaluating the impact of the implementation of GASB No. 90 on its financial statements.

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2. Reconciliation between increase in net position as calculated under GAAP and net revenues as calculated under accounting practices prescribed by the 1978 Trust Agreement

Presented below are the calculations of the net revenues of the Authority under the 1978 Trust Agreement. Net revenue calculated based on the 1978 Trust Agreement is used in determining the Authority's compliance with the debt service coverage ratio (in thousands).

	2018	2017
Increase in Net Position per GAAP	\$ 156,191	\$ 89,272
Additions:		
Depreciation and amortization	262,162	252,846
Interest expense	67,490	67,157
Payments in lieu of taxes	20,408	19,276
Other operating expenses	10,398	3,789
Terminal A bonds - debt service contribution	12,232	11,941
OPEB expenses, net	4,480	4,903
Settlement of claims	(2,019)	(248)
Pension expense	(4,576)	6,141
Less:		
Passenger facility charges	(81,016)	(76,296)
Customer facility charges	(33,003)	(33,055)
Self insurance expenses	(61)	(245)
Capital grant revenue	(25,384)	(12,635)
Net decrease (increase) in the fair value of investments	4,354	4,501
Loss (gain) on sale of equipment	(182)	(125)
Other (revenues) expenses	(1,654)	3,945
Other non-operating revenues	(1,169)	(3,865)
Investment income	(6,293)	(5,191)
 Net Revenue per the 1978 Trust Agreement	 \$ 382,358	 \$ 332,111

Total net revenues, as defined by the 1978 Trust Agreement, pledged for the repayment of bonds issued under the 1978 Trust Agreement were \$382.4 million and \$332.1 million for the years ended June 30, 2018 and 2017, respectively.

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3. Deposits and Investments

The Authority's investments are made in accordance with the provisions of the 1978 Trust Agreement, the PFC Trust Agreement (which was superseded by the PFC Depository Agreement in July 2017 and the CFC Trust Agreement along with the investment policy adopted by the Board (the "Investment Policy"). The goals of the Investment Policy are, in order of importance, to preserve capital, to provide liquidity and to generate interest income.

As of June 30, 2018 and 2017, all investments were held on behalf of the Authority by the Trustee, the PFC Custodian the CFC Trustee or custodians in the Authority's name. The 1978 Trust Agreement, the PFC Depository Agreement and the CFC Trust Agreement require that securities collateralizing repurchase agreements must continuously have a fair value at least equal to the cost of the agreement plus accrued interest.

The Authority's investments in forward delivery agreements are in the form of a guaranteed investment contract ("GIC") which provides for, among other things, the sequential delivery of securities to be sold to the Trustee, PFC Custodian, or CFC Trustee, as applicable, periodically at a discount from maturity value such that the aggregate discount equals the interest rate previously agreed to between the Authority and the provider of the guaranteed investment contract.

The total accumulated unrealized gain (loss) due to the changes in fair value of investments related to investments with maturities in excess of one year was a loss of approximately \$5.7 million as of June 30, 2018 and a loss of approximately \$1.3 million as of June 30, 2017.

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The following summarizes the Authority's cash and cash equivalents and investments by type held at June 30, 2018 and 2017 (in thousands):

2018	Credit Rating (1)	Cost	Fair Value	Effective Duration
Massachusetts Municipal Depository Trust (6)	Unrated	\$ 181,981	\$ 181,981	0.003
Federal Home Loan Bank	AA+ / Aaa	49,006	48,753	0.989
Federally Deposit Insurance Corporation	Unrated (2)	1,001	1,001	0.003
Federal Home Loan Mortgage Corp.	AA+ / Aaa	41,799	41,452	0.946
Federal National Mortgage Association	AA+ / Aaa	81,155	80,395	1.350
Federal Farm Credit	AA+ / Aaa	18,055	17,990	0.791
Guaranteed Investment Contracts (GIC) (6)	AA+ / A1 (4)	44,818	44,818	10.229
Cash Deposit	Unrated	1,818	1,818	0.003
Certificates of Deposit	AAA / Aaa (3)	33,327	33,327	0.351
Commercial Paper	A-1/ P-1 (5)	423,452	423,452	0.271
Government Fund-Morgan Stanley / Wells Fargo	AAA / Aaa (5)	22,591	22,591	0.003
Municipal Bond	AAA/ Aa1	99,734	98,697	1.179
Money Market Funds	Unrated	2,231	2,231	0.003
Insured Cash Sweep	Unrated (2)	2,962	2,962	0.003
Treasury Notes	AA+ / Aaa	12,036	11,985	0.862
Corporate Bonds	AA- / Aa2 (7)	244,523	241,370	2.254
		<u>\$ 1,260,489</u>	<u>\$ 1,254,823</u>	
2017	Credit Rating (1)	Cost	Fair Value	Effective Duration
Massachusetts Municipal Depository Trust (6)	Unrated	\$ 233,906	\$ 233,906	0.003
Federal Home Loan Bank	AA+ / Aaa	97,379	97,197	0.989
Federally Deposit Insurance Corporation	Unrated (2)	5,003	5,003	0.003
Federal Home Loan Mortgage Corp.	AA+ / Aaa	50,904	50,728	0.946
Federal National Mortgage Association	AA+ / Aaa	98,923	98,484	1.350
Federal Farm Credit	AA+ / Aaa	36,085	36,025	0.791
Guaranteed Investment Contracts (GIC) (6)	AA+ / A1 (4)	43,051	43,051	10.229
Cash Deposit	Unrated	1,085	1,085	0.003
Certificates of Deposit	AAA / Aaa (3)	58,838	58,838	0.351
Commercial Paper	A-1/ P-1 (5)	188,769	188,769	0.271
Government Fund-Morgan Stanley / Wells Fargo	AAA / Aaa (5)	31,740	31,740	0.003
Municipal Bond	AAA/ Aa1	117,603	117,498	1.179
Money Market Funds	Unrated	3,015	3,015	0.003
Insured Cash Sweep	Unrated (2)	3,263	3,263	0.003
Treasury Notes	AA+ / Aaa	33,027	33,012	0.862
Corporate Bonds	AA- / Aa2 (7)	132,894	132,558	2.254
		<u>\$ 1,135,485</u>	<u>\$ 1,134,172</u>	

1. The ratings are from S&P or Moody's as of the fiscal year presented.
2. FDIC Insured Deposits Accounts.
3. Collateralized by Federal Agency Notes or Letter of Credit backed by each reserve.
4. Underlying rating of security held.
5. Credit quality of fund holdings.
6. MMDT and GIC are carried at cost, which approximates fair value in the tables.
7. The Authority owns a diverse portfolio of corporate bonds with S&P credit ratings ranging from A to AAA and Moody's credit ratings ranging from A1 to Aaa. These corporate bonds have an average credit rating of AA- / Aa2.

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The table below presents the Authority's cash and cash equivalents and investments based on maturity date (in thousands):

	2018		2017	
	Cost	Fair Value	Cost	Fair Value
Securities maturing in 1 year or more	\$ 398,566	\$ 393,681	\$ 412,899	\$ 411,701
Securities maturing in less than 1 year	649,339	648,558	449,577	449,462
Cash and cash equivalents	212,584	212,584	273,009	273,009
	\$ 1,260,489	\$ 1,254,823	\$ 1,135,485	\$ 1,134,172

Credit Risk

Credit risk is the risk that the Authority will be negatively impacted due to the default of the security issuer or investment counterparty.

The Authority's 1978 Trust Agreement, PFC Depository Agreement and CFC Trust Agreement each stipulate that, in addition to U.S. Treasury and government agency obligations, only certain highly rated securities are eligible investments, including bonds or obligations of any state or political subdivision thereof, rated in the two highest rating categories without regard to gradations within rating categories, by both Moody's (AAA, Aa1, Aa2 and Aa3) and S&P (AAA, AA+, AA, and AA-); commercial paper of a U.S. corporation, finance company or money market funds rated in the highest rating category, without regard to gradations within categories, by both Moody's and S&P; and investment contracts with banks whose long-term unsecured debt rating is in one of the two highest rating categories by both Moody's and S&P. In addition, U.S. dollar denominated corporate bonds, notes or other debt obligations issued or guaranteed by a domestic or foreign corporation, financial institution, non-profit or other entity rated in one of the three highest rating categories, without regard to gradations within such categories by Moody's and S&P.

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. Bank deposits in excess of the insured amount are uninsured and uncollateralized.

The Authority maintains depository accounts with Bank of America, N.A., Wells Fargo Bank, N.A., TD Bank, N.A. and The Bank of New York Mellon, the PFC Custodian. The Authority maintains a payroll disbursement, lockbox and collection accounts (for other than PFCs) with Bank of America, N.A. None of these accounts are collateralized.

The Authority's cash on deposits in the banks noted above at June 30, 2018 and 2017 was \$1.8 million and \$1.1 million, respectively, and of these amounts, \$1.3 million and \$1.0

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million was insured in each year, and no amount was collateralized at June 30, 2018 or 2017.

b) Custodial Credit Risk – Investments

Custodial credit risk is the risk that, in the event of a failure of the counterparty, the Authority would not be able to recover the value of its investments or collateral securities that were in the possession of an outside party. Investment securities are exposed to custodial credit risk if they are uninsured or not registered in the name of the Authority and are held by either the counterparty or, the counterparty's trust department or agent, but not in the Authority's name.

The Authority is authorized by the 1978 Trust Agreement, the PFC Depository Agreement, the CFC Trust Agreement and the Investment Policy to invest in obligations of the U.S. Treasury, including obligations of its agencies and instrumentalities, bonds and notes of public agencies or municipalities, bank time deposits, guaranteed investment contracts, money market accounts, commercial paper of a U.S. corporation or finance company and corporate bonds. All investments are held by a third party in the Authority's name. These investments are recorded at fair value.

Additionally, the Authority is authorized to invest in the Massachusetts Municipal Depository Trust ("MMDT"), a pooled money market like investment fund managed by the Commonwealth of Massachusetts, established under the General Laws, Chapter 29, Section 38A. MMDT investments are carried at amortized cost, which approximates fair value which is the same as the value of the pool. The Authority can purchase and sell its investments at any time without penalty.

The following guaranteed investment contracts were in force as of June 30, 2018 and 2017, respectively; they are uncollateralized and recorded at cost:

Investment Agreement				
<u>Provider</u>	<u>Rate</u>	<u>Maturity</u>	<u>2018</u>	<u>2017</u>
Trinity Plus Funding Company	4.357%	January 2, 2031	\$ 19,843	\$ 19,003
GE Funding Capital Markets	3.808%	December 31, 2030	24,975	24,048
	Total		<u>\$ 44,818</u>	<u>\$ 43,051</u>

c) Concentration of Credit Risk – Investments

Concentration of credit risk is assumed to arise when the amount of investments that the Authority has with any one issuer exceeds 5% of the total value of the Authority's investments. The Authority consults with its Investment Advisor to select Commercial Paper Issuers with strong credit ratings. The book values of portions of the Authority-wide portfolio, excluding investments issued by MMDT, the FDIC, or U.S. Government guaranteed obligations and the underlying securities held under forward delivery agreements at cost, that exceed 5% of the portfolio are as follows (in thousands):

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<u>Commercial Paper Issuer</u>	<u>2018</u>	<u>2017</u>
Bank of Tokyo Mitsubishi UFJ	\$ 61,482	\$ 54,819
BNP Paribas	29,767	-
Canadian Imperial	10,456	-
Dexia	61,264	-
General Electric	40,876	-
JP Morgan Chase	61,530	47,832
Credit Agricole	61,563	31,843
Rabobank	3,961	-
Toyota Motor Corporation	30,858	54,275
ING Funding	61,695	-
Total	<u>\$ 423,452</u>	<u>\$ 188,769</u>
% of Portfolio	<u>34.00%</u>	<u>16.70%</u>

d) Credit Ratings– Investments

The 1978 Trust Agreement, the PFC Depositary Agreement, the CFC Trust Agreement and the Investment Policy generally limit the Authority in the types of investments it can purchase to the two highest rating categories without regard to gradations within the rating categories by both Moody's (Aaa, Aa1, Aa2, and Aa3) and S&P (AAA, AA+, AA, and AA-) and in corporate bonds rated in one of the three highest rating categories without regard to gradations within such categories by Moody's and S&P.

Investments in bank certificates of deposits were fully collateralized. Also, the Authority invested in MMDT, managed by the State Treasury, which is not rated.

e) Interest Rate Risk – Investments

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The Authority has set targets for the preferred maturity structure of the investments held in each fund and account, and also sets targets each quarter for the effective duration for each fund that reflect the need for liquidity and the expected tradeoffs between yield and term for each different fund and account. It is the Authority's practice to hold investments until maturity in order to insulate the Authority's investment earnings from interest rate risk. The Authority mitigates interest rate risk by managing the weighted average maturity of each portfolio type to best meet its liquidity needs.

f) Cash, Cash Equivalents and Investments by Fund

The following summarizes cash and investments, at cost and fair value, as of June 30, by the various funds and accounts established by the Authority for debt covenant requirements

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and other purposes. In the following table, the fair value of MMDT and GIC approximate their costs (in thousands):

	2018		2017	
	Cost	Fair Value	Cost	Fair Value
1978 Trust				
Improvement and Extension Fund \$	306,833	\$ 304,378	\$ 277,639	\$ 277,012
Capital Budget Account	135,774	135,774	68,323	68,323
Debt Service Reserve Funds	113,714	112,827	114,717	114,509
Debt Service Funds	83,226	83,226	77,137	77,137
Maintenance Reserve Fund	208,620	207,405	172,845	172,539
Operating/Revenue Fund	71,063	71,063	89,765	89,764
Subordinated Debt Funds	47,218	47,218	45,449	45,449
Self-Insurance Account	32,047	31,689	31,492	31,474
2015 B Project Fund	-	-	16,749	16,749
2016 B Project Fund	17,143	17,143	53,912	53,908
2017 B Project Fund	63,063	63,063	-	-
Other Funds	49,777	49,777	20,409	20,409
1999 PFC Trust /PFC Depository				
Debt Service Reserve Funds	-	-	551	551
Debt Service Funds	-	-	54,388	54,388
Other PFC Funds	38,600	38,453	37,544	37,517
2011 CFC Trust				
Debt Service Reserve Funds	28,023	27,821	27,977	27,959
CFC Maintenance Reserve Fund	2,587	2,585	1,696	1,696
Debt Service Funds	9,519	9,519	9,402	9,402
Other CFC Funds	53,282	52,882	35,490	35,386
Total	\$ 1,260,489	\$ 1,254,823	\$ 1,135,485	\$ 1,134,172

g) Fair Value Measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is a market-based measurement, not an entity-specific measurement. For some assets and liabilities, observable market transactions or market information might be available; for others, it might not be available. However, the objective of a fair value measurement in both cases is the same—that is, to determine the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. Fair value is an exit price at the measurement date from the perspective of a market participant that controls the asset or is obligated for the liability.

The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels. Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an

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asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for an asset or liability. The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs.

The following tables show the fair value and the fair value measurements for our cash and cash equivalents and investments:

Cash, Cash equivalents and Investments Measured at Fair Value (in thousands)

As of June 30, 2018	Fair Value	Level 1	Level 2	Level 3
Federal Home Loan Bank	\$ 48,753	\$ -	\$ 48,753	\$ -
Federally Insured Cash Account	1,001	1,001	-	-
Federal Home Loan Mortgage Corp.	41,452	-	41,452	-
Federal National Mortgage Association	80,395	-	80,395	-
Federal Farm Credit	17,990	-	17,990	-
Cash Deposit	1,818	1,818	-	-
Certificates of Deposit	33,327	33,327	-	-
Commercial Paper	423,452	-	423,452	-
Government Fund-Morgan Stanley / Wells Fargo	22,591	22,591	-	-
Municipal Bond	98,697	-	98,697	-
Money Market Funds	2,231	2,231	-	-
Insured Cash Sweep	2,962	2,962	-	-
Treasury Notes	11,985	-	11,985	-
Corporate Bonds	241,370	-	241,370	-
Total Cash, Cash equivalents and Investments Measured at Fair Value	\$ 1,028,024	\$ 63,930	\$ 964,094	\$ -

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June 30, 2018 and 2017

Cash, Cash equivalents and Investments Measured at Fair Value (in thousands)

<u>As of June 30, 2017</u>	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
Federal Home Loan Bank	\$ 97,197	\$ -	\$ 97,197	\$ -
Federally Insured Cash Account	5,003	5,003	-	-
Federal Home Loan Mortgage Corp.	50,728	-	50,728	-
Federal National Mortgage Association	98,484	-	98,484	-
Federal Farm Credit	36,025	-	36,025	-
Cash Deposit	1,085	1,085	-	-
Certificates of Deposit	58,838	58,838	-	-
Commercial Paper	188,769	-	188,769	-
Government Fund-Morgan Stanley / Wells Fargo	31,740	31,740	-	-
Municipal Bond	117,498	-	117,498	-
Money Market Funds	3,015	3,015	-	-
Insured Cash Sweep	3,263	3,263	-	-
Treasury Notes	33,012	-	33,012	-
Corporate Bonds	132,558	-	132,558	-
Total Cash, Cash equivalents and Investments Measured at Fair Value	\$ 857,215	\$ 102,944	\$ 754,271	\$ -

Cash and Money Market Funds

As of June 30, 2018 and 2017, the Authority held positions in various cash and money market funds and the fair values of those funds were \$63.9 million and \$102.9 million, respectively. The fair values of the cash and money market funds were valued using quoted market prices (Level 1).

Federal Agency Notes

As of June 30, 2018 and 2017, the Authority held positions in federal agency notes and the fair values were \$188.6 million and \$282.4 million, respectively. The fair values of the federal agency notes were based on a market approach using quoted prices by a third party for markets that are not active (Level 2).

Commercial Paper Notes

As of June 30, 2018 and 2017, the Authority held positions in commercial paper notes and the fair values were \$423.5 million and \$188.8 million, respectively. The fair values of the commercial paper notes were based on a market approach using quoted prices by a third party for markets that are not active (Level 2).

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June 30, 2018 and 2017

Municipal Bonds

As of June 30, 2018 and 2017, the Authority held positions in municipal bonds and the fair values were \$98.7 million and \$117.5 million, respectively. The fair values of the municipal bonds were based on a market approach using quoted prices by a third party for markets that are not active (Level 2).

Treasury Notes

As of June 30, 2018 and 2017, the Authority held positions in Treasury Notes and the fair values were \$12.0 million and \$33.0 million, respectively. The fair values of the Treasury Notes were based on a market approach using quoted prices by a third party for markets that are not active (Level 2).

Corporate Bonds

As of June 30, 2018 and 2017, the Authority held positions in corporate bonds and the fair values were \$241.4 and \$132.6 million. The fair values of the corporate bonds was based on a market approach using quoted prices by a third party for markets that are not active (Level 2).

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Notes to Financial Statements

June 30, 2018 and 2017

4. Capital Assets

Capital assets consisted of the following at June 30, 2018 and 2017 (in thousands):

	<u>June 30, 2017</u>	<u>Additions and Transfers In</u>	<u>Deletions and Transfers Out</u>	<u>June 30, 2018</u>
Capital assets not being depreciated				
Land	\$ 230,593	\$ 7	\$ —	\$ 230,600
Construction in progress	149,730	337,320	294,268	192,782
	<hr/>	<hr/>	<hr/>	<hr/>
Total capital assets not being depreciated	380,323	337,327	294,268	423,382
	<hr/>	<hr/>	<hr/>	<hr/>
Capital assets being depreciated				
Buildings	3,440,430	128,337	4,508	3,564,259
Runway and other paving	878,224	69,824	—	948,048
Roadway	718,290	48,775	11	767,054
Machinery and equipment	630,754	47,098	957	676,895
Air rights	184,905	226	—	185,131
Parking rights	46,261	—	—	46,261
	<hr/>	<hr/>	<hr/>	<hr/>
Total capital assets being depreciated	5,898,864	294,260	5,476	6,187,648
	<hr/>	<hr/>	<hr/>	<hr/>
Less accumulated depreciation:				
Buildings	1,712,773	126,929	3,172	1,836,530
Runway and other paving	514,072	44,894	—	558,966
Roadway	390,451	30,728	6	421,173
Machinery and equipment	368,448	51,334	950	418,832
Air rights	126,277	6,711	—	132,988
Parking rights	24,673	1,541	—	26,214
	<hr/>	<hr/>	<hr/>	<hr/>
Total accumulated depreciation	3,136,694	262,137	4,128	3,394,703
	<hr/>	<hr/>	<hr/>	<hr/>
Total capital assets being depreciated, net	2,762,170	32,123	1,348	2,792,945
	<hr/>	<hr/>	<hr/>	<hr/>
Capital assets, net	\$ 3,142,493	\$ 369,450	\$ 295,616	\$ 3,216,327
	<hr/>	<hr/>	<hr/>	<hr/>

Depreciation and amortization for fiscal year 2018 and 2017 was \$262.2 million and \$252.8 million, respectively.

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Notes to Financial Statements

June 30, 2018 and 2017

	<u>June 30, 2016</u>	<u>Additions and Transfers In</u>	<u>Deletions and Transfers Out</u>	<u>June 30, 2017</u>
Capital assets not being depreciated				
Land	\$ 226,497	\$ 4,388	\$ 292	\$ 230,593
Construction in progress	<u>225,930</u>	<u>308,789</u>	<u>384,989</u>	<u>149,730</u>
Total capital assets not being depreciated	<u>452,427</u>	<u>313,177</u>	<u>385,281</u>	<u>380,323</u>
Capital assets being depreciated				
Buildings	3,187,058	260,994	7,622	3,440,430
Runway and other paving	830,546	47,678	—	878,224
Roadway	713,641	4,649	—	718,290
Machinery and equipment	565,267	66,547	1,060	630,754
Air rights	184,173	732	—	184,905
Parking rights	<u>46,261</u>	<u>—</u>	<u>—</u>	<u>46,261</u>
Total capital assets being depreciated	<u>5,526,946</u>	<u>380,600</u>	<u>8,682</u>	<u>5,898,864</u>
Less accumulated depreciation:				
Buildings	1,592,846	124,246	4,319	1,712,773
Runway and other paving	474,008	40,064	—	514,072
Roadway	361,721	28,730	—	390,451
Machinery and equipment	321,309	48,146	1,007	368,448
Air rights	119,462	6,815	—	126,277
Parking rights	<u>23,130</u>	<u>1,543</u>	<u>—</u>	<u>24,673</u>
Total accumulated depreciation	<u>2,892,476</u>	<u>249,544</u>	<u>5,326</u>	<u>3,136,694</u>
Total capital assets being depreciated, net	<u>2,634,470</u>	<u>131,056</u>	<u>3,356</u>	<u>2,762,170</u>
Capital assets, net	<u>\$ 3,086,897</u>	<u>\$ 444,233</u>	<u>\$ 388,637</u>	<u>\$ 3,142,493</u>

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Notes to Financial Statements

June 30, 2018 and 2017

Capital assets (excluding construction in progress) at June 30 comprised the following (in thousands):

	<u>2018</u>	<u>2017</u>
Facilities completed by operation:		
Airports	\$ 5,752,753	\$ 5,592,547
Port	<u>665,495</u>	<u>536,910</u>
Capital assets (excluding construction in progress)	<u>\$ 6,418,248</u>	<u>\$ 6,129,457</u>

During fiscal year 2017, the Authority completed and placed into service portions of its new Checked Baggage Inspection System ("CBIS"). The write off of the old CBIS generated a \$3.3 million current period expense in fiscal year 2017, which is included in depreciation expense.

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Notes to Financial Statements

June 30, 2018 and 2017

5. Bonds and Notes Payable

Long-term debt at June 30, 2018 consisted of the following and represents maturities on the Authority's fiscal year basis (in thousands):

	June 30, 2017	Additions	Reductions	June 30, 2018	Due within one year
Revenue Bonds:					
Senior Debt-1978 Trust Agreement:					
2007, Series A, 4.00% to 4.50%, issued May 31, 2007 due 2017 to 2038	\$ 1,275	\$ —	\$ 1,275	\$ —	\$ —
2007, Series C, 4.00% to 5.00%, issued May 31, 2007 due 2017 to 2028	23,615	—	23,615	—	—
2008, Series C, 4.60% to 5.00%, issued July 9, 2008 due 2017 to 2021	12,850	—	5,020	7,830	5,275
2010, Series A, 3.00% to 5.00%, issued August 5, 2010 due 2017 to 2041	90,160	—	2,135	88,025	2,220
2010, Series B, 3.00% to 5.00%, issued August 5, 2010 due 2017 to 2041	128,175	—	1,865	126,310	1,920
2010, Series C, 4.00% to 5.00%, issued August 5, 2010 due 2017 to 2019	7,340	—	3,530	3,810	3,810
2010, Series D, Multi-Modal variable, issued August 5, 2010 due 2017 to 2030	78,690	—	78,690	—	—
2012, Series A, 3.00% to 5.00%, issued July 11, 2012 due 2017 to 2043	96,305	—	5,975	90,330	1,560
2012, Series B, 3.00% to 5.00%, issued July 11, 2012 due 2017 to 2033	158,830	—	2,425	156,405	7,150
2014, Series A, 2.00% to 5.00%, issued July 17, 2014 due 2018 to 2045	45,455	—	825	44,630	845
2014, Series B, 4.00% to 5.00%, issued July 17, 2014 due 2018 to 2045	48,230	—	855	47,375	890
2014, Series C, 2.00% to 5.00%, issued July 17, 2014 due 2017 to 2036	144,020	—	7,180	136,840	7,400
2015, Series A, 5.00%, issued July 15, 2015 due 2019 to 2045	104,480	—	—	104,480	—
2015, Series B, 5.00%, issued July 15, 2015 due 2019 to 2045	67,005	—	—	67,005	—
2015, Series C, 2.12% to 2.83%, issued June 30, 2015 due 2026 to 2030	156,965	—	14,070	142,895	14,370
2016, Series A, 3.00% to 5.00%, issued July 20, 2016 due 2018 to 2038	49,970	—	290	49,680	1,320
2016, Series B, 4.00% to 5.00%, issued July 20, 2016 due 2043 and 2046	180,285	—	—	180,285	—
2017, Series A, 4.00% to 5.00%, issued July 19, 2017 due 2044 and 2047	—	169,500	—	169,500	5,565
Subtotal Senior Debt	\$ 1,393,650	\$ 169,500	\$ 147,750	\$ 1,415,400	\$ 52,325

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June 30, 2018 and 2017

	June 30, 2017	Additions	Reductions	June 30, 2018	Due within one year
Subordinated debt- 1978 Trust Agreement:					
2000, Series A,B & C, 6.45%, issued December 29, 2000 due 2031	\$ 40,000	\$ —	\$ —	\$ 40,000	\$ —
2001, Series A,B & C, 6.45%, issued January 2, 2001 due 2031	34,000	—	—	34,000	—
Subtotal Subordinate Debt	74,000	—	—	74,000	—
Senior Debt - PFC Trust Agreement:					
2007, Series B, 4.00% to 5.00%, issued May 31, 2007 due 2016 to 2018	\$ 9,760	\$ —	\$ 9,760	\$ —	\$ —
2007, Series D, 5.00%, issued May 31, 2007 due 2016 to 2018	43,150	—	43,150	—	—
Subtotal PFC Senior Debt	52,910	—	52,910	—	—
Senior Debt - CFC Trust Agreement:					
2011, Series A, 5.125%, issued June 8, 2011 due 2038 to 2042	\$ 58,030	\$ —	\$ —	\$ 58,030	\$ —
2011, Series B, 3.53% to 6.352%, issued June 8, 2011 due 2017 to 2038	140,165	—	3,620	136,545	3,780
Subtotal CFC Senior Debt	198,195	—	3,620	194,575	3,780
Total Bonds Payable	\$ 1,718,755	\$ 169,500	\$ 204,280	\$ 1,683,975	\$ 56,105
Less unamortized amounts:					
Bond premium (discount), net	131,910	27,248	7,817	151,341	6,846
Total Bonds Payable, net	\$ 1,850,665	\$ 196,748	\$ 212,097	\$ 1,835,316	\$ 62,951

The Authority's bonds payable at June 30, 2018 contain no variable rate debt. The bonds payable at June 30, 2017 included \$78.7 million of variable rate demand bonds ("VRDB") consisting of Series 2010 D. The VRDBs had remarketing features which allow bondholders the right to return, or put, the bonds to the Authority. On August 7, 2013, the Authority entered into a five year irrevocable letter of credit agreement with State Street Bank, in support of the VRDBs. This agreement required repayment of the tendered, unremarketed VRDBs and any associated obligations on the bonds tendered. This agreement terminated in connection with the refunding of the Series 2010 D bonds and subsequent redemption thereof on July 20, 2017.

The VRDBs were issued as multi-modal bonds, thus allowing the Authority to reissue and refund through one of several modes. As a result, the Authority had classified \$7.3 million to its current

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June 30, 2018 and 2017

portion of long term debt, in addition to the amounts identified in the schedules of the Authority's bonds payable at June 30th due within one year, for the fiscal year ending June 30, 2017.

The following summarizes the Authority's revenue bonds activity at June 30 (in thousands):

	<u>June 30, 2017</u>	<u>Additions</u>	<u>Reductions</u>	<u>June 30, 2018</u>	<u>Due within one year</u>
Senior Debt-1978 Trust Agreement:	\$ 1,393,650	\$ 169,500	\$ 147,750	\$ 1,415,400	\$ 52,325
Subordinated Debt- 1978 Trust Agreement	74,000	—	—	74,000	—
Senior Debt - PFC Trust Agreement:	52,910	—	52,910	—	—
Senior Debt - CFC Trust Agreement:	<u>198,195</u>	<u>—</u>	<u>3,620</u>	<u>194,575</u>	<u>3,780</u>
	<u>\$ 1,718,755</u>	<u>\$ 169,500</u>	<u>\$ 204,280</u>	<u>\$ 1,683,975</u>	<u>\$ 56,105</u>
	<u>June 30, 2016</u>	<u>Additions</u>	<u>Reductions</u>	<u>June 30, 2017</u>	<u>Due within one year</u>
Senior Debt-1978 Trust Agreement:	\$ 1,274,590	\$ 230,255	\$ 111,195	\$ 1,393,650	\$ 60,185
Subordinated Debt- 1978 Trust Agreement	74,000	—	—	74,000	—
Senior Debt - PFC Trust Agreement:	75,235	—	22,325	52,910	52,910
Senior Debt - CFC Trust Agreement:	<u>201,680</u>	<u>—</u>	<u>3,485</u>	<u>198,195</u>	<u>3,620</u>
	<u>\$ 1,625,505</u>	<u>\$ 230,255</u>	<u>\$ 137,005</u>	<u>\$ 1,718,755</u>	<u>\$ 116,715</u>

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Debt service requirements on revenue bonds (1978 Trust and CFC Trust) outstanding at June 30, 2018 are as follows (in thousands):

	Principal	Interest	Total
Year ending June 30:			
2018	\$ 56,105	\$ 80,679	\$ 136,784
2019	54,215	79,000	133,215
2020	57,000	76,824	133,824
2021	58,160	74,550	132,710
2022	61,000	72,039	133,039
2023 – 2027	323,740	318,960	642,700
2028 – 2032	355,775	237,376	593,151
2033 – 2037	256,325	149,758	406,083
2038 – 2042	265,770	85,954	351,724
2043 – 2047	195,885	21,083	216,968
Total	\$ 1,683,975	\$ 1,196,223	\$ 2,880,198

a) Senior Debt - 1978 Trust Agreement

On July 19, 2017, the Authority issued \$169.5 million of Massachusetts Port Authority Revenue Bonds in one series. The Series 2017 A Bonds were issued in the principal amount of \$169.5 million with an original issue premium of approximately \$27.2 million and an interest rate of 5.0%. The 2017 A Bonds were issued, in part, to refund all of the currently outstanding Series 2007 C Revenue Refunding Bonds and all of the currently outstanding variable rate Series 2010 D Multi-Modal Revenue Refunding Bonds and resulted in a net present value savings of \$2.8 million.

Additionally, the Authority expects to use approximately \$91.0 million of the proceeds of the 2017 A Bonds to finance a portion of the Authority's FY18-22 Capital Program. Due to the "private activity" nature of the construction projects, these bonds were sold as AMT bonds.

On July 20, 2016, the Authority issued \$230.3 million of Massachusetts Port Authority Revenue Bonds in two series. The Series 2016 A Revenue Refunding Bonds were issued in the principal amount of \$50.0 million with an original issue premium of approximately \$12.6 million and interest rates ranging from 3.0% to 5.0%. The 2016 A Bonds were issued to refund a portion of the currently outstanding Bonds, Series 2007 A Revenue Bonds on an advance basis and all of the currently outstanding variable rate demand revenue bonds, Series 2008 A.

The Series 2016 B Revenue Bonds were issued in the principal amount of \$180.3 million with an original issue premium of approximately \$26.8 million and interest rates ranging from 4.0% to 5.0%. The 2016 B Bonds were issued to finance a portion of the Authority's FY16-FY20 Capital Program in part through the repayment of \$25.0 million of then outstanding Series 2012 B Tax Exempt Commercial Paper notes, which had been used to finance a portion of the Authority's FY16-FY20 Capital Program prior to the date of

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issuance of the Series 2016 B Bonds. Due to the “private activity” nature of the construction projects, these bonds were sold as AMT bonds.

The Authority, through its 1978 Trust Agreement, has covenanted to maintain a debt service coverage ratio of not less than 1.25. Debt service coverage is calculated based on a formula set forth in the 1978 Trust Agreement. Historically, the Authority has maintained a debt service coverage ratio higher than its Trust Agreement requirement to maintain its investment grade bond ratings. As of June 30, 2018 and 2017, the Authority’s debt service coverage under the 1978 Trust Agreement was 3.43 and 3.27, respectively.

b) Subordinate Debt - 1978 Trust Agreement

Subordinate debt is payable solely from funds on deposit in the Improvement and Extension Fund and is not subject to the pledge of the 1978 Trust Agreement or the CFC Trust Agreement. The Authority invested \$12.0 million in January 2001 which at maturity will provide for the \$74.0 million principal payments of the subordinate debt at their respective maturities on December 31, 2030 and January 1, 2031. As of June 30, 2018, the value of the two GICs was approximately \$44.8 million as compared to \$43.1 million as of June 30, 2017.

c) Senior Debt - PFC Trust Agreement

As of July 3, 2017, there are no PFC Revenue Bonds outstanding under the PFC Trust Agreement, as the Authority paid the final maturities outstanding of \$52.9 million on July 3, 2017. Massport currently has authority to impose and use a \$4.50 PFC and, in accordance with the PFC Depository Agreement. The Authority maintains the ability to file new PFC applications with the FAA as well as the ability to issue new PFC bonds under the PFC Trust Agreement.

The Authority’s PFC debt was backed by a pledge of the \$4.50 PFC collections. The Authority earned PFC Revenues, as defined by the PFC Trust Agreement, of approximately \$76.3 million during fiscal year 2017. The amount includes approximately \$0.5 million of investment income on PFC receipts during fiscal year 2017.

The PFC Trust Agreement required a First Lien Sufficiency covenant ratio in excess of 1.05. As of June 30, 2017, the Authority’s PFC First Lien Sufficiency covenant ratio under the PFC Trust Agreement was 63.44.

d) Senior Debt - CFC Trust Agreement

The Authority’s outstanding CFC debt continues to be backed by a pledge of the \$6.00 CFC collections. The Authority earned CFC Revenues, as defined in the CFC Trust Agreement, of approximately \$34.3 million and \$33.8 million during fiscal years 2018 and 2017, respectively. These amounts include approximately \$1.3 million and \$0.8 million of investment income on CFC receipts during each of the fiscal years 2018 and 2017, respectively.

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The CFC Trust Agreement requires that the Authority maintain a debt service coverage ratio of at least 1.3. As of June 30, 2018 and 2017, the CFC debt service coverage ratio was 2.65 and 2.60, respectively.

e) **Special Facility Bonds**

To provide for the construction and improvement of various facilities at Logan Airport, the Authority has four outstanding series of special facilities revenue bonds as of June 30, 2018. The Authority's special facilities revenue bonds are all special limited obligations of the Authority, and are payable and secured solely from and by certain revenues of a separate trustee. The Authority's special facilities revenue bonds do not constitute a debt or pledge of the full faith and credit of the Authority, or the Commonwealth of Massachusetts or any subdivision thereof and, accordingly, have not been reflected in the accompanying financial statements. As of June 30, 2018 and 2017, the aggregate principal amount of the Authority's special facilities revenue bonds outstanding was approximately \$464.4 million and \$529.4 million, respectively. The Authority has no obligation for \$86.4 million of Special Facility Bonds related to BosFuel and only limited obligation for the remaining \$378.0 million of special facility bonds related to Terminal A described below.

Approximately \$378.0 million of the Authority's outstanding special facility bonds as of June 30, 2018 relate to the Delta Airlines Series 2001 A, B, and C bonds issued in connection with Delta Airlines construction of Terminal A. During September 2005, Delta Airlines entered into bankruptcy and as of April 2007 re-emerged out of bankruptcy. The Authority is under no obligation to assume any liability for the Terminal A Special Facility Bonds or to direct revenue, other than an obligation to remit to the trustee of the Terminal A bonds a portion of the Terminal A airline revenue, to service the debt. The Authority and Delta Airlines negotiated a restated and amended lease (the "Amended Lease") for Terminal A pursuant to which Delta Airlines reduced the number of gates that it occupied in Terminal A. The Amended Lease was approved by the bankruptcy court and was effective as of July 1, 2006 for an initial term of ten years. Effective July 1, 2016, the lease was amended to extend the term with automatic one year extensions until terminated by either party.

f) **Commercial Notes Payable**

The Authority's commercial notes payable as of June 30, 2018 and 2017 were as follows (in thousands):

	2018	2017
Commercial paper notes	\$ 109,000	\$ 125,000
Commercial paper notes issued	64,000	9,000
Principal paid on commercial paper notes	(31,000)	(25,000)
Commercial paper notes	<u>\$ 142,000</u>	<u>\$ 109,000</u>

In March 2014, the Authority expanded its commercial paper program to \$150 million. Commercial notes payable have been issued under the terms of the 1978 Trust Agreement

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and are backed by the proceeds of the Improvement and Extension Fund or anticipated bond funds. The allowable maximum principal amount outstanding at any time, in the aggregate principal amount, cannot exceed the lesser of 10% of the Authority's outstanding long-term debt or \$150.0 million, and is backed by a Letter of Credit Agreement with the TD Bank N.A. expiring in June 2022.

The \$142.0 million and \$109.0 million of the commercial notes payable as of June 30, 2018 and 2017 have been used to fund PFC eligible projects; therefore the Authority anticipates that PFC revenues will be the source to pay such redemptions. The blended interest rate on the Series 2012 A Notes was 1.485% and 1.106% during fiscal years 2018 and 2017, respectively. The blended interest rate on the Series 2012 B Notes was 1.599% and 1.189% during fiscal years 2018 and 2017, respectively. The Authority's commercial notes payable mature in July, August and September of 2018.

During fiscal year 2018 and fiscal year 2017, the Authority did not have any interest rate swaps or other interest rate hedging arrangements.

g) Arbitrage – Rebate Liability

The United States Treasury has issued regulations on calculating the rebate due to the United States Government on arbitrage liability and determining compliance with the arbitrage rebate provisions of the Tax Reform Act of 1986. Arbitrage liability arises when the Authority temporarily invests the proceeds of tax exempt debt in securities with higher yields. The Authority has no estimated liability as of June 30, 2018 and 2017, respectively.

6. Pension Plan

a) Plan Description

The Massachusetts Port Authority Employees' Retirement System (the Plan) is a single employer plan established on July 18, 1978, effective January 1, 1979, by enactment of Chapter 487 (an amendment to Chapter 32) of the General Laws of The Commonwealth of Massachusetts to provide retirement benefits for substantially all employees of the Massachusetts Port Authority (the Authority), and incidental benefits for their surviving spouses, beneficiaries and contingent annuitants. Prior to this enactment, Authority employees were members of the Commonwealth of Massachusetts Contributory Retirement System and the funding of the pension liability was on a "pay-as-you-go" method. Pursuant to this enactment, the employees' then present rights and benefits were transferred to the new retirement system. The Plan is a contributory defined benefit plan to which the Authority and its employees contribute such amounts as are necessary to provide assets sufficient to meet benefits to be paid to plan participants. The Plan is administered by the Massachusetts Port Authority Employees' Retirement System Board (the Board).

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b) Benefits provided

Benefits are paid by the Plan from plan assets available for plan benefits. Plan participants are entitled at normal retirement age to benefit payments based upon length of service and earnings levels. Vesting occurs after 10 years of service.

Benefits to participants who retired prior to January 1, 1979 are paid by the Massachusetts State Board of Retirement. The Massachusetts State Board of Retirement is reimbursed for all such benefits paid after December 31, 1978 as these benefits represent obligations of the Plan.

Under Chapter 32, Section 3(8) (c), of the General Laws of The Commonwealth of Massachusetts (Chapter 32), the Plan is reimbursed for benefits paid to participants entitled to receive benefits for previous participation in other Massachusetts Chapter 32 plans. The Plan is also obligated to pay a proportionate share of benefits to participants entitled to receive benefits for subsequent participation in other Massachusetts Chapter 32 plans.

Also under Chapter 32, for members leaving the Authority's employment to work for other Massachusetts governmental units, the Plan transfers their accumulated account balances and creditable service to the retirement system of the new employer. Other such retirement systems are in turn required to make comparable transfers to the Plan for employees coming to work for the Authority.

Optional payment methods may be elected, including the contingent annuitant method, which provides for reduced payments during the life of the plan participant and continued payments to the participant's beneficiary after the death of the participant.

At January 1, 2018 and 2017, the Plan's membership consisted of:

	<u>2018</u>	<u>2017</u>
Retirees and beneficiaries receiving benefits	779	749
Terminated employees entitled to benefits but not yet receiving them	72	78
Current members:		
Active	1,268	1,245
Inactive	136	115
Total membership	<u>2,255</u>	<u>2,187</u>

c) Contributions required and contributions made

Contributions are made by the Authority based on amounts required to be funded as determined by annual actuarial valuations and are designed to fund the Plan on a level cost basis, as a percentage of pay, over the average remaining working lifetime of the active participants and to fund operating costs of the Plan. For the years ended June 30, 2018 and 2017, the Authority was required and did contribute to the Plan \$13.4 million and \$13.6

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million, respectively. The Authority's annual contribution is made in July of each fiscal year therefore eliminating any deferred outflows related to the timing of contributions. The Authority bears the risk that plan assets might decline due to fluctuations in the fair value of the Plan's investments and contributions by the Authority will increase as part of its annual assessment.

Employees who became members prior to January 1, 1975 contribute 5% of their regular compensation through payroll deductions. Employees whose membership commenced on or after January 1, 1975 but prior to January 1, 1984 contribute 7%. Those employees whose membership began on or after January 1, 1984 but prior to July 1, 1996 contribute 8%. Employees hired after July 1, 1996 contribute 9% of their regular compensation. Employees who are hired after December 31, 1978 contribute an additional 2% of regular compensation over \$30,000. These contributions accumulate and, subject to certain restrictions set forth in Chapter 32, are refundable to employees upon termination of employment by the Authority or payable to another retirement system should the employee transfer to another government unit covered by Chapter 32 of the General Laws of The Commonwealth of Massachusetts.

Contributions totaling \$24.6 million (\$13.4 million employer and \$11.2 million employee) and \$24.2 million (\$13.6 million employer and \$10.6 million employee) were recognized by the Plan for plan years 2017 and 2016, respectively.

d) *Investment valuation*

Investments are reported at fair value. Securities traded on a national or international securities exchange are valued at the last reported sales price on the last business day of the plan year; investments traded on a national securities exchange for which no sale was reported on that date and investments in common and preferred stocks traded in over-the-counter markets are valued at the mean of the last reported bid and asked prices, or the last reported bid price. Mutual funds and commingled funds, including real estate and alternative investments, are valued based on net asset or unit value at year-end.

e) *Pension plan fiduciary net position*

Detailed information about the Plan's fiduciary net position is available in a separately issued report. The report may be obtained by writing to the Massachusetts Port Authority Employees' Retirement System, One Harborside Drive, Suite 200S, East Boston, MA 02128-2909 or please see the Authority's website, www.massport.com.

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f) Net Pension Liability

The components of the net pension liability of the System as of December 31, 2017 and 2016, is as follows (in thousands):

	<u>Increase (Decrease)</u>		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balance at December 31, 2015	\$ 618,537	\$ 526,622	\$ 91,915
Service cost	15,920	—	15,920
Interest	44,962	—	44,962
Changes between expected and actual experience	2,592	—	2,592
Changes in assumptions	(1,479)	—	(1,479)
Contributions – employer	—	13,552	(13,552)
Contributions – employees	—	10,660	(10,660)
Net investment income	—	42,565	(42,565)
Benefits payments	(28,604)	(28,604)	0
Administrative expenses	—	(1,189)	1,189
Balance at December 31, 2016	<u>651,928</u>	<u>563,606</u>	<u>88,322</u>
Service cost	16,419	—	16,419
Interest	47,341	—	47,341
Changes between expected and actual experience	(1,474)	—	(1,474)
Contributions – employer	—	13,362	(13,362)
Contributions – employees	—	11,242	(11,242)
Net investment income	—	92,226	(92,226)
Benefits payments	(30,731)	(30,731)	0
Administrative expenses	—	(1,149)	1,149
Balance at December 31, 2017	<u>\$ 683,483</u>	<u>\$ 648,556</u>	<u>\$ 34,927</u>

g) Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of January 1, 2017 and update procedures were used to roll forward the total pension liability forward from the

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valuation date (1/1/17) to the measurement date (12/31/17). The following actuarial assumptions were applied to the periods included in the measurement for 2017 and 2016:

- *Inflation – 3.0%*
- *Salary increases – 4.5%*
- *Investment rate of return – 7.25%, net of plan investment expense*
- *Cost-of-living increases – 3.0% on a maximum base of \$14,000*
- *Mortality:*
 - Healthy – RP 2000 Table (sex-distinct) projected with Scale BB and Generational Mortality. Post-retirement the RP 2000 healthy annuitant Table (sex-distinct) projected with Scale BB Generational Mortality.
 - Disabled-RP 2000 healthy annuitant Table (sex-distinct) and Generational Mortality set-forward 2 years. Mortality for accidental disability is assumed to be 50% from the same cause as the disability.
- Long-term Expected Rate of Return:

The long-term expected rate of return on 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 adding expected inflation. The best estimates of geometric long-term expected real rates of return for each major asset class are summarized in the following table:

Asset class	Long-term expected real rate of return	
	2017*	2016*
Domestic equity	5.01 %	5.10 %
International equity	5.21	5.29
Fixed income	2.34	2.38
Real estate	5.20	4.90
Private equity	7.68	7.90

* amounts are net of inflation assumption of 2.32%

h) Discount Rate

The discount rate used to measure the total pension liability as of December 31, 2017 and 2016 was 7.25% and 7.25%, respectively. The projection of cash flows used to determine the

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discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected further benefit payments of current plan members. Therefore, the long-term expected rate of return on the plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

j) Sensitivity of the net pension liability to changes in the discount rate

The following presents the net pension liability of the Plan as of December 31, 2017 and 2016, calculated using the discount rate of 7.25% for 2017 and 2016, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is one-percentage point lower (6.25% for 2017 and 2016) or one-percentage point higher (8.25% for 2017 and 2016) than the current rate (in thousands):

Fiscal Year End	1% decrease (6.250%)	Current discount rate (7.250%)	1% increase (8.250%)
2018	\$ 116,065	\$ 34,927	\$ (31,954)

Fiscal Year End	1% decrease (6.250%)	Current discount rate (7.250%)	1% increase (8.250%)
2017	\$ 166,752	\$ 88,322	\$ 23,780

j) Pension expense and deferred outflows of resources and deferred inflows of resources related to pensions

For the years ended June 30, 2018 and 2017, the Authority recognized pension expense of \$8.8 million and \$19.7 million, respectively.

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At June 30, 2018 and 2017 the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources (in thousands):

	2018		2017	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 753	\$ —	\$ 2,446	\$ —
Differences arising from the recognition of changes in assumptions	13,116	—	16,217	—
Net difference between projected and actual earnings on pension Plan investments	—	25,390	\$ 18,635	—
Total	\$ 13,869	\$ 25,390	\$ 37,298	\$ —

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (in thousands):

Year ended June 30:

2019	\$ 2,078
2020	741
2021	(7,923)
2022	(7,171)
2023	867
Thereafter	(113)

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7. Other Postemployment Benefits (OPEB)

a) Plan Description

In addition to providing the pension benefits described in Note 6, the Authority provides post-employment health care and life insurance benefits (“OPEB”) for retired employees. The OPEB Plan is a single-employer plan and offers retirees a choice of medical plans, as well as two dental plans, and basic life insurance. The benefit levels, employer contributions and future employee contributions are governed by the Authority and can be amended by the Authority.

In June 2009, the Board made changes to the plan benefits to be paid by the Authority for certain existing and future retirees. All current retired members of the Authority and all existing Authority employees who were vested as of October 1, 2009 would be eligible to have 100% of their premium cost subsidized. Employees not yet vested but employed by the Authority on October 1, 2009 would, upon retirement be eligible to receive 85% of the premium cost for benefits with the balance paid for by the retiree. For employees hired on or after October 1, 2009, the Board voted to implement a sliding scale subsidy for retiree health care premiums (ranging from 0%-85%) based on creditable service at retirement age (retirees must be age 60 or older to receive the subsidy), and whether or not the employee retired within sixty days after leaving the Authority. The Board also voted to eliminate retiree dental and life insurance coverage, as well as Medicare Part B premium subsidy for this group of employees.

In May 2016, the Board made changes to the plan benefits to be paid by the Authority for certain future retirees. Persons who commenced employment with the Authority during the period from October 1, 2009 through May 25, 2016, and who, as of the date such employment commenced, had accrued ten (10) years or more of creditable service pursuant to M.G.L.c. 32, would upon retirement, be eligible to receive 80% of the premium cost for those benefits with the balance paid for by the retiree; provided, however, that employees who retire with at least thirty (30) years of creditable service would be eligible to receive 85% of the premium cost of such benefits with the balance paid for by the retiree. For purposes of calculating the percentage of the subsidy (80% or 85%), years of creditable service shall be calculated at separation from employment with the Authority. The spouse and dependents of eligible retirees will qualify for the same premium subsidy and retiree health benefits as the retiree. Eligible retirees, but not their spouse or dependents, will also qualify for a 100% subsidy from the Authority for retiree basic life insurance.

b) Benefits provided

The medical plans are either HMOs, PPOs or indemnity plans, and some are designed to work with Medicare benefits, such as a Medicare supplement or Medicare HMO plans. The basic life insurance provides a \$5,000 death benefit to the retiree. Spouses and dependents are not eligible for this death benefit upon their death. To comply with the requirements of GASB No. 75, the Authority performed an actuarial valuation at January 1, 2017, and used June 30, 2017 as the measurement date. The Authority issues publicly

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available audited financial statements for the Trust. The report may be obtained by writing to the Massachusetts Port Authority, Attn: John P. Prankevicius, CPA, Director of Administration and Finance and Secretary-Treasurer, One Harborside Drive, Suite 200S, East Boston, MA 02128-2909. Those statements are prepared with an “economic resources” measurement focus on the accrual basis of accounting in accordance with U.S generally accepted accounting principles. Employer contributions are recognized when the employer has made formal commitments to provide the contributions and benefits are recorded when due and payable in accordance with the terms of the Trust. Investments are reported at fair value. Mutual funds and commingled funds are valued based on fair value and alternative investments are valued based on net asset or unit value at year-end. The Trust did not own any individual securities and no long term contracts for contributions to the Trust existed at June 30, 2018 or 2017.

At June 30, 2018 and 2017, the Trust’s membership consisted of:

	<u>2018</u>	<u>2017</u>
Active Employees		
Pre-Medicare (hired prior to 3/31/1986)	57	74
Post-Medicare (hired after 3/31/1986)	1,234	1,205
Total	<u>1,291</u>	<u>1,279</u>
Inactive Participants (Vested)	65	68
Retired, Disabled, Survivors and Beneficiaries	<u>935</u>	<u>903</u>
Total Membership	<u><u>2,291</u></u>	<u><u>2,250</u></u>

c) **Contributions required and contributions made**

Contributions are made by the Authority based on amounts required to be funded as determined by annual actuarial valuations and are designed to fund the Trust on a level cost basis, and to fund operating costs of the Trust. For the years ended June 30, 2017 and 2016, the Authority contributed to the Trust \$14.3 million and \$12.0 million, respectively and these amounts are recorded in the Statement of Net Position as a deferred outflow of resources as of June 30, 2017 and July 1, 2016. The Authority’s annual contribution is made monthly throughout the fiscal year. The Authority bears the risk that trust assets might decline due to fluctuations in the fair value of the Trust’s investments and contributions by the Authority will increase as part of its annual assessment.

d) **OPEB Trust deposits and investments**

i) **OPEB Trust Investment Policy**

The Trust’s investments are made in accordance with the provisions of the Trust Investment Policy (the “Investment Policy”) which was adopted on May 8, 2009 and amended on December 8, 2014 by the Retiree Benefits Trust Committee (the “Committee”).

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The goals of the Investment Policy are to invest for the sole purpose of funding the OPEB Plan obligation of the Authority in a prudent manner, and to conserve and enhance the value of the Trust assets through appreciation and income generation, while maintaining a moderate investment risk. In addition, the investment policy was developed to achieve a long-term return commensurate with contemporary economic conditions and equal to or exceed the investment objectives set forth in the investment policy, currently set at 7.25%.

The Trust has retained an investment consultant to work in a fiduciary capacity to ensure that strategic investment diversification is attained, to employ investment managers with expertise in their respective asset classes, and to closely monitor the implementation and performance of the respective investment strategies.

The Trust is currently invested in commingled funds which hold stocks (domestic and international) and fixed income securities and a REIT index fund. Additionally, during FY 2016, the Trust invested in two private equity real estate funds. The exposure limits per the Trust Investment Policy are as follows:

Asset Class	Asset Weightings (as of December 8, 2014)				
	Exposure	Exposure	Minimum Exposure	Maximum Exposure	Target Allocation
Domestic equity	39.8%	38.1%	28%	48%	38.0%
Fixed income	30.6%	33.5%	17%	47%	32.0%
International equity	20.0%	19.2%	10%	30%	20.0%
Cash and cash equivalents	0.2%	1.0%	0%	20%	10.0%
Alternatives:			0%	15%	7.5%
REIT index fund	2.8%	3.2%			
Real estate private equity	6.6%	5.0%			
Total Alternatives	9.4%	8.2%			

The current investment philosophy represents a long-term perspective. When asset weightings fall outside the Investment Policy Range, the investment advisor shall advise the Committee on potential investment courses of action and the Committee may elect to rebalance the Trust asset mix.

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The following summarizes the Trust's cash, cash equivalents and investments by type held at June 30, 2017 and 2016 (in thousands):

	Credit Rating	2017 Fair Value	Credit Rating	2016 Fair Value
Cash and Cash Equivalents				
MMDT	Unrated	\$ 1,525	Unrated	\$ 870
First American Government Fund	Unrated	120	Unrated	200
US Bank Money Market Fund		—	Unrated	551
Total Cash and Cash Equivalents		\$ 1,645		\$ 1,621
Investments				
Vanguard Index Funds	Unrated	\$ 107,429	Unrated	\$ 93,263
Vanguard Total Bond Market Fund	AA	18,946	AA	20,794
Vanguard Intermediate Term Investment Grade Fund	A	9,558	A	6,308
Vanguard Short Term Bond Index Fu	AA	8,234	AA	12,032
Aberdeen Emerging Markets Fund	Unrated	7,958	Unrated	5,115
Alliance Bernstein High Income	BBB	9,475	BBB	6,179
TCW Emerging Markets Income	BB	4,624	BB	4,054
PL Floating Rate Income Fund	B	5,487	B	5,114
Real Estate Private Equity Funds	Unrated	12,235	Unrated	8,060
Total Investments		\$ 183,946		\$ 160,919

The following discusses the Trust's exposure to common deposit and investment risks related to custodial credit, credit, concentration of credit, interest rate and foreign currency risks as of June 30, 2017 and 2016.

ii) Custodial Credit Risk

Custodial credit risk is the risk that, in the event of a failure of a depository financial institution, the Trust's deposits may not be returned. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the Trust and are held by either the depository financial institution or the depository financial institution's trust department or agent but not in the Trust's name.

The Trust manages custodial credit risk by limiting its investments to highly rated institutions and or requiring high quality collateral be held by the Trustee in the name of the Trust. All investments are held by a third party in the Trust's name. These investments are recorded at fair value.

Additionally, the Trust is authorized to invest in the Massachusetts Municipal Depository Trust (MMDT), a pooled money market like investment fund managed by the Commonwealth of Massachusetts, established under the General Laws, Chapter 29, Section 38A. MMDT

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investments are carried at amortized cost, which approximates fair value which is the same as the value of the pool. The Trust can purchase and sell its investments in this fund at any time without penalty.

iii) Credit Risk

Credit risk exists when there is a possibility the issuer or other counterparty to an investment may be unable to fulfill its obligations.

For the years ended June 30, 2017 and 2016, the Trust's fixed income investments totaled \$56.3 million and \$54.4 million, respectively. At June 30, 2017 and 2016, these investments were split between six commingled mutual funds. The investment policy limits fixed income securities of any one issuer to below 5% of the total bond portfolio at the time of purchase and this limitation does not apply to issues of the U.S. Treasury or other Federal Agencies. The diversification restrictions for individual stocks and fixed income securities purchased and held in the total portfolio shall not apply to similar investment instruments held in a commingled fund or an SEC registered mutual fund specifically approved by the Committee. The Trust invests primarily commingled funds and SEC registered mutual funds. The overall rating of the fixed income assets, as calculated by the Advisor, shall be investment grade, based on the rating of one Nationally Recognized Statistical Rating Organization. In cases where the yield spread adequately compensates for additional risk, investments classified at below investment grade can be purchased or held to maturity up to a maximum of 30% of the total market value of the fixed income securities of the Fund. The percentage of the fixed income portfolio below investment grade at June 30, 2017 and 2016 was 22.72% and 20.34%, respectively.

iv) Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of the Trust's investment in a single issuer. Investments of Trust assets are diversified in accordance with the Investment Policy that defines rules for the funds, including having no stock holding or fixed income holding with a 5% or greater portfolio weighting (except U.S. Treasury or securities backed by the federal government), holding no more than 2% of the outstanding shares of an individual stock, and holding no more than 25% of the portfolio in any one industry. Trust assets were in compliance with the Investment Policy at June 30, 2017 and 2016, respectively.

v) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. This risk is confined to the fixed income and cash portions of the portfolio and is managed within the portfolio using the effective duration methodology. This methodology is widely used in the management of fixed income portfolios in that it quantifies to a much greater degree the risk of interest rate changes. The weighted duration of the fixed income portfolio at June 30, 2017 and 2016 was 4.68 and 4.32 years, respectively.

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The individual fund durations are as follows at June 30, 2017 and 2016, respectively:

	<u>2017</u>	<u>Effective</u>	<u>2016</u>	<u>Effective</u>
	<u>Fair Value</u>	<u>Duration</u>	<u>Fair Value</u>	<u>Duration</u>
Fixed Income Investments				
Vanguard Total Bond Market Fund	\$ 18,947	6.10	\$ 20,794	5.50
Vanguard Intermediate Term Investment Grade Fund	9,558	5.50	6,308	5.50
Vanguard Short Term Bond Index Fund	8,234	2.80	12,032	2.70
Alliance Bernstein High Income	9,475	4.18	6,179	3.96
TCW Emerging Markets Income	4,624	6.72	4,054	6.72
PI Floating Rate Income Fund	5,487	0.33	5,114	0.36
Total Fixed Income Investments	<u>\$ 56,325</u>		<u>\$ 54,481</u>	

vi) Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. The Trust invests in funds that hold stocks in either emerging or developed markets outside of the United States that may have an impact on the fair value of the investments and thus contribute currency risk due to their international equity holdings.

vii) Rate of Return

As required per GASB Statement 74, , the annual money weighted rate of return on trust investments, net of trust expenses was 11.88% and 1.53% for the years ended June 30, 2017 and 2016, respectively. The money weighted rate of return expresses investment performance net of investment expenses adjusted for the changing amounts actually invested. The Trust's annual rate of return, measured for financial performance purposes, was 12.1% and 1.7%, gross of fees, for fiscal years 2017 and 2016, respectively.

viii) Fair Value Measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is a market-based measurement, not an entity-specific measurement. For some assets and liabilities, observable market transactions or market information might be available; for others, it might not be available. However, the objective of a fair value measurement in both cases is the same—that is, to determine the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. Fair value is an exit price at the measurement date from the perspective of a market participant that controls the asset or is obligated for the liability.

The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels. Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in

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active markets that a government can access at the measurement date. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for an asset or liability. The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs.

The Trust has the following fair value measurements for investments at June 30, 2017 and 2016:

Investments Measured by Fair Value Level (\$ 000)

<u>As of June 30, 2017</u>	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
Investments				
Vanguard Index Funds	\$ 107,429	\$ 107,429	\$ -	\$ -
Vanguard Total Bond Market Fund	18,946	18,946	-	-
Vanguard Intermediate Term Investment Grade Fund	9,558	9,558	-	-
Vanguard Short Term Bond Index Fund	8,234	8,234	-	-
Aberdeen Emerging Markets Fund	7,958	7,958	-	-
AllianceBernstein High Income	9,475	9,475	-	-
TCW Emerging Markets Income	4,624	4,624	-	-
PI Floating Rate Income Fund	5,487	5,487	-	-
Total investments measured by fair value level	<u>171,711</u>	<u>171,711</u>	<u>-</u>	<u>-</u>
Investments Measured at the Net Asset Value (NAV)				
Real Estate Private Equity Funds:				
Boyd Watterson GSA Fund	5,592			
Equus Fund X	6,643			
Total investments measured at the NAV	<u>12,235</u>			
Total Investments	<u>\$ 183,946</u>	<u>\$ 171,711</u>	<u>\$ -</u>	<u>\$ -</u>

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Investments Measured by Fair Value Level (\$ 000)

As of June 30, 2016	Fair Value	Level 1	Level 2	Level 3
Investments				
Vanguard Index Funds	\$ 93,263	\$ 93,263	\$ -	\$ -
Vanguard Total Bond Market Fund	20,794	20,794	-	-
Vanguard Intermediate Term Investment Grade Fund	6,308	6,308	-	-
Vanguard Short Term Bond Index Fund	12,032	12,032	-	-
Aberdeen Emerging Markets Fund	5,115	5,115	-	-
AllianceBernstein High Income	6,179	6,179	-	-
TCW Emerging Markets Income	4,054	4,054	-	-
PI Floating Rate Income Fund	5,114	5,114	-	-
Total investments measured by fair value level	152,859	152,859	-	-
Investments measured at the net asset value (NAV)				
Real Estate Private Equity Funds:				
Boyd Watterson GSA Fund	5,120			
Equus Fund X	2,940			
Total investments measured at the NAV	8,060			
Total investments	\$ 160,919	\$ 152,859	\$ -	\$ -

Comingled Mutual Funds

As of June 30, 2017 and 2016, the Authority held positions in several comingled mutual funds as noted above and the fair values were \$171.7 million and \$152.9 million, respectively. The fair values of the comingled mutual funds were valued using quoted market prices (Level 1).

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The valuation method for investments measured at the net asset value (NAV) per share or its equivalent is presented in the following table:

	Investments Measured at NAV (\$000)				
	2017	2016	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Real Estate Private Equity Funds					
Boyd Watterson GSA Fund (\$	5,592	\$ 5,120	—	—	60 days
Equus Fund X(2)	6,643	2,940	—	—	—
Total investments measured at the NAV	\$ 12,235	\$ 8,060			

- 1 This fund invests primarily in real estate leased to the U.S. federal government. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the Fund's ownership interest in partners' capital. The Trust can withdraw from the fund with 60 days notice prior to a calendar quarter end and the minimum withdrawal of \$250,000.
- 2 This fund invests in U.S. commercial real estate. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the Fund's ownership interest in partners' capital. The Partnership agreement stipulates a partnership dissolution on a date five years after the end of the Investment Period; provided, however, that the General Partner may, in its sole discretion, extend the term for up to two additional one year periods.

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e) Net OPEB Liability

The total OPEB liability at June 30, 2018 was determined by an actuarial valuation as of January 1, 2017 and update procedures were used to roll forward the total OPEB liability from the valuation date (1/1/17) to the measurement date (6/30/17). The total OPEB liability at June 30, 2017 was determined by an actuarial valuation as of January 1, 2016 and update procedures were used to roll backward the total OPEB liability from the valuation date (1/1/16) to the measurement date (6/30/16).

The components of the net OPEB liability of the Trust as of June 30, 2018 and 2017, is as follows (in thousands):

	<u>Increase (Decrease)</u>		
	Total OPEB Liability	Trust Fiduciary Net Position	Net OPEB Liability
	(a)	(b)	(a) - (b)
Balance at June 30, 2016	\$ 279,789	\$ 158,630	\$ 121,159
Service cost	5,891	—	5,891
Interest	20,285	—	20,285
Contributions – employer	—	13,340	(13,340)
Contributions – employees	—	209	(209)
Difference between expected and actual experience	18,841	—	18,841
Net investment income	—	2,348	(2,348)
Benefits payments	(11,987)	(11,987)	—
Administrative expenses	—	(172)	172
Balance at June 30, 2017	<u>\$ 312,819</u>	<u>\$ 162,368</u>	<u>\$ 150,451</u>
Service cost	6,405	—	6,405
Interest	22,693	—	22,693
Contributions – employer	—	15,787	(15,787)
Contributions – employees	—	248	(248)
Net investment income	—	19,829	(19,829)
Benefits payments	(12,643)	(12,643)	—
Administrative expenses	—	(173)	173
Balance at June 30, 2018	<u>\$ 329,274</u>	<u>\$ 185,416</u>	<u>\$ 143,858</u>

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f) Actuarial Assumptions

The following actuarial assumptions were applied to the periods included in the measurement for 2017 and 2016:

- *Inflation – 3.0%*
- *Salary increases – 4.5%*
- *Investment rate of return – 7.25%, net of Trust investment expense*
- *Health care trend rates – Initial annual health care cost trend rate range from 1.1% to 9.0% which decrease to a long-term trend rate between 5.0% and 6.0% for all health care benefits after ten years. The initial annual dental cost trend rates range from 0.0% to 7.0% which decrease to a long-term trend rate between 5.0% and 5.3% for all dental benefits after 10 years.*
- *Mortality:*
 - *Healthy – RP 2000 Table (sex-distinct) projected with Scale BB and Generational Mortality. Post-retirement the RP 2000 healthy annuitant Table (sex-distinct) projected with Scale BB Generational Mortality.*
 - *Disabled-RP 2000 healthy annuitant Table (sex-distinct) and Generational Mortality set-forward 2 years. Mortality for accidental disability is assumed to be 50% from the same cause as the disability.*
- *Other information:*

As of January 1, 2016, employees hired after September 30, 2009 are not eligible for post-retirement medical insurance until age 60 with 10 year of service.

As of January 1, 2013, the mortality assumption was changed to the RP2000 Table and the retirement, disability and withdrawal assumptions were changed based on an experience study.
- *Long-term Expected Rate of Return:*

The long-term expected rate of return on Trust investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB Trust 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 adding expected inflation.

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The best estimates of arithmetic long-term expected real rates of return for each major asset class are summarized in the following table:

Asset class	Long-term expected real rate of return	
	2017	2016
Domestic equity		
Vanguard Total Stock Market Index	6.48 %	6.48 %
Fixed income		
Vanguard Total Bond Market Fund	3.13	3.13
Vanguard Short Term Bond Index Fund	3.13	3.13
Vanguard Intermediate Term Investment Grade	4.00	4.00
Alliance Bernstein High Income	4.75	4.75
PI Floating Rate Income Fund	2.89	2.89
TCW Emerging Markets Income	5.25	5.25
International equity		
Vanguard Total International Stock Index	6.65	6.65
Vanguard Developed Market Stock Index	6.65	6.65
Aberdeen Emerging Markets Fund	7.20	7.63
Cash and cash equivalents	0.75	0.75
Alternatives		
REIT index fund	4.62	4.62
Real estate private equity	7.65	7.65

g) Discount Rate

The discount rate used to measure the total OPEB liability as of June 30, 2018 and 2017 was 7.25%, respectively. The projection of cash flows used to determine the discount rate assumed that Trust member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the Trust's fiduciary net position was projected to be available to make all projected further benefit payments of current Trust members. Therefore, the long-term expected rate of return on the plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

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h) Sensitivity of the net OPEB liability to changes in the discount rate

The following presents the net OPEB liability of the Authority as of June 30, 2018 and 2017, calculated using the discount rate of 7.25% for 2018 and 2017, as well as what the net OPEB liability (asset) would be if it were calculated using a discount rate that is one-percentage point lower (6.25% for 2018 and 2017) or one-percentage point higher (8.25% for 2018 and 2017) than the current rate (in thousands):

<u>Fiscal Year End</u>	<u>1% decrease (6.250%)</u>	<u>Current discount rate (7.250%)</u>	<u>1% increase (8.250%)</u>
2018	\$ 192,188	\$ 143,858	\$ 105,549

<u>Fiscal Year End</u>	<u>1% decrease (6.250%)</u>	<u>Current discount rate (7.250%)</u>	<u>1% increase (8.250%)</u>
2017	\$ 196,996	\$ 150,451	\$ 113,564

i) Sensitivity of the Net OPEB Liability to Changes in Health Care Cost Rates

The following presents the net OPEB liability of the Authority as of June 30, 2018 and 2017, calculated using healthcare cost trend rates of 9.0% decreasing to 5.0% as well as what the net OPEB liability (asset) would be if it were calculated using a health care cost trend rate that is one-percentage point lower or one-percentage point higher than the current rate:

<u>Fiscal Year End</u>	<u>1% decrease (8.0% decreasing to 4.0%)</u>	<u>Healthcare Cost Trend rate (9.0% decreasing to 5.0%)</u>	<u>1% increase (10.0% decreasing to 6.0%)</u>
2018	\$ 100,533	\$ 143,858	\$ 199,282

<u>Fiscal Year End</u>	<u>1% decrease (8.0% decreasing to 4.0%)</u>	<u>Healthcare Cost Trend rate (9.0% decreasing to 5.0%)</u>	<u>1% increase (10.0% decreasing to 6.0%)</u>
2017	\$ 111,339	\$ 150,451	\$ 200,379

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j) OPEB expense and deferred outflows of resources and deferred inflows of resources related to OPEB

For the years ended June 30, 2018 and 2017, the Authority recognized OPEB expense of \$20.2 million and \$19.2 million, respectively.

At June 30, 2018 and 2017 the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources (in thousands):

	2018		2017	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 13,292	\$ —	\$ 16,066	\$ —
Net difference between projected and actual earnings on OPEB investments	—	831	7,363	—
OPEB contribution subsequent to measurement date	15,682	—	14,300	—
Total	\$ 28,974	\$ 831	\$ 37,729	\$ —

In accordance with GASB Statement No. 75, the Authority reported \$15,682 as deferred outflows of resources related to the Authority's OPEB contribution subsequent to the measurement date and will be recognized as a reduction of the net OPEB liability in the year ended June 30, 2019. Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows (in thousands):

Year ended June 30:	
2019	\$ 3,027
2020	3,027
2021	3,027
2022	1,187
2023	2,193

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8. Leases

a) Commitments

The Authority has commitments under various operating leases, which contain escalation clauses, as lessee. The following is a schedule by years of minimum rental payments under noncancelable operating leases as of June 30, 2018 (in thousands):

<u>Years</u>	<u>Amount</u>	<u>Years</u>	<u>Amount</u>
2019	\$ 2,168	2039 – 2043	\$ 4,880
2020	1,708	2044 – 2048	4,880
2021	1,488	2049 – 2053	4,880
2022	1,432	2054 – 2058	4,880
2023	1,432	2059 – 2063	4,880
2024 – 2028	5,792	2064 – 2068	4,880
2029 – 2033	4,880	2069 – 2072	2,602
2034 – 2038	4,880		
		Total	<u>\$ 55,662</u>

Rent expense and other operating lease related payments were \$6.9 million and \$10.9 million for fiscal years 2018 and 2017, respectively.

b) Rental Income

The Authority leases a major portion of its Aviation and Port properties to various tenants. Many of these operating leases provide for periodic adjustments to rental rates, including certain provisions for contingent payments based on specified percentages of the tenant's gross revenue.

The following is a schedule by years of minimum future rental income on noncancelable operating leases as of June 30, 2018 (in thousands):

<u>Years</u>	<u>Amount</u>	<u>Years</u>	<u>Amount</u>
2019	\$ 96,451	2054 – 2058	\$ 60,616
2020	83,375	2059 – 2063	64,031
2021	77,826	2064 – 2068	65,809
2022	69,084	2069 – 2073	69,978
2023	60,076	2074 – 2078	72,048
2024 – 2028	195,128	2079 – 2083	76,099
2029 – 2033	102,620	2084 – 2088	67,491
2034 – 2038	92,358	2089 – 2093	69,553
2039 – 2043	93,005	2094 – 2098	64,439
2044 – 2048	76,899	2099 – 2103	4,154
2049 – 2053	62,061	2104 – 2107	1,401
		Total	<u>\$ 1,624,502</u>

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Rental income and concession income, including contingent payments received under these provisions, were approximately \$386.2 million and \$341.9 million for the fiscal years 2018 and 2017, respectively.

9. Risk Management

The Authority, as mandated by the 1978 Trust Agreement, maintains a self insurance account for general liability and workers compensation within the Operating Fund. The self insurance accruals are determined based on insurance claim history and actuarial estimates needed to pay prior and current-year claims. The accrued liability was approximately \$8.1 million as of June 30, 2018 and 2017, respectively, and is included as a component of accrued expenses in the accompanying financial statements. This liability is fully funded as of June 30, 2018 and 2017.

Changes in the accrued liability accounts, related to self insurance, in fiscal year 2018, 2017 and 2016 were as follows (in thousands):

	<u>2018</u>		<u>2017</u>		<u>2016</u>
Liability balance, beginning of year	\$ 8,053	\$	7,986	\$	7,625
Provision to record estimated losses	3,538		3,308		2,706
Payments	<u>(3,516)</u>		<u>(3,241)</u>		<u>(2,345)</u>
Liability balance, end of year	<u>\$ 8,075</u>	\$	<u>8,053</u>	\$	<u>7,986</u>

As part of its normal operations, the Authority encounters the risk of accidental losses stemming from third party liability claims, property loss or damage, and job related injuries and illnesses. In managing these loss exposures, a combination of risk management measures is applied, including safety and loss prevention programs, emergency planning, contractual risk transfer, self insurance, and insurance.

In connection with the self insurance and insurance programs, the Authority retains part of the losses incurred and internally manages the self insured claims. The self insured retention currently includes: \$1.0 million for worker's compensation per job related accident for Massport employees and International Longshoreman's Association Members; \$1,000 per occurrence for automobile liability; aviation general liability and airport terrorism insurance; \$0.25 million for airside incidents and for non-airside auto losses; \$25 thousand for Comprehensive Marine Liability, Terminal Operator's Liability, Stevedore's liability; and \$0.25 million for property losses per occurrence. Insurance is purchased above the self-insured amounts, subject to availability and the reasonableness of cost. Liabilities for self insured claims are 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 at year-end and are based on the historical cost of settling similar claims. The Authority records such liabilities as accrued expenses. The Authority from time to time is engaged in various matters of routine litigation. These matters include

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personal injury and property damage claims for which the Authority's liability is covered in whole or in part by insurance. The Authority does not expect that these matters will require any amounts to be paid which in the aggregate would materially affect the financial statements.

Settled claims resulting from the risks discussed above have not exceeded the amount of insurance coverage in force in any of the past three fiscal years. Further, insurance maintained in fiscal years 2018 and 2017 has not changed significantly from prior periods.

10. Payments in Lieu of Taxes

The Authority's Enabling Act and the 1978 Trust Agreement authorize and directs the Authority, subject to certain standards and limitations, to enter into agreements to make annual payments in lieu of taxes to the City of Boston and the Town of Winthrop (collectively, the "PILOT Agreements").

The PILOT Agreements provide that annual payments may not exceed the balance of revenues remaining after deposits to pay operating expenses, required deposits to the Interest and Sinking Fund and required deposits to the Maintenance Reserve Fund.

Pursuant to the terms of the amended Boston PILOT Agreement (the "Amended Boston PILOT Agreement"), the term of the Amended Boston PILOT Agreement terminates on June 30, 2022 subject to (1) mutual rights annually to terminate the Amended Boston PILOT Agreement and (2) automatic one year extensions of the term each July 1. In November 2016, the City of Boston notified the Authority of its election to terminate the Boston PILOT Agreement on June 30, 2022, and the parties expect to commence negotiations on a successor agreement or an amendment to the existing agreement. The Amended Boston PILOT Agreement provides for the Authority to pay (i) an annual base amount (the "Base Amount") of \$14.0 million, which, commencing in fiscal year 2007, increases annually by the annual percentage change in the consumer price index, provided that such increase shall be no less than 2% nor greater than 8% per year, (ii) for ten years ending in fiscal year 2016, an amount of \$700,000, which shall not be increased or adjusted, and (iii) a community portion (the "Community Portion").

In fiscal year 2006, the Authority and the Town of Winthrop entered into an Amended and Restated Payment-In-Lieu-Of-Taxes Agreement (the "Amended Winthrop PILOT Agreement"), which extended the base in-lieu-of-tax payments through fiscal year 2025. The Amended Winthrop PILOT Agreement provides for the Authority to make an annual payment of \$900,000.

PILOT expenses to the City of Boston for fiscal years 2018 and 2017 were \$19.0 million and \$18.4 million, respectively. PILOT expenses to the Town of Winthrop for fiscal years 2018 and 2017 were \$0.9 million for each year.

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11. Commitments

a) *Contractual Obligations for Construction*

The Authority enters into construction contracts with various construction and engineering companies. Construction contracts outstanding were approximately \$261.8 million and \$304.5 million as of June 30, 2018 and 2017, respectively.

b) *Seaport Bond Bill*

The Seaport Bond Bill was enacted in 1996 and among other things, provides for funding improvements to the Massachusetts rail transportation network allowing rail shipment of double stack cargo from Allston Yards in Boston to points west, which is anticipated to encourage expanded container shipments through the Port of Boston. The Seaport Bond Bill requires that the Authority provides up to fifty percent (50%) of the cost of improvements to the rail line from Framingham to the Allston Yard in Boston permitting double stack shipments. Expenditure of funds will not occur until the execution of a Master Agreement, as defined by the statute, between the Commonwealth and the participating railroads. The Authority believes that the likelihood that any such Master Agreement will be executed and Authority funds committed for double stack improvements within the next fiscal year is remote.

c) *Boston Harbor Dredging Project*

During fiscal year 2018, the Authority entered into an agreement with the Department of the Army and the Commonwealth of Massachusetts, Department of Transportation related to the Boston Harbor Deep Draft Improvement Project and the construction of the Dredged or excavated Material Facility at Boston Harbor, Massachusetts. This project includes the deepening and widening of the Broad Sound North Channel to 51 feet, the deepening and widening of the Main Ship Channel (MSC) and turning basin to 47 feet. The non-federal share is split between the Authority and the Commonwealth. The project is expected to be completed in fiscal year 2022.

12. Litigation

The Authority is engaged in numerous matters of routine litigation. These matters include personal injury and property damage claims for which the Authority's liability is covered in whole or in part by insurance. Others include such matters as disputes with contractors, subcontractors, engineers and others arising out of construction and maintenance of the Authority's properties; disputes over leases and concessions; property, theft and damage claims arising from the Authority's operations, employment matters and workers compensation, as to which the Authority is self-insured. The Authority does not expect that these matters will require any amounts to be paid which, in the aggregate, will be material to the results of operations.

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13. Pollution Remediation Obligation

The Authority is currently involved in six separate pollution remediation obligations that meet the requirements for accounting treatment under GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations* ("GASB No. 49"). These obligations are generally related to the removal and/or treatment of contaminated soil, groundwater and petroleum products associated with fuel storage and conveyance. GASB No. 49 dictates that for each obligating event, an estimate of the expected pollution remediation outlays is required to be accrued as a liability and expensed in the current period. Re-measurement of the liability is required when new information indicates increases or decreases in estimated outlays.

The estimated liability as of June 30, 2018 and 2017 is \$4.6 million and \$1.2 million, respectively, which represents the approximate amounts the Authority expects to pay for future remediation activities. The Authority paid approximately \$0.8 million and \$1.1 million in fiscal years 2018 and 2017, respectively. This estimate was generated using input and guidance from internal management and professional consultants, and represents a wide array of remediation activities ranging from onetime events to longer-term sustained monitoring activity. The Authority will continue to closely monitor each of these obligations, working toward regulatory closure, and will make any necessary adjustments to the potential liability as new information becomes available.

14. Interagency Agreements

a) *Investment in Joint Venture*

In May 1996, the Authority entered into an interagency agreement with the Massachusetts Highway Department ("MHD") and Massachusetts Bay Transportation Authority ("MBTA") for the construction of a Regional Transportation Center ("RTC") in Woburn, Massachusetts ("Interagency Agreement"). Under the terms of the Interagency Agreement, the Authority has paid one third of the costs of acquiring the site and constructing the RTC and will share in a like proportion in the profits and losses of the RTC. During fiscal years 2018 and 2017, the Authority recognized income of approximately \$0.3 million and \$0.2 million, respectively, representing its share of the earnings of the RTC.

b) *Logan Airport Silver Line Transportation Agreement*

In December 2005, the Authority entered into a ten year agreement with the MBTA to provide public transportation between South Station in Boston, Massachusetts and Logan Airport along a route called the Silver Line. Pursuant to this agreement, the Authority purchased eight buses at a cost of \$13.3 million, and the MBTA agreed to operate and maintain the Authority's Silver Line buses for a cost of \$2.0 million per year, paid in equal monthly installments. In August 2015, this agreement was extended for an additional five year period and modified to provide that the Authority would be responsible for paying the FAA approved rate of 76.06% of the costs to operate and maintain the Silver Line buses and 76.06% of the costs of the future rebuild of the Silver Line buses. During fiscal years 2018 and 2017, the estimated costs to operate and maintain the Silver Line buses was

MASSACHUSETTS PORT AUTHORITY

Notes to Financial Statements

June 30, 2018 and 2017

\$2.86 million and \$3.0 million, respectively, and the Authority also incurred expenses of \$1.8 million and \$2.5 million, respectively, to rebuild four Silver Line Buses in each year.

15. Subsequent Events

a) *Bond Offering*

In February 2018, the Board authorized the issuance and sale of up to \$107.5 million of subordinated obligations, Series 2018 – A (AMT) to finance the design and construction of Berth 10 and the acquisition of 3 STS cranes. This transaction is expected to close in the fourth quarter of calendar 2018.

MASSACHUSETTS PORT AUTHORITY
Required Supplementary Information (Unaudited)
Schedule of Pension Contributions
June 30, 2018
(In thousands)

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
Actuarially determined contribution	\$ 13,362	\$ 13,552	\$ 10,845	\$ 11,146	\$ 11,960	\$ 9,594	\$ 5,710	\$ 4,924	\$ 7,621	\$ 401
Actual contribution in relation to the actuarially determined contribution	<u>13,362</u>	<u>13,552</u>	<u>10,845</u>	<u>11,146</u>	<u>11,960</u>	<u>9,594</u>	<u>5,710</u>	<u>4,924</u>	<u>7,621</u>	<u>401</u>
Contribution deficiency (excess)	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>
Covered payroll	\$ 110,173	\$ 106,444	99,190	\$ 94,340	\$ 90,042	\$ 87,476	\$ 85,941	\$ 89,950	\$ 89,704	\$ 85,120
Contributions as a percentage of covered payroll	12.1%	12.7%	10.9%	11.8%	13.3%	11.0%	6.6%	5.5%	8.5%	0.5%

Notes to Schedule

Valuation date:

Actuarially determined contribution rates are calculated annually as of January 1, 18 months prior to the end of the fiscal year in which the contributions are reported. Contributions are made on July 1, of each year.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Frozen entry age
Amortization method	20 Level dollar, closed
Remaining amortization period	Multiple bases with remaining periods from 8 to 20 years
Asset valuation method	Beginning in 2008, fair value of assets using a five year smoothing period. Prior to 2008, used four year asset smoothing period
Inflation rate	3.0%
Salary increases	2013 valuation: 4.5%; 2009 valuation: 4.75; prior to 2009: 5.00%
Investment rate of return	2016 valuation 7.25%; 2015 valuation: 7.5%; 2012 valuation: 7.625%; 2010 valuation: 7.75%; 2009 valuation: 8.0%; prior to 2009: 7.75%
Retirement age	In the 2013 valuation, additional retirement assumptions were added for employees hired after April 1, 2012 and subject to pension reform and the assumption was changed due to an experience study. In the 2008 valuation the retirement assumption was extended to age 70 for Group 1 employees.
Disability and withdrawal mortality	Changed in the 2013 valuation due to an experience study. In the 2013 valuation, mortality was changed to RP2000 projected generationally with scale BB In the 2012 valuation, mortality was changed to RP2000 projected 22 years using scale AA. In the 2009, 2010 and 2011 valuations mortality was changed to RP2000 projected nine, ten and eleven years, respectively, using scale AA.

Other information

As of January 1, 2016, employees hired after September 30, 2009 and not eligible for post-retirement medical insurance until age 60, retirement age begins at age 60 with 10 years of service.

As of January 1, 2013, the mortality assumption was changed to the RP2000 Generational Table and the retirement, disability and withdrawal assumptions were changed based on an experience study.

As of January 1, 2012, the mortality assumption was changed to the RP2000 Table projected forward 22 years with Scale AA, interest rate changed to 7.625% (from 7.75%) and salary rate to 4.50% (from 4.75%). Vacation buyback factor was increased from 1.00% to 1.25%.

As of January 1, 2011, the mortality assumption was changed to the RP2000 Table projected forward 11 years with Scale AA.

As of January 1, 2010, the mortality assumption was changed to the RP2000 Table projected forward 10 years with Scale AA, interest rate was changed to 7.75% (from 8.00%).

As of January 1, 2009, the mortality assumption was changed to the RP2000 Table projected forward 9 years with Scale AA, interest rate was changed to 8.00% (from 7.75%), salary rate was changed to 4.75% (from 5.00%), contribution timing was changed to the beginning of the fiscal year from monthly.

As of January 1, 2008, the retirement age assumption was extended to age 70 for Group 1 employees, disabled mortality changed to a 2 year set forward and the asset valuation method was changed to a 5 year smoothing.

MASSACHUSETTS PORT AUTHORITY

Required Supplementary Information (Unaudited)

Schedule of Changes in the Net Pension Liability and Related Ratios

June 30, 2018

(In thousands)

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
TOTAL PENSION LIABILITY				
Service cost	\$ 16,419	\$ 15,920	\$ 14,875	\$ 13,056
Interest	47,341	44,962	41,160	40,956
Differences between expected and actual experience	(1,474)	2,592	(1,395)	1,929
Change of assumptions	-	(1,479)	24,098	-
Benefit payments , including refunds of employee contributions	(30,731)	(28,604)	(26,106)	(24,357)
Net change in total pension liability	<u>31,555</u>	<u>33,391</u>	<u>52,632</u>	<u>31,584</u>
Total pension liability - beginning	<u>651,928</u>	<u>618,537</u>	<u>565,905</u>	<u>534,321</u>
Total pension liability - ending	<u>\$ 683,483</u>	<u>\$ 651,928</u>	<u>\$ 618,537</u>	<u>\$ 565,905</u>
PLAN FIDUCIARY NET POSITION				
Contributions - employer	\$ 13,362	\$ 13,552	\$ 10,845	\$ 11,146
Contributions - employee	11,242	10,660	9,948	9,628
Net Investment Income	92,226	42,565	(4,572)	32,062
Benefit payments , including refunds of employee contributions	(30,731)	(28,604)	(26,106)	(24,357)
Administrative expense	(1,149)	(1,189)	(1,189)	(1,417)
Net change in plan fiduciary net position	<u>84,950</u>	<u>36,984</u>	<u>(11,074)</u>	<u>27,062</u>
Plan fiduciary net position - beginning	<u>563,606</u>	<u>526,622</u>	<u>537,696</u>	<u>510,634</u>
Plan fiduciary net position - end	<u>\$ 648,556</u>	<u>\$ 563,606</u>	<u>\$ 526,622</u>	<u>\$ 537,696</u>
Massport net pension liability - ending	\$ 34,927	\$ 88,322	\$ 91,915	\$ 28,209
Plan fiduciary net position as a percentage of the total pension liability	94.9%	86.5%	85.1%	95.0%
Covered payroll	114,385	112,167	103,212	99,113
Massport's net pension liability as a percentage of covered payroll	30.5%	78.7%	89.1%	28.5%

MASSACHUSETTS PORT AUTHORITY
Required Supplementary Information (Unaudited)
Schedule of OPEB Contributions

	2018	2017	2016	2015	2014
Actuarially determined contribution	\$ 15,177	\$ 18,084	\$ 14,390	\$ 13,187	\$ 14,738
Authority contribution	15,682	14,300	12,000	12,000	14,000
Contribution deficiency (excess)	\$ (505)	\$ 3,784	\$ 2,390	\$ 1,187	\$ 738
Covered - employee payroll	\$ 135,585	\$ 131,477	\$ 119,153	\$ 117,277	\$ 110,167
Contributions as a % of covered employee payroll	11.6%	10.9%	10.1%	10.2%	12.7%
	2013	2012	2011	2010	2009
Actuarially determined contribution	\$ 14,006	\$ 18,444	\$ 17,229	\$ 18,345	\$ 17,263
Authority contribution	20,851	13,807	17,100	15,338	14,905
Contribution deficiency (excess)	\$ (6,845)	\$ 4,637	\$ 129	\$ 3,007	\$ 2,358
Covered - employee payroll	\$ 102,487	\$ 98,201	\$ 99,457	\$ 97,980	\$ 97,946
Contributions as a % of covered employee payroll	20.3%	14.1%	17.2%	15.7%	15.2%

Methods and assumptions used to determine contribution rates:

Valuation date:

Actuarially determined contribution rates are calculated as of January 1, six months prior to the beginning of the fiscal year in which contributions are reported. The January 1, 2016 valuation established the rate for the fiscal year 2017 contribution and the January 1, 2017 valuation established the fiscal year 201 contribution. The following assumptions were used for the periods included in the funding for 2018 and 2017

Actuarial cost method:	Contribution: Projected Unit Credit Net OPEB Liability: Entry Age Normal
Amortization method:	30 year level, closed, 20 years remaining
Asset valuation method:	Fair value
Inflation:	3.0%
Salary increases:	4.5%, including inflation 2013 forward 4.75%, including inflation 2009 to 2012
Investment rate of return:	7.25% annually, net of plan investment expenses for funded program 2016 forward 7.50% annually, net of plan investment expenses for funded program 2015 7.75% annually, net of plan investment expenses for funded program pre 2013 4.00% annually, net of plan investment expenses for unfunded program 2013 on 4.25% annually, net of plan investment expenses for unfunded program pre 2013
Health care trend rates	Initial annual health care cost trend rate range of 1.7% to 9.0% which decreases to a long-term trend rate between 5.0% and 6.0% for all health care benefits after ten years. The initial annual dental cost trend rates range from 0.0% to 7.0% which decrease to a long term trend rate between 5.0% and 6.0% for all dental benefits after ten years.
Mortality:	Healthy-RP 2000 Table (sex distinct) projected with Scale BB and Generational Mortality Post-retirement the RP 2000 healthy annuitant Table (sex-distinct) projected with Scale BB Generational Mortality Disabled-RP 2000 healthy annuitant Table (sex-distinct) and Generational Mortality set-forward 2 years. Mortality for accidental disability is assumed to be 50% from the same cause as the disability.

Notes to Schedule

Benefit changes - none	
Changes in assumptions - Mortality table changes from Scale AA to BB in FY 2017	
Other information	As of January 1, 2016, employees hired after September 30, 2009 and not eligible for post-retirement medical insurance until age 60, retirement age begins at age 60 with 10 years of service
	As of January 1, 2013, the mortality assumption was changed to the RP2000 Generational Table and the retirement, disability and withdrawal assumptions were changed based on an experience study
	As of January 1, 2012, the mortality assumption was changed to the RP2000 Table projected forward 22 years with Scale AA.
	As of January 1, 2011, the mortality assumption was changed to the RP2000 Table projected forward 11 years with Scale AA.
	As of January 1, 2010, the mortality assumption was changed to the RP2000 Table projected forward 10 years with Scale AA.
	As of January 1, 2009, the mortality assumption Table was changed to the RP2000 Table projected forward 9 years with Scale AA.

MASSACHUSETTS PORT AUTHORITY
Required Supplementary Information (Unaudited)
Schedule of Changes in the Net OPEB Liability and Related Ratios
June 30, 2018
(in thousands)

	2018	2017
Total OPEB liability:		
Service cost	\$ 6,405	\$ 5,891
Interest	22,693	20,285
Differences between expected and actual experience	—	18,841
Change of assumptions	—	—
Benefits payments	(12,643)	(11,987)
Net change in total OPEB liability	16,455	33,030
Total OPEB liability – beginning	312,819	279,789
Total OPEB liability – ending (a)	\$ 329,274	\$ 312,819
Trust fiduciary net position:		
Contributions – employer	15,787	13,340
Contributions – employees	248	209
Net investment income	19,829	2,348
Benefits payments	(12,643)	(11,987)
Administrative expenses	(173)	(172)
Net change in fiduciary net position	23,048	3,738
Trust fiduciary net position – beginning	162,368	158,630
Trust fiduciary net position – ending (b)	\$ 185,416	\$ 162,368
Authority's net OPEB liability – end of year (a-b)	\$ 143,858	\$ 150,451
Trust fiduciary net position as a percentage of the total OPEB liability	56.3%	51.9%
Covered - employee payroll	\$ 131,477	\$ 119,153
Net OPEB liability as a percentage of covered- employee payroll	91.4%	79.2%

This schedule is intended to present 10 years of data. Additional years will be presented when available.

Notes to Schedule

This schedule is presented based on a measurement date that is 1 year in arrears.

Benefit changes - none

MASSACHUSETTS PORT AUTHORITY
Schedule I

Combining Schedule of Net Position

June 30, 2018

(In thousands)

	Authority Operations	PFC Program	CFC Program	Combined Totals
Current assets:				
Cash and cash equivalents	\$ 73,299	\$ —	\$ —	\$ 73,299
Investments	170,039	—	—	170,039
Restricted cash and cash equivalents	117,633	11,626	10,026	139,285
Restricted investments	426,434	12,168	39,917	478,519
Accounts receivable				
Trade, net	51,860	12,788	3,437	68,085
Grants	9,948	—	—	9,948
Total receivables, net	61,808	12,788	3,437	78,033
Prepaid expenses and other assets	9,114	—	57	9,171
Total current assets	858,327	36,582	53,437	948,346
Noncurrent assets:				
Investments	132,105	—	—	132,105
Restricted investments	204,053	14,659	42,864	261,576
Prepaid expenses and other assets, long-term	4,767	—	1,029	5,796
Investment in joint venture	3,130	—	—	3,130
Capital assets-not being depreciated	423,347	—	35	423,382
Capital assets-being depreciated-net	2,146,162	396,159	250,624	2,792,945
Total noncurrent assets	2,913,564	410,818	294,552	3,618,934
Total assets	3,771,891	447,400	347,989	4,567,280
Deferred outflows of resources				
Deferred loss on refunding of bonds	16,243	—	—	16,243
Deferred outflows of resources related to pensions	13,869	—	—	13,869
Deferred outflows of resources related to OPEB	28,974	—	—	28,974
Total deferred outflows of resources	59,086	—	—	59,086
Current liabilities:				
Accounts payable and accrued expenses	160,331	107	50	160,488
Compensated absences	1,327	—	—	1,327
Contract retainage	6,022	—	—	6,022
Current portion of long-term debt	59,222	—	3,729	62,951
Commercial notes payable	142,000	—	—	142,000
Accrued interest payable	34,896	—	5,656	40,552
Unearned revenues	10,185	—	—	10,185
Total current liabilities	413,983	107	9,435	423,525
Noncurrent liabilities				
Accrued expenses	10,846	—	454	11,300
Compensated absences	17,566	—	—	17,566
Net pension liability	34,927	—	—	34,927
Net OPEB liability	143,858	—	—	143,858
Contract retainage	5,778	—	—	5,778
Long-term debt, net	1,582,683	—	189,682	1,772,365
Unearned revenues	20,419	—	—	20,419
Total noncurrent liabilities	1,816,077	—	190,136	2,006,213
Total liabilities	2,230,060	107	199,571	2,429,738
Deferred inflows of resources				
Deferred gain on refunding of bonds	6,074	—	—	6,074
Deferred inflows of resources related to pensions	25,390	—	—	25,390
Deferred inflows of resources related to OPEB	831	—	—	831
Total deferred inflows of resources	32,295	—	—	32,295
Net investment in capital assets	901,662	396,160	81,257	1,379,079
Restricted for other purposes				
Bond funds	212,738	—	—	212,738
Project funds	271,003	—	—	271,003
Passenger facility charges	—	51,133	—	51,133
Customer facility charges	—	—	67,161	67,161
Other purposes	31,233	—	—	31,233
Total restricted	514,974	51,133	67,161	633,268
Unrestricted	151,986	—	—	151,986
Total net position	\$ 1,568,622	\$ 447,293	\$ 148,418	\$ 2,164,333

See accompanying independent auditors' report.

MASSACHUSETTS PORT AUTHORITY

Combining Schedule of Revenues, Expenses, and Changes in Net Position

Year ended June 30, 2018

(In thousands)

	Authority Operations	PFC Program	CFC Program	Combined Totals
Operating revenues:				
Aviation rentals	\$ 240,798	\$ —	\$ —	\$ 240,798
Aviation parking	180,803	—	—	180,803
Aviation shuttle bus	20,303	—	—	20,303
Aviation fees	153,236	—	—	153,236
Aviation concessions	114,492	—	—	114,492
Aviation operating grants and other	1,911	—	—	1,911
Maritime fees, rentals and other	94,351	—	—	94,351
Real estate fees, rents and other	30,497	—	—	30,497
Total operating revenues	<u>836,391</u>	<u>—</u>	<u>—</u>	<u>836,391</u>
Operating expenses:				
Aviation operations and maintenance	296,186	—	—	296,186
Maritime operations and maintenance	63,976	—	—	63,976
Real estate operations and maintenance	14,852	—	—	14,852
General and administrative	62,470	—	—	62,470
Payments in lieu of taxes	20,408	—	—	20,408
Pension and other post-employment benefits	28,952	—	—	28,952
Other	8,449	—	—	8,449
Total operating expenses before depreciation and amortization	<u>495,293</u>	<u>—</u>	<u>—</u>	<u>495,293</u>
Depreciation and amortization	203,483	44,496	14,183	262,162
Total operating expenses	<u>698,776</u>	<u>44,496</u>	<u>14,183</u>	<u>757,455</u>
Operating income (loss)	<u>137,615</u>	<u>(44,496)</u>	<u>(14,183)</u>	<u>78,936</u>
Nonoperating revenues and (expenses):				
Passenger facility charges	—	81,016	—	81,016
Customer facility charges	—	—	33,003	33,003
Investment income	16,512	764	1,301	18,577
Net (decrease)/increase in the fair value of investments	(3,769)	(120)	(484)	(4,373)
Other revenues	1,315	—	49	1,364
Settlement of claims	2,019	—	—	2,019
Terminal A debt service contribution	—	(12,232)	—	(12,232)
Other expenses	—	—	(195)	(195)
Gain on sale of equipment	182	—	—	182
Interest expense	(54,215)	(1,856)	(11,419)	(67,490)
Total nonoperating (expense) revenue, net	<u>(37,956)</u>	<u>67,572</u>	<u>22,255</u>	<u>51,871</u>
Increase in net position before capital contributions	99,659	23,076	8,072	130,807
Capital contributions	<u>25,384</u>	<u>—</u>	<u>—</u>	<u>25,384</u>
Increase in net position	125,043	23,076	8,072	156,191
Net position, beginning of year	<u>1,443,579</u>	<u>424,217</u>	<u>140,346</u>	<u>2,008,142</u>
Net position, end of year	<u>\$ 1,568,622</u>	<u>\$ 447,293</u>	<u>\$ 148,418</u>	<u>\$ 2,164,333</u>

See accompanying independent auditors' report.

MASSACHUSETTS PORT AUTHORITY

Combining Schedule of Net Position

June 30, 2017

(Restated)

(In thousands)

	Authority Operations	PFC Program	CFC Program	Combined Totals
Current assets:				
Cash and cash equivalents	\$ 82,095	\$ —	\$ —	\$ 82,095
Investments	132,021	—	—	132,021
Restricted cash and cash equivalents	113,659	60,952	16,303	190,914
Restricted investments	278,257	21,283	17,901	317,441
Accounts receivable				
Trade, net	52,706	11,749	3,175	67,630
Grants	5,811	—	—	5,811
Total receivables, net	58,517	11,749	3,175	73,441
Prepaid expenses and other assets	7,907	—	57	7,964
Total current assets	672,456	93,984	37,436	803,876
Noncurrent assets:				
Investments	152,661	—	—	152,661
Restricted investments	208,582	10,220	40,238	259,040
Prepaid expenses and other assets, long-term	4,550	—	1,087	5,637
Investment in joint venture	2,843	—	—	2,843
Capital assets-not being depreciated	380,311	12	—	380,323
Capital assets-being depreciated-net	2,123,162	374,201	264,807	2,762,170
Total noncurrent assets	2,872,109	384,433	306,132	3,562,674
Total assets	3,544,565	478,417	343,568	4,366,550
Deferred outflows of resources				
Deferred loss on refunding of bonds	17,983	—	—	17,983
Deferred outflows of resources related to pensions	37,298	—	—	37,298
Deferred outflows of resources related to OPEB	37,729	—	—	37,729
Total deferred outflows of resources	93,010	—	—	93,010
Current liabilities:				
Accounts payable and accrued expenses	133,941	—	8	133,949
Compensated absences	1,400	—	—	1,400
Contract retainage	8,729	—	—	8,729
Current portion of long-term debt	66,521	52,910	3,569	123,000
Commercial notes payable	109,000	—	—	109,000
Accrued interest payable	31,994	1,290	5,731	39,015
Unearned revenues	15,939	—	—	15,939
Total current liabilities	367,524	54,200	9,308	431,032
Noncurrent liabilities				
Accrued expenses	14,118	—	503	14,621
Compensated absences	17,908	—	—	17,908
Net pension liability	88,322	—	—	88,322
Net OPEB liability	150,451	—	—	150,451
Contract retainage	1,236	—	—	1,236
Long-term debt, net	1,534,254	—	193,411	1,727,665
Unearned revenues	13,374	—	—	13,374
Total noncurrent liabilities	1,819,663	—	193,914	2,013,577
Total liabilities	2,187,187	54,200	203,222	2,444,609
Deferred inflows of resources				
Deferred gain on refunding of bonds	6,809	—	—	6,809
Deferred inflows of resources related to OPEB	—	—	—	—
Total deferred inflows of resources	6,809	—	—	6,809
Net investment in capital assets	877,239	321,303	91,796	1,290,338
Restricted for other purposes				
Bond funds	209,333	—	—	209,333
Project funds	196,738	—	—	196,738
Passenger facility charges	—	102,914	—	102,914
Customer facility charges	—	—	48,550	48,550
Other purposes	28,101	—	—	28,101
Total restricted	434,172	102,914	48,550	585,636
Unrestricted	132,168	—	—	132,168
Total net position	\$ 1,443,579	\$ 424,217	\$ 140,346	\$ 2,008,142

See accompanying independent auditors' report.

Schedule IV

MASSACHUSETTS PORT AUTHORITY

Combining Schedule of Revenues, Expenses, and Changes in Net Position

Year ended June 30, 2017

(Restated)

(In thousands)

	Authority Operations	PFC Program	CFC Program	Combined Totals
Operating revenues:				
Aviation rentals	\$ 217,906	\$ —	\$ —	\$ 217,906
Aviation parking	169,354	—	—	169,354
Aviation shuttle bus	19,278	—	—	19,278
Aviation fees	145,418	—	—	145,418
Aviation concessions	98,913	—	—	98,913
Aviation operating grants and other	2,909	—	—	2,909
Maritime fees, rentals and other	82,088	—	—	82,088
Real estate fees, rents and other	25,037	—	—	25,037
Total operating revenues	<u>760,903</u>	<u>—</u>	<u>—</u>	<u>760,903</u>
Operating expenses:				
Aviation operations and maintenance	274,506	—	—	274,506
Maritime operations and maintenance	59,629	—	—	59,629
Real estate operations and maintenance	13,215	—	—	13,215
General and administrative	59,342	—	—	59,342
Payments in lieu of taxes	19,276	—	—	19,276
Pension and other post-employment benefits	38,903	—	—	38,903
Other	9,631	—	—	9,631
Total operating expenses before depreciation and amortization	<u>474,502</u>	<u>—</u>	<u>—</u>	<u>474,502</u>
Depreciation and amortization	194,895	43,768	14,183	252,846
Total operating expenses	<u>669,397</u>	<u>43,768</u>	<u>14,183</u>	<u>727,348</u>
Operating income (loss)	<u>91,506</u>	<u>(43,768)</u>	<u>(14,183)</u>	<u>33,555</u>
Nonoperating revenues and (expenses):				
Passenger facility charges	—	76,296	—	76,296
Customer facility charges	—	—	33,055	33,055
Investment income	11,093	1,226	774	13,093
Net (decrease)/increase in the fair value of investments	(4,005)	(92)	(404)	(4,501)
Other revenues	3,969	—	93	4,062
Settlement of claims	248	—	—	248
Terminal A debt service contribution	—	(11,941)	—	(11,941)
Other expenses	—	—	(198)	(198)
Gain on sale of equipment	125	—	—	125
Interest expense	(51,470)	(4,118)	(11,569)	(67,157)
Total nonoperating (expense) revenue, net	<u>(40,040)</u>	<u>61,371</u>	<u>21,751</u>	<u>43,082</u>
Increase in net position before capital contributions	51,466	17,603	7,568	76,637
Capital contributions	12,635	—	—	12,635
Increase in net position	64,101	17,603	7,568	89,272
Net position, beginning of year	<u>1,379,478</u>	<u>406,614</u>	<u>132,778</u>	<u>1,918,870</u>
Net position, end of year	<u>\$ 1,443,579</u>	<u>\$ 424,217</u>	<u>\$ 140,346</u>	<u>\$ 2,008,142</u>

See accompanying independent auditors' report.

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APPENDIX C

REVIEW OF AIRPORT PROPERTIES NET REVENUES FORECAST

related to the proposed issuance of

MASSACHUSETTS PORT AUTHORITY

REVENUE BONDS, SERIES 2019-A (AMT)

Prepared for

Massachusetts Port Authority
Boston, Massachusetts

Prepared by
LeighFisher
Burlingame, California

January 17, 2019

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January 17, 2019

Mr. John P. Prankevicius
Acting Chief Executive Officer and Executive Director
Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, Massachusetts 02128

Re: **Review of Airport Properties Net Revenues Forecast
Massachusetts Port Authority**
Revenue Bonds, Series 2019-A (AMT)

Dear Mr. Prankevicius:

LeighFisher is pleased to submit this review of the Airport Properties Net Revenues forecast in connection with the proposed issuance of Revenue Bonds, Series 2019-A (AMT) (the 2019A Bonds), by the Massachusetts Port Authority (the Authority). The 2019A Bonds are being issued pursuant to the Trust Agreement by and between the Authority and U.S. Bank National Association, as trustee, dated as of August 1, 1978, as amended and supplemented (the 1978 Trust Agreement). Capitalized terms not otherwise defined have the meanings given to such terms in the 1978 Trust Agreement.

The Authority is a multipurpose agency that owns and operates Boston-Logan International Airport (the Airport, or Logan Airport); Hanscom Field, a general aviation reliever airport; and Worcester Regional Airport (collectively, the Airport Properties); and certain Port Properties. As described in the Official Statement, to which this review is attached as an appendix, the 2019A Bonds are payable solely from Revenues of the Authority, which include revenues from both the Airport Properties and the Port Properties. However, this review focuses solely on the Airport Properties, which in FY 2018* generated 83.9% of total Authority Revenues (i.e., references in this report to Airport Properties revenues pertain to 83.9% of total Authority Revenues as described in Appendix A of the Official Statement for the 2019A Bonds).

The Authority intends to issue the 2019A Bonds under the terms of its 1978 Trust Agreement to currently refund and retire all of the Authority's currently outstanding Special Facilities Revenue Bonds (Delta Air Lines, Inc. Project), Series 2001-A, Series 2001-B, and Series 2001-C (collectively, the Terminal A Bonds), which were originally issued to fund the development of Terminal A.

*The Authority's Fiscal Year (FY) ends June 30.

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The Authority is currently undertaking a \$4.4 billion capital program for the period FY 2018 to FY 2022 (the FY 2018-FY 2022 Capital Program), of which:

- **Airport Properties** total \$2.0 billion in capital improvements (\$1.7 billion for Logan Airport, a combined \$106 million for Hanscom and Worcester, and an additional \$180 million in third-party funded improvements across all three airports);
- **Port Properties** total \$2.3 billion in capital improvements (\$552 million in Authority-funded capital improvements and an additional \$1.8 billion in public or private, third-party investment); and
- **Agency-wide** improvements (which encompass assets that benefit the entire Authority, such as Authority-wide technology systems) total \$89 million.

In total, the FY 2018-FY 2022 Capital Program encompasses \$2.4 billion of Authority funded projects and \$2.0 billion of third-party funded projects.

The Authority has prepared certain financial forecasts in connection with the issuance of the 2019A Bonds, which are included in Appendix A of the Official Statement for the 2019A Bonds, to which this review is attached as Appendix C.

SCOPE OF STUDY

In conducting our study, we reviewed:

- The estimated costs and funding sources for Airport Properties capital improvements included in the FY 2018-FY 2022 Capital Program, and preliminary drafts of the Authority's FY 2019-FY 2023 Capital Program, as prepared by the Authority.
- The forecast sources and uses of funds for the 2019A Bonds, and associated forecast annual debt service requirements for the 2019A Bonds, as prepared by the Authority and its financial advisor, PFM Financial Advisors LLC, as well as the Authority's preliminary plans for future bond issues during the period FY 2019 through FY 2023. (As part of separate services provided to the Authority under LeighFisher's contract with the Authority, we assisted the Authority and its financial advisor in formulating a plan of finance for implementing the FY 2018-FY 2022 Capital Program and are fulfilling a similar role with respect to the preparation of the FY 2019-FY 2023 Capital Program).
- The Authority's approved passenger facility charge (PFC) program. We also reviewed the Authority's preliminary plans for future PFC applications during the period FY 2019 through FY 2023. PFC revenues of the Authority are not pledged to the payment of debt service on the 2019A Bonds. However, the Authority anticipates, and this forecast assumes, that the Authority will continue to apply PFCs to pay a portion of the debt service on the 2019A Bonds in the amount of approximately \$8.9 million per year.
- The Authority's Strategic Plan reflecting the Authority's current intentions regarding the long-term development of its Airport Properties as well as the Authority's non-aviation properties.

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- The Authority's rental car customer facility charge (CFC) program, including its history of CFC collections since inception of the program in 2008. CFC revenues of the Authority are not pledged to the payment of debt service on the 2019A Bonds.
- The Authority's business arrangements related to the development and operation of the Rental Car Center that opened for service in 2013, as well as the concession agreements between the Authority and the rental car companies related to rental car operations at the Airport.
- The Authority's forecast of deposits to the Payment in Lieu of Taxes (PILOT), Self-Insurance, Maintenance Reserve, Capital Budget, and Improvement and Extension funds or accounts.
- The Authority's policies and rate-making procedures relating to the calculation of airline terminal rents and landing fees, as documented in the Authority's financial model for calculating annual airline rates and charges, the Authority's document titled "Preliminary FY19 Commercial Aviation Rates," which was adopted as the rate schedule in effect for FY 2019, and documentation of Authority Board votes related to airline rates and charges.
- Contractual agreements relating to the use and occupancy of Airport Properties, focusing on those that materially contribute to Airport Properties revenue totals, including the Delta Air Lines and Southwest Airlines leases for portions of Terminal A; the Trust Agreement between the Authority and the Bank of New York, as trustee, related to the Authority's Terminal A Bonds (as amended and restated) for the development of Terminal A (these bonds are expected to be refunded with proceeds of the 2019A Bonds); the American Airlines, United Airlines, and Spirit Airlines leases for portions of Terminal B; the JetBlue Airways lease for portions of Terminal C; as well as agreements governing the operation of concession privileges in the terminal area, agreements related to the operation of rental car activities at the Airport, and agreements with transportation network companies (TNCs) operating at the Airport.
- The Authority's procedure for allocating general and administrative expenses and PILOT costs as documented in the Authority's financial model for calculating annual airlines rates and charges.
- Historical correlations between and among Airport Properties revenues, Airport Properties operating expenses, and passenger enplanements at the Airport.
- The Authority's actual Airport Properties operating expenditures for FY 2018, the Authority's estimated operating expenditures for FY 2019 based on trends in actual data for the first four months of FY 2019 and budgeted amounts for the remaining eight months of FY 2019, and the Authority's forecast of operating expenses for FY 2020 through FY 2023.
- The Authority's actual Airport Properties operating revenues for FY 2018, the Authority's estimated revenues for FY 2019 based on trends in actual data for the first four months of FY 2019 and budgeted amounts for the remaining eight months of FY 2019, and the Authority's forecast revenues for FY 2020 through FY 2023.
- The Authority's Comprehensive Annual Financial Report (CAFR) for FY 2017 and FY 2018.

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We have relied upon the information listed above and other information provided to us without validating the accuracy, completeness, or reliability of such information. While we have no reason to believe that the information does not provide a reasonable basis for the financial forecasts set forth in this review, we offer no assurances as to the accuracy or reliability of such information.

We have relied upon the estimates of project costs and construction schedules for projects included in the FY 2018-FY 2022 Capital Program as prepared by the Authority. We did not conduct an independent review of the cost estimates or the construction schedules, and offer no opinion on the reasonableness of such costs or the achievability of such schedules.

We reviewed the key factors upon which the Airport Properties Net Revenues may depend, and assisted the Authority in formulating certain assumptions about those factors. Specifically, we assisted the Authority in formulating assumptions regarding passenger enplanements, airline revenues, and operating expenses including incremental operating expenses for new Airport facilities; and we reviewed the Authority's forecasts of parking, rental car, TNC, and terminal concession revenues.

KEY FACTORS AFFECTING THE NET REVENUES FORECAST

The forecast of Airport Properties Net Revenues is set forth in the accompanying Exhibit A. Achievement of the financial forecast will depend particularly on achievement of the assumptions regarding the key factors described below.

Aviation Activity Forecast

As shown in Table 1, the Authority's financial forecast is based on the assumption that total passengers at the Airport will increase by 5.5% in FY 2019 compared to FY 2018 (based on four months of actual data for FY 2019, during which period enplanements increased by 7.7%), and reach 41.6 million passengers for the full FY 2019. Further, the Authority's forecast reflects a 2.0% annual increase in FY 2020, and 1.0% increases in FY 2021, FY 2022, and FY 2023 (the final year of the forecast period), reaching 43.7 million passengers in FY 2023. The Authority's assumptions for forecast passenger growth were developed in coordination with LeighFisher and were based upon partial year actual results, advance airline schedules, and assumptions regarding future air travel demand. The Authority and LeighFisher believe the passenger forecast provides a reasonable basis for financial planning; however, any forecast is subject to risk, volatility, and uncertainty, such as that described in more detail within this section of the report.

Table 1
ACTUAL AND FORECAST PASSENGERS
Boston-Logan International Airport
(For the 12 months ending June 30, in thousands)

	Actual FY 2018	FY 2019 (b)	FY 2020	Forecast		
				FY 2021	FY 2022	FY 2023
Total Passengers (a)	39,394	41,561	42,392	42,816	43,244	43,676
Percentage change		5.5%	2.0%	1.0%	1.0%	1.0%

(a) Excludes general aviation passengers.
(b) Reflects actual data for the four months ended October 31, 2018, and budgeted data for the remaining eight months of FY 2019.

Source: Massachusetts Port Authority.

Aviation Activity Forecast Risk Factors

As the Airport predominantly serves origin and destination activity (and has limited connecting passenger activity), future growth in aviation activity at the Airport will occur largely as a function of the growth in the population and economy of the Boston area, as well as regional, national, and international economic performance.

Several factors will play a role in the growth in aviation activity at the Airport, including:

- Local demographic and economic conditions
- Structural changes in the travel market
- Airline service at the Airport and other regional airports, particularly Manchester Boston Regional Airport in Manchester, New Hampshire (Manchester) and T.F. Green Airport in Warwick, Rhode Island (T.F. Green)
- Aviation safety and security concerns
- The financial health of the airline industry
- Airline service, competition, routes, and fares
- Demand for air cargo
- Availability and price of aviation fuel
- Capacity of the national air traffic control system, and
- Capacity of Boston-Logan International Airport

Local demographic and national economic conditions. Both the demographics of the region in which the Airport operates as well as national economic conditions generally can impact the level of passenger traffic at the Airport. The national economic recession experienced in 2008 and 2009

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had a negative effect on passenger traffic at the Airport. Passenger numbers (enplaned plus deplaned passengers) for FY 2009 totaled 25.0 million, representing a 10.3% decline from the 27.9 million passengers that traveled through the Airport in FY 2007 (which at that time was a record number).

Starting in late 2009, traffic levels at the Airport began to recover. In FY 2018, passenger numbers reached 39.4 million (excluding general aviation passengers), a new high.

The Boston metropolitan area was the 10th largest metropolitan area in the United States in terms of population as of July 2017*, and it ranked 10th in the nation with 2.9 million employees as of July 2018. It had an unemployment rate of 3.6% in July 2018, below the national average of 3.9%, and 6.2 percentage points lower than the peak of 9.8% in January 2010**.

The unemployment rate in the Boston metropolitan area was within the 20 lowest rates among the nation's 54 largest metropolitan areas (i.e., those with populations of larger than one million) as of July 2018, according to information from the U.S. Census website and the Bureau of Labor Statistics. In the greater Boston area, the following six major sectors have contributed to the Boston region's economic growth since the early 1990s and currently account for approximately one half of the Boston area employment base: high technology, biotechnology, health care, financial services, higher education and tourism***.

The Boston metropolitan area's average per capita personal income in calendar year 2017 was 43.3% above the national average and 15.1% above the New England average***. During the period 2002 to 2017, Massachusetts per capita income grew slightly faster than in the U.S. as a whole. It is projected to grow at a rate of 1.5% annually from 2015 to 2030, as compared to the national U.S. projected growth of 1.4% annually****.

As the nation's 10th largest metropolitan area, the Boston metropolitan area provides a large pool of potential travelers using the Airport. Moreover, increases in employment and per capita income translate into an increased likelihood of that population's propensity to travel by air. In addition, the Boston metropolitan area's status as a major business and tourism destination serves as a draw for visitors, many of whom arrive by air.

Structural changes in travel market. With the globalization of business and the increased importance of international trade and tourism, international economics, trade balances, currency exchange rates, government policies, and political relationships all influence passenger traffic at major U.S. airports. Concerns about hostilities and other perceived security and public health risks and associated travel restrictions also affect travel demand to and from particular international destinations. Sustained future increases in passenger traffic at the Airport will depend on global economic growth, stable and secure international conditions, and government policies that do not materially restrict international travel.

Airline service at the Airport and other regional airports. The Airport is scheduled to have an average of 411 scheduled daily nonstop departures to destinations throughout the United States

*Source: census.gov, accessed October 23, 2018.

**Source: bls.gov, accessed October 23, 2018.w

***Source: Bureau of Labor Statistics.

****Source: Woods & Poole Economics.

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during January 2019. Additionally, there are approximately 69 average daily international departures, primarily to Canadian and European destinations, but also including destinations in Central America, the Caribbean, Asia, and the Middle East. Several foreign flag carriers have commenced service at the Airport since 2015, including Aeromexico, Alitalia, Avianca, Cathay Pacific, El Al, LATAM Airlines Brasil, Norwegian Air Shuttle, Qatar, SAS, SATA, TAP Portugal, Thomas Cook, WestJet, and WOW Air.

There is no significant market share concentration among either domestic or foreign flag carriers at the Airport. JetBlue had the largest share of total Airport passengers with approximately 28% in FY 2018, but four different airlines have more than a 7% share of the international market at the Airport (Air Canada, British Airways, Delta, and JetBlue). The Airport is primarily an origin-destination airport, with approximately 94% of passengers beginning or ending their travel in at the Airport.

JetBlue places emphasis on routing international connecting traffic through its major East Coast airports (New York-Kennedy, Fort Lauderdale, and Logan Airport). JetBlue's strategy is to enter into alliances and agreements with foreign flag carriers to feed its domestic route network with international passengers. JetBlue has such agreements with Aer Lingus, Emirates Airlines, and TAP Portugal, among other airlines. While to date there has been no discernable impact on connecting passenger activity levels at Logan Airport resulting from these arrangements, there may be a resulting increase in connecting passenger activity at Logan Airport in the future. The Authority's passenger traffic forecasts described in this report do not incorporate increases in passenger hubbing activity that could potentially occur in the future, which would likely be accretive to the forecast passenger numbers.

Of the three major airports serving the Boston area (which include T.F. Green and Manchester, in addition to Logan Airport), the Airport has always had by far the largest passenger market share in the region. However, during the period from approximately 1995 to 2005, the Airport's regional market share declined from 89% to 73% as low cost carriers (LCCs) aggressively built up their operations at Manchester and T.F. Green. The shift in service at that time was partly attributable to construction of the underground Central Artery and Third Harbor Tunnel roadway project, which inhibited Airport access. Since 2005, however, the trend has reversed. A strong buildup of LCC activity at the Airport, combined with retrenchment at Manchester and modest growth at T.F. Green, has driven the Airport's regional market share back up to 87% in calendar year 2017.

Aviation safety and security concerns. Concerns about the safety of airline travel and the effectiveness of security precautions influence passenger travel behavior and airline travel demand. Anxieties about the safety of flying and the inconveniences and delays associated with security screening procedures lead to both the avoidance of travel and the switching from air to surface modes of transportation for short trips. Public health and safety concerns have also affected airline travel demand from time to time.

Safety concerns in the aftermath of the September 2001 terrorist attacks were largely responsible for the steep decline in airline travel nationwide in 2002. Since 2001, government agencies, airlines, and airport operators worldwide have upgraded security measures to guard against changing threats and maintain confidence in the safety of airline travel. In the U.S., these measures include strengthened aircraft cockpit doors, changed flight crew procedures, increased presence of armed sky marshals, federalization of airport security functions under the Transportation Security Administration (TSA), more effective dissemination of information about threats, more intensive screening of passengers

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and baggage, and deployment of new screening technologies. The TSA has introduced “pre-check” service to expedite the screening of passengers who have submitted to background checks. Concerns about air travel security were heightened in 2016 by gun and bomb attacks at Brussels Airport and Istanbul Ataturk Airport.

Historically, airline travel demand has recovered after temporary decreases stemming from terrorist attacks or threats, hijackings, aircraft crashes, and other aviation safety concerns. Provided there are no major events and precautions by government agencies, airlines and airport operators that serve to reduce confidence in the safety of commercial aviation, or impose unacceptable inconveniences for airline travelers, future demand for airline travel will depend primarily on economic, not safety or security, factors.

The financial health of the airline industry. The number of passengers using the Airport will depend partly on the profitability of the U.S. airline industry and the associated ability of the industry and individual airlines to make the necessary investments to provide and expand service. From 2010 through 2013, the U.S. passenger airline industry as a whole recorded net income of approximately \$18 billion, notwithstanding sustained high fuel prices, by controlling capacity and nonfuel expenses, increasing airfares, recording high load factors, and increasing ancillary revenues. Between 2010 and 2013, the airlines collectively increased domestic seat-mile capacity by an average of 1.0% per year. In 2014, the U.S. passenger airline industry reported net income of \$9 billion, assisted by reduced fuel prices in the second half of the year (as discussed in the later heading, “Availability and price of aviation fuel”). In 2015, the industry then achieved record net income of \$26 billion, as fuel prices decreased further, demand remained strong, and capacity control allowed average fares and ancillary charges to remain high. Strong industry profitability continued in 2016, 2017, and early 2018. However, beginning in 2017, the legacy carriers have resumed the expansion of service to and from their hub airports. Sustained industry profitability will depend on, among other factors, economic growth to support airline travel demand, continued capacity control to enable increased airfares, and stable fuel prices.

Consolidation of the U.S. airline industry has resulted from the merger of Delta and Northwest (2009), the merger of United and Continental (2010), the acquisition of AirTran by Southwest (2011), the merger of American and US Airways (2013), and the acquisition of Virgin America by Alaska (2016, which became effective in 2018).

Such consolidation has resulted in four airlines (American, Delta, Southwest, and United) and their regional affiliates now accounting for approximately 80% of domestic seat-mile capacity. The consolidation has contributed to industry profitability, a trend that is expected by airline industry analysts to continue over the near term. However, any resumption of financial losses could cause U.S. airlines to seek bankruptcy protection or liquidate. The liquidation of any of the large network airlines could significantly affect airline service at certain connecting hub airports and change airline travel patterns nationwide.

Because the Airport is predominantly an origin and destination airport, with limited connecting passenger activity, it is expected that if JetBlue or another carrier serving the Airport were to liquidate or were to significantly reduce service at the Airport as a result of a merger with another airline, there would be no material long-term reduction in the number of passengers using the Airport, because other airlines would be expected to increase service to accommodate passengers who would

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otherwise have traveled on the liquidated carrier. In the event of such an occurrence, however, there could be a material reduction in passenger numbers at the Airport in the short term, because the other airlines serving the Airport would require lead time to adjust their local operations and flight schedules.

Airline service, competition, routes, and fares. The number of origin and destination passengers traveling through the Airport depends on the propensity of Boston region residents to travel by air and the intrinsic attractiveness of the region as a business and leisure destination. Although passenger demand at an airport depends primarily on the population and economy of the region served, airline service and the numbers of passengers enplaned also depend on the route networks of the airlines serving that airport. Major network airlines have emphasized the development of hub-and-spoke route networks as a means of increasing their service frequencies, passenger numbers, and profitability. Logan Airport almost exclusively serves origin-destination passengers. It does not serve as a hub for any airline and, consequently, is not dependent on connecting passengers.

Airline fares have an important effect on passenger demand, particularly for relatively short trips for which the automobile and other travel modes are potential alternatives, and for price-sensitive “discretionary” travel. The price elasticity of demand for airline travel increases in weak economic conditions when the disposable income of potential airline travelers is reduced. Airfares are influenced by airline capacity and yield management; passenger demand; airline market presence; labor, fuel, and other airline operating costs; taxes, fees, and other charges assessed by the airlines themselves as well as governmental and airport agencies; and competitive factors. Future passenger growth – globally, nationwide and at the Airport – will depend partly on the level of airfares.

Overcapacity in the industry, the ability of consumers to compare airfares and book flights easily via the Internet, and other competitive factors combined to reduce airfares between 2000 and 2005. During that period, the average domestic yield for U.S.-flag airlines decreased from 16.1 cents to 13.8 cents per passenger-mile. From 2006 through 2008, as airlines reduced capacity and were able to sustain fare increases, the average domestic yield increased to 15.9 cents per passenger-mile. In 2009, yields again decreased, but, beginning in 2010, as airline travel demand increased and seat capacity was restricted, yields increased to 17.7 cents per passenger-mile by 2015. Between 2015 and 2017, domestic yields decreased to 16.6 cents per passenger-mile, reflecting lower aviation fuel prices and increased airline competition.

Beginning in 2006, charges were introduced by most airlines for optional services such as checked baggage, preferred seating, in-flight meals, and entertainment, thereby increasing the effective price of airline travel more than these yield figures indicate.

LCC carriers, including ultra-low cost carriers, have aggressively expanded their operations throughout the nation. LCCs are carriers that take advantage of an operating cost structure that is significantly lower than the cost structure of the legacy carriers. These advantages can include lower labor costs, greater labor flexibility, a streamlined aircraft fleet (i.e., fewer different types of aircraft in a given airline’s fleet), and a generally more efficient operation. These low costs suggest that the LCCs can offer a low fare structure to the traveling public while still maintaining profitability. In calendar year 2017, LCCs provided approximately 29% of the airline seat capacity in the U.S. market.

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LCCs have significantly increased their service at the Airport, in common with many large hub airports* nationwide. Four domestic LCCs currently operate at the Airport—JetBlue, Southwest, Spirit, and Sun Country. These airlines collectively lease 31 of the 97 contact gates at the Airport. In addition, six foreign flag LCCs—Level, Norwegian (including Air Shuttle and UK), Porter, Thomas Cook, WestJet, and WOW Air, provide international service to nine destinations. The foreign flag LCCs use the common use gates in Terminal E, with the exception of WestJet, which subleases a gate in Terminal A from Delta. Collectively, the ten LCCs provide 196 daily departures as of January 2019 (according to published schedules) and accounted for 42.2% of Airport-wide scheduled departing seats in FY 2018, significantly higher than the national average, and up from 27% in FY 2010.

Notwithstanding these trends, to some extent, there is now a blurring of the distinction between the major network airlines and LCCs. As the LCCs have started to serve airports in major metropolitan areas (such as JetBlue at Logan Airport and New York-Kennedy; Southwest at Logan Airport and New York-LaGuardia, etc.), and some LCCs have faced increases in labor costs (e.g., unionized labor and maturing crews with increased pay), the cost base of the traditional LCC has trended upwards. At the same time, the network carriers have been striving to adopt some of the practices and operational norms of the LCCs, resulting in a general downtrend for major network airline costs.

Demand for air cargo. Although economic activity is the primary factor affecting world air cargo demand, there are other important factors, some of which are influenced by airline actions. Air cargo development is influenced by such airline actions as the acquisition of new aircraft, increased capacity in certain regions or on specific routes, and expansion of air cargo provider products and services. Factors beyond the control of airlines and the cargo industry as a whole (freight forwarders, warehouse operators, local trucking companies) include changing inventory management techniques, globalization of trade, market liberalization, electronic delivery of documents, increased security screening requirements, continuing introduction of new products that are conducive to shipment by air (e.g., lightweight but high-value electronics, computer equipment, pharmaceuticals), evolving modes of product delivery and advanced techniques of product manufacturing (e.g., 3D printing).

During FY 2018, 727,175 thousand pound units of cargo and mail were shipped through Logan Airport. According to ACI, Logan Airport was the 22nd busiest cargo airport in North America in the 2017 reporting year. As such, cargo is considered a significant contributor to operations at the Airport.

Historically, the financial performance of the air cargo and cargo transportation industry has experienced periods of growth and decline, but generally speaking, the financial health and performance has been more stable and consistent than that of the U.S. passenger airline industry. Sustained profitability will depend on, among other factors, economic growth to support air cargo demand, continued growth in online retail sales, continued control over air package pricing, and stable fuel prices. Boeing and Airbus forecast worldwide growth in air cargo tonnage of approximately 4% per year over the next 20 years, driven primarily by growth in emerging markets.

Availability and price of aviation fuel. The price of aviation fuel is a critical and uncertain factor affecting airline operating economics. Fuel prices are particularly sensitive to worldwide political instability and economic uncertainty. In mid-2008, fuel prices represented the largest airline operating expense, accounting for between 30% and 40% of expenses for most airlines. Fuel prices

*Large hub airports are defined by the FAA as those that represent at least 1% of total enplanements nationwide.

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decreased sharply in the second half of 2008 as demand for oil declined worldwide, but then increased as demand increased.

Between early 2011 and mid-2014, aviation fuel prices were relatively stable, partly as a result of increased oil and natural gas supply from U.S. domestic production. As of mid-2014, average fuel prices were approximately three times those prevailing at the end of 2003.

Beginning in mid-2014, an imbalance between worldwide supply and demand resulted in a precipitous decline in the price of oil and aviation fuel. Decreased demand from China and other developing countries, combined with the lifting of trade sanctions on Iran and a continued surplus in the worldwide supply resulted in reductions in fuel prices through early 2016. Fuel prices have since increased, but the average price of aviation fuel at mid-2018 was still approximately 75% of the price at mid-2014.

Since 2014, lower fuel prices are having a positive effect on airline profitability as well as far-reaching implications for the global economy. Airline industry analysts hold differing views on how oil and aviation fuel prices may change in the near term, although, absent unforeseen disruptions, prices are expected to remain stable for some time. However, there is widespread agreement that fuel prices are likely to increase over the long term as global energy demand increases in the face of finite oil supplies that are becoming more expensive to extract, although some economists predict that the development of renewable sources of energy, pressures to combat global climate change, the widespread use of electric cars, and other trends will eventually result in a decline in the demand for oil and associated downward pressure on fuel prices. Aviation fuel prices will continue to affect fares, passenger numbers, airline profitability, and the ability of airlines to provide service. Airline operating economics will also be affected as regulatory costs are imposed on the airline industry as part of efforts to reduce aircraft emissions contributing to global climate change.

Capacity of the national air traffic control system. Demands on the national air traffic control system have, in the past, caused delays and operational restrictions affecting airline schedules and passenger traffic. The FAA is gradually implementing its Next Generation Air Transportation System (NextGen) air traffic management programs to modernize and automate the guidance and communications equipment of the air traffic control system and enhance the use of airspace and runways through improved air navigation aids and procedures. Since 2007, airline traffic delays nationwide have decreased as a result of reduced numbers of aircraft operations (down approximately 17% between 2007 and 2017), but, as airline travel increases in the future, flight delays and restrictions can be expected.

Capacity of Boston-Logan International Airport. In addition to any future constraints that may be imposed by the national air traffic control and national airport systems, future growth in airline traffic at the Airport will depend in part on the capacity of the Airport itself. Authority management believes that current facilities at the Airport (i.e., airfield, terminal, landside, and Airport access facilities), in conjunction with the projects to be undertaken as part of the FY 2018-FY 2022 Capital Program, will provide sufficient airside, terminal, and landside capacity to accommodate the assumed level of passenger traffic that underlies the financial forecasts through FY 2023 (the final year of the forecast period).

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Airport Properties Revenues

As shown in Table 2, the Authority's Airport Properties revenues are forecast to increase from \$711.0 million in FY 2018 to \$712.6 million in FY 2019, an overall increase of 0.2%, based on actual figures for the first four months of FY 2019, and budgeted revenues for the remainder of the year. Airport Properties revenues are forecast to increase at a compound annual growth rate (CAGR) of 5.3% from \$712.6 million in FY 2019 to \$876.2 million in FY 2023.

Logan airline revenues. The Authority expects to continue to calculate airline rents and fees generally on the basis of existing rate-making procedures, as documented in the Authority's financial model for calculating annual airlines rates and charges, and the Authority's document titled "Preliminary FY19 Commercial Aviation Rates." Terminal rentals are calculated using a "commercial compensatory" methodology, with the Authority recovering a portion of the allocated operating expenses and capital costs for each terminal through terminal rental revenues. Where applicable, the Authority's lease agreements with air carriers for terminal space at the Airport state that the Authority may revise rental rates periodically, at the Authority's discretion, to recover the actual direct and indirect capital and operating costs for such leased space. The landing fee rate is calculated on a "cost center residual" basis, with the allocated operating and capital costs for the airfield area, net of certain revenues generated from miscellaneous activities on the airfield, divided by the scheduled airlines' landed weights.

Logan airline revenues, including landing fees, terminal rentals, and tenant aircraft parking, accounted for 42.5% of Airport Properties revenues in FY 2018, or \$302.4 million. This category is forecast to increase at a CAGR of 8.9% from \$312.9 million in FY 2019 to \$440.1 million in FY 2023, primarily driven by: (1) increases to the airline cost base associated with projects in the FY 2018-FY 2022 Capital Program, and (2) the inclusion of all airline rental payments to the Authority for the occupancy of Terminal A, reflecting the impact of the 2019A Bond issuance. Previously, a portion of the airline terminal rental revenues from tenants of Terminal A were applied to debt service payments on the Terminal A Bonds and therefore were not Revenues of the Authority under the 1978 Trust Agreement. While all Terminal A revenues will be treated as Revenues as of the date of defeasance of the Terminal A Bonds, for purposes of the forecast it has been assumed that such impact from the refunding of the Terminal A Bonds will not commence until FY 2020.

Automobile parking fees. Automobile parking fees accounted for 25.4% of Airport Properties revenues in FY 2018, or \$180.3 million. Automobile parking fees are forecast to increase at a CAGR of 2.8% from \$176.3 million in FY 2019 to \$197.1 million in FY 2023, primarily driven by increased parking rates offset by a decrease in total parking exits due to higher parking rates and the continued increase in the use of TNCs to and from the Airport, which were originally approved to operate at the Airport in February 2017. The decrease in revenue from FY 2018 to FY 2019 is attributable to conservative budgeting practices by the Authority.

The Authority's Board has approved an increase of \$3 in the daily parking rates for all of Logan Airport's parking facilities to go into effect on July 1, 2019. The Authority is forecasting a further increase of \$3 on July 1, 2021, which has also been approved by the Authority's Board. The daily parking rate in the central parking facility is scheduled to increase from \$35 in FY 2019 to \$38 in FY 2020, and to \$41 in FY 2022. Parking rates are not expected to be adjusted at the Authority's off-Airport Logan Express lots during the forecast period.

Table 2
ACTUAL AND FORECAST AIRPORT PROPERTIES REVENUES
Massachusetts Port Authority
(For the 12 months ending June 30, \$ in thousands)

	Actual FY 2018	FY 2019 (a)	FY 2020	Forecast		
				FY 2021	FY 2022	FY 2023
Logan Revenues						
Landing Fees (b)	\$ 119,190	\$ 121,891	\$ 124,510	\$ 129,056	\$ 137,639	\$ 147,698
Automobile Parking Fees	180,349	176,267	182,605	157,128	175,829	193,124
Utility Fees	15,348	14,744	10,350	12,191	13,065	13,690
Terminal Rentals (b)	180,387	188,271	221,481	233,204	276,934	290,184
Non-Terminal Building & Ground Rents						
Hangar/Cargo Rentals	\$ 20,987	\$ 21,515	\$ 21,806	\$ 22,102	\$ 22,405	\$ 22,712
Other Building Rentals	7,238	8,094	8,412	8,593	8,780	8,970
Ground Rent	19,055	18,991	19,320	19,605	19,897	20,193
Fuel Farm	1,619	1,633	1,652	1,668	1,685	1,702
Ramp & Apron	3,957	3,704	3,403	3,456	3,511	3,567
Subtotal: Non-Terminal Building & Ground Rents	\$ 52,856	\$ 53,937	\$ 54,591	\$ 55,425	\$ 56,277	\$ 57,144
Concessions						
Terminal Concessions	\$ 54,948	\$ 51,540	\$ 49,864	\$ 48,071	\$ 55,245	\$ 61,332
Rental Car	33,968	34,253	32,375	33,040	35,611	38,603
Taxi	4,049	4,035	3,644	3,719	4,009	4,345
Transportation Network Companies	8,210	8,955	10,125	10,333	11,137	12,073
Other Landside Concessions (c)	12,620	11,366	11,671	11,725	11,937	12,183
Subtotal: Concessions	\$ 113,796	\$ 110,148	\$ 107,679	\$ 106,888	\$ 117,937	\$ 128,536
Other						
Shuttle Bus	\$ 20,303	\$ 20,817	\$ 21,725	\$ 21,942	\$ 22,161	\$ 22,383
Tenant Aircraft Parking (b)	2,828	2,698	2,655	2,655	2,655	2,655
Security Checkpoint Reimbursement	1,856	1,061	1,101	1,101	1,101	1,101
Miscellaneous Revenues	8,071	7,384	6,891	6,994	7,117	7,241
Subtotal: Other	\$ 33,057	\$ 31,960	\$ 32,372	\$ 32,692	\$ 33,034	\$ 33,380
Subtotal: Logan Revenues	\$ 694,983	\$ 697,218	\$ 733,589	\$ 726,585	\$ 810,715	\$ 863,756
Hanscom and Worcester Revenues	16,062	15,417	16,230	16,712	17,187	17,668
Airport Properties Revenues	\$ 711,046	\$ 712,635	\$ 749,819	\$ 743,297	\$ 827,902	\$ 881,424
<i>Percentage change</i>		0.2%	5.2%	-0.9%	11.4%	6.5%
Logan Airline Revenues (b)	\$ 302,404	\$ 312,860	\$ 348,646	\$ 364,916	\$ 417,228	\$ 440,537
<i>Percentage change</i>		3.5%	11.4%	4.7%	14.3%	5.6%

- (a) FY 2018 revenue subtotals differ from the Appendix A Information Statement of the Authority due to alternate groupings of terminal rentals, other, and concessions subtotals.
- (b) Reflects actual data for four months ended October 31, 2018, and budgeted data for the remaining eight months of FY 2019.
- (c) Logan Airline Revenues include Landing Fees, Terminal Rentals, and Tenant Aircraft Parking. The airline rental revenues for Terminal A included in the terminal rental totals shown in this table reflect the portion of Terminal A airline rentals that are revenues of the Authority under the 1978 Trust Agreement. For FY 2018 and FY 2019, a portion of the rental revenues generated from Terminal A are excluded from this line item, as such portion was directed to Terminal A Bond debt service and is not part of revenues under the 1978 Trust Agreement. While all Terminal A revenues will be treated as Revenues as of the date of defeasance of the Terminal A Bonds, for purposes of the forecast it has been assumed that such impact from the refunding of the Terminal A Bonds will not commence until FY 2020. Therefore, commencing with FY 2020, all Terminal A rental revenues are included in this line item, reflecting the issuance of the 2019A Bonds to retire the Terminal A Bonds.
- (d) Other landside concessions include bus and limousine, ground service, and customer amenity services.

Source: Massachusetts Port Authority.

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Concessions. Concessions accounted for 16.0% of Airport Properties revenues in FY 2018, or \$113.8 million. Concessions include retail, duty free and food and beverage concessions in the terminals, rental car privilege fees and certain ground transportation fees and charges (including TNC revenues). This revenue category is forecast to increase at a CAGR of 2.0% over the course of the forecast period, increasing from \$110.1 million in FY 2019 to \$119.3 million in FY 2023. The anticipated decrease in concessions revenue from FY 2018 to FY 2019 is attributable to conservative budgeting practices as well as the decrease in revenues from foreign exchange and bus and limousine services.

The Authority recently entered into a new 10-year contract with MarketPlace Logan LLC for the management of the majority of terminal concession operations at the Airport. (Previously, the four terminals at the Airport were managed under multiple concessions contracts.) The development of enhanced concession facilities under the new contract has begun in FY 2019 and includes a new and higher minimum annual guarantee (MAG) structure. Authority management expects that consolidating concessions management under a single contract with an industry leader will ensure consistency, continuity, and choice for the passengers traveling through the Airport. Enhancements to per passenger spending rates on terminal concessions resulting from the new MarketPlace contract have been assumed for purposes of this forecast.

The Authority has reflected relatively flat revenues from rental car activities in FY 2019 and beyond compared to prior years to take account of the continued increase in the use of TNC services to and from the Airport.

Non-terminal building and ground rents. Non-terminal building and ground rents accounted for 7.4% of Airport Properties revenues in FY 2018, or \$52.9 million. Non-terminal building and ground rents are comprised of hangar/cargo rentals, other building rentals, ground rent, fuel farm, and ramp and apron revenues. Overall, non-terminal building and ground rent revenue is forecasted to increase at a CAGR of 1.5%, from \$53.9 million in FY 2019 to \$57.1 million in FY 2023.

Utility fees. Utility fees accounted for 2.2% of Airport Properties revenues in FY 2018, or \$15.3 million. Utility fees are forecasted to decrease over the forecast period, from \$14.7 million in FY 2019 to \$13.7 million in FY 2023, primarily due to a change in the Authority's approach for recovering utility costs leading to a decrease in direct billed utility fees in Terminal B in FY 2020, as well as changes in energy prices.

Other. Other revenues accounted for 4.6% of Airport Properties revenues in FY 2018, or \$33.1 million (including \$2.8 million of tenant aircraft parking revenues). Other revenues include shuttle bus fees, security checkpoint reimbursement, and other miscellaneous revenues. When tenant aircraft parking (which is part of Logan airline revenues) is excluded, this revenue category is forecast to be relatively flat during the forecast period, increasing from \$29.3 million in FY 2019 to \$30.7 million in FY 2023 (a CAGR of 1.2%), primarily driven by an increase in shuttle bus revenues. The decrease in revenues from FY 2018 to FY 2019 is primarily attributable to conservative budgeting practices by the Authority.

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Airport Properties Operating Expenses

The Authority incurs operating expenses when maintaining, repairing and operating the Airport Properties. Such expenses generally include salaries and benefits, materials and supplies, repair, maintenance, services, professional fees, utilities, insurance, and other miscellaneous expenses, as well as administrative expenses allocated to the Airport Properties. Operating expenses are allocated to each cost center, including airfield and terminal cost centers, for cost recovery purposes through, in the case of airfield and terminal expenses, the airline rentals and fees.

As shown in Table 3, Airport Properties operating expenses are anticipated to increase by 6.8% from \$368.2 million in FY 2018 to \$393.1 million in FY 2019. This increase relates to a number of factors including new facilities coming into service and the addition of staff in certain operational areas. Airport Properties operating expenses are forecast to increase at a CAGR of 4.3% from \$393.1 million in FY 2019 to \$465.5 million in FY 2023.

Logan Airport expenses. In FY 2018, the primary expense allocations for Logan operating expenses were Terminal Building (38.9% of Logan Airport operating expenses), Landing Field (23.0%), Automobile Parking (17.0%), and Non-aeronautical (13.7%). Logan Airport operating expenses are forecasted to increase at a CAGR of 4.4% from \$365.6 million in FY 2019 to \$433.8 million in FY 2023, reflecting changes in baseline expenses, as well as incremental operating expenses for new capital facilities.

Hanscom and Worcester. Hanscom Field and Worcester Regional Airport accounted for 6.8% of total Airport Properties operating expenses in FY 2018. Expenses at Hanscom and Worcester are forecast to increase at a CAGR of 3.5% from \$27.6 million in FY 2019 to \$31.7 million in FY 2023.

Table 3
ACTUAL AND FORECAST AIRPORT PROPERTIES OPERATING EXPENSES
Massachusetts Port Authority
(For the 12 months ending June 30, \$ in thousands)

	Actual FY 2018	FY 2019 (a)	FY 2020	Forecast		
				FY 2021	FY 2022	FY 2023
Logan Expenses						
Personnel Expenses	\$ 142,921	\$ 152,520	\$ 156,244	\$ 162,418	\$ 168,305	\$ 174,597
Repair & Materials	19,327	20,581	21,813	22,467	23,142	23,836
Services	41,967	44,322	45,593	46,960	48,369	49,820
Professional Fees	47,148	50,783	53,851	55,467	57,131	58,845
Utilities (b)	31,222	30,778	29,441	34,675	37,164	38,942
Other and Authority Wide Allocations	60,388	66,568	76,801	79,810	85,719	87,777
Subtotal: Logan Expenses	\$ 342,973	\$ 365,552	\$ 383,743	\$ 401,798	\$ 419,830	\$ 433,816
Hanscom and Worcester Expenses	\$ 25,178	\$ 27,583	\$ 28,581	\$ 29,666	\$ 30,648	\$ 31,664
Airport Properties Operating Expenses	\$ 368,151	\$ 393,135	\$ 412,324	\$ 431,464	\$ 450,478	\$ 465,481
<i>Percentage change</i>		6.8%	4.9%	4.6%	4.4%	3.3%
Logan Expenses by Cost Center						
Landing Field	\$ 78,742	\$ 81,664	\$ 82,029	\$ 85,971	\$ 89,747	\$ 93,012
Terminal Building	133,376	143,292	142,639	151,546	162,993	169,004
Automobile Parking	58,320	67,493	69,105	72,483	75,631	76,967
Non-aeronautical (c)	47,023	45,590	62,637	62,667	60,925	63,134
Bag Screening Facilities	12,415	12,413	12,384	13,115	13,726	14,240
Rental Car Center	5,739	7,398	7,353	7,831	8,206	8,518
Airline Support	5,769	6,032	5,926	6,423	6,759	7,029
Regional Carrier and General Aviation Facilities	1,589	1,670	1,670	1,762	1,842	1,911
Logan Expenses by Cost Center	\$ 342,973	\$ 365,552	\$ 383,743	\$ 401,798	\$ 419,830	\$ 433,816

- (a) Reflects actual data for the four months ended October 31, 2018, and budgeted data for the remaining eight months of FY 2019.
- (b) The increase in utilities expenses between FY 2020 and FY 2021 is attributable to additional facilities and anticipated energy price changes.
- (c) In addition to non-aeronautical expenses, also includes other unrecoverable items such as budget contingency. The FY 2020 and future years figures reflect a full year of budget contingency and allowances for potential increases in certain operating expense items. The FY 2019 figure reflects lower actual expenses compared to the budget for the first four months of FY 2019.

Source: Massachusetts Port Authority.

THE FY 2018-FY 2022 CAPITAL PROGRAM

The forecast of Airport Properties Net Revenues incorporates the impact on revenues and operating expenses of projects intended to be developed at the Authority's Airport Properties as part of the FY 2018-FY 2022 Capital Program (including projects that are proposed to be funded with the Authority's anticipated future bonds expected to be issued under the terms of the 1978 Trust Agreement). Other funding sources for projects in the FY 2018-FY 2022 Capital Program include federal grants, PFCs, CFCs, the Authority's internally generated capital, and tenant and third-party financing.

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The FY 2018-FY 2022 Capital Program for the Authority’s Airport Properties is summarized in Table 4. (The Authority’s overall program, which includes non-Airport Properties, includes a total of \$4.4 billion of projects, \$2.0 billion of which is associated with private and third party funded projects.)

Table 4
SUMMARY OF FY 2018-FY 2022 CAPITAL PROGRAM FOR AIRPORT PROPERTIES
Massachusetts Port Authority
(\$ in thousands)

	Funding Source							Private capital	Total
	Future Bonds (a)	Prior Bonds	Grants (b)	Future PFC Bonds	PFC Pay-Go	Authority Capital & Other (c)	Subtotal excluding Private		
Logan									
Airside									
Runway 9-27 Rehab	\$ -	\$ -	\$ 5,200	\$ -	\$ 13,800	\$ -	\$ 19,000	\$ -	\$ 19,000
Resurface North Cargo Apron	-	-	10,399	-	6,001	-	16,400	-	16,400
Replace Runway 4R Approach Light Pier	-	-	-	-	8,885	-	8,885	-	8,885
Taxiway C3 Pavement Rehab and New Bypass Taxiway	-	-	-	-	7,500	-	7,500	-	7,500
Taxiway D, D1, MS Rehab	-	-	-	-	5,600	-	5,600	-	5,600
Runway Incursion Mitigation Study	-	-	1,346	-	454	-	1,800	-	1,800
Other Airside Projects	-	12,376	15,698	-	14,463	148,263	190,800	-	190,800
Subtotal: Airside	\$ -	\$ 12,376	\$ 32,644	\$ -	\$ 56,703	\$ 148,263	\$ 249,986	\$ -	\$ 249,986
Logan Landside									
Terminal E Modernization - Phase 1	\$ 240,370	\$ -	\$ -	\$ 129,288	\$ -	\$ 27,876	\$ 397,534	\$ -	\$ 397,534
Terminal C Optimization and B to C Connector	104,692	-	-	40,313	-	29,995	175,000	-	175,000
Terminal B Optimization	-	97,966	-	42,000	-	11,497	151,463	-	151,463
Terminal C Roadways	114,442	-	-	-	-	35,000	149,442	-	149,442
Parking 2000 Spaces	88,000	-	-	-	-	12,000	100,000	-	100,000
Terminal C Canopy and Upper Deck	50,000	-	-	-	-	-	50,000	-	50,000
Central Heating Plant Upgrade	-	14,624	-	-	-	28,797	43,422	-	43,422
HVAC Equipment Replacement Program	-	4,602	-	-	-	27,806	32,408	-	32,408
Post Security Concourse from Terminal B Gates 37-38 to Consolidated Checkpoint	-	-	-	-	18,397	1,927	20,324	-	20,324
Other Landside Projects	-	4,538	-	-	1,250	260,528	266,315	120,000	386,315
Subtotal: Landside	\$ 597,504	\$ 121,730	\$ -	\$ 211,601	\$ 19,647	\$ 435,426	\$ 1,385,907	\$ 120,000	\$ 1,505,907
Logan Other	-	-	-	-	-	47,638	47,638	-	47,638
Subtotal: Logan	\$ 597,504	\$ 134,106	\$ 32,644	\$ 211,601	\$ 76,349	\$ 631,327	\$ 1,683,531	\$ 120,000	\$ 1,803,531
Hanscom & Worcester	-	-	16,673	-	-	89,067	105,740	59,700	165,440
Total Airport Properties	\$ 597,504	\$ 134,106	\$ 49,317	\$ 211,601	\$ 76,349	\$ 720,394	\$ 1,789,271	\$ 179,700	\$ 1,968,971

(a) Future bonds to be issued under the 1978 Trust Agreement.
 (b) Including AIP entitlement and discretionary grants, and TSA grants.
 (c) Funding from the Authority’s Improvement & Extension Fund and Maintenance Reserve Fund, CFCs, and the Terminal A Maintenance Reserve Fund.

Source: Massachusetts Port Authority.

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In the event that some projects in the FY 2018-FY 2022 Capital Program are not implemented, the associated revenues and operating expenses would not be realized. See the section of Appendix A to the Official Statement titled "Capital Program" for a detailed discussion of the FY 2018-FY 2022 Capital Program costs and funding sources.

The Authority is currently in the process of developing its five-year capital program for the period FY 2019 to FY 2023. The new capital program may reflect: (1) material differences to project costs and schedules for various projects included in the currently approved FY 2018-FY 2022 Capital Program, and (2) the addition of new projects that were not included in the FY 2018-FY 2022 Capital Program. The Authority expects to receive approval from its Board for the FY 2019-FY 2023 Capital Program in February 2019.

PASSENGER FACILITY CHARGES

PFC revenues of the Authority consist of PFCs paid by certain passengers enplaned at the Airport (and include interest income earned thereon). PFC revenues are not Revenues of the Authority as defined in the Authority's 1978 Trust Agreement, and thus, PFCs are not pledged to the payment of debt service on the 2019A Bonds or any of the Authority's other currently outstanding Bonds issued under the 1978 Trust Agreement. See the discussion below of the proposed amendment to the 1978 Trust Agreement which would, if enacted, impact the treatment of PFC revenues.

Upon the effective date of the proposed amendments to the 1978 Trust Agreement, if PFCs or other revenues of the Authority that do not constitute Revenues pledged under the 1978 Trust Agreement (collectively, Available Funds) are pledged or irrevocably committed or are held by a fiduciary and are to be set aside exclusively for the payment of principal of, interest or premium, if any, on specified Bonds pursuant to a resolution of the Authority (and are not otherwise required for payment of another Series of Bonds), then the principal, interest and/or premium to be paid from such Available Funds or from earnings thereon shall be disregarded and not included in calculating debt service coverage requirements under the 1978 Trust Agreement. As of the date of this report, it is the expectation of the Authority's management that it will annually irrevocably commit PFCs to pay a portion of the principal of and interest on the 2019A Bonds for the next fiscal year, and this forecast includes that assumption. However, there can be no assurance that the Authority will in fact irrevocably commit PFCs in such amounts in each such year to the payment of such debt service.

The Authority generated \$81.8 million of PFC revenues from activities at Logan Airport during FY 2018, and forecasts \$80.6 million of PFC revenues during FY 2019 (including associated restricted interest income). The Authority is forecasting PFC revenues of \$84.8 million in FY 2023, as shown in Table 5.

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Table 5
ACTUAL AND FORECAST PASSENGER FACILITY CHARGE REVENUES
Boston-Logan International Airport
(For the 12 months ending June 30, in thousands except percentages and Net PFC Collection Level)

	Actual FY 2018	FY 2019 (a)	FY 2020	Forecast		
				FY 2021	FY 2022	FY 2023
PFC revenues						
Enplaned Passengers (b)	19,636	20,716	21,131	21,342	21,555	21,771
Percent of Passengers Paying a PFC	94.0%	88.3%	88.3%	88.3%	88.3%	88.3%
Net PFC Collection Level	\$ 4.39	\$ 4.39	\$ 4.39	\$ 4.39	\$ 4.39	\$ 4.39
Annual PFC Collections from Airlines	81,016	80,260	81,865	82,684	83,511	84,346
PFC Restricted Interest Income	<u>763</u>	<u>318</u>	<u>1,026</u>	<u>1,030</u>	<u>470</u>	<u>423</u>
PFC Revenues Plus Interest Income	\$ 81,779	\$ 80,578	\$ 82,892	\$ 83,714	\$ 83,980	\$ 84,769
<i>Percentage change</i>		-1.5%	2.9%	1.0%	0.3%	0.9%

(a) Reflects actual data for the four months ended October 31, 2018, and budgeted data for the remaining eight months of FY 2019.
(b) Excludes general aviation passengers.

Source: Massachusetts Port Authority.

At various times since 1999, the Authority has issued PFC Revenue Bonds on a “stand alone” basis under the terms of its PFC Trust Agreement, which bonds were secured only by PFC revenues. There are currently no such PFC Revenue Bonds outstanding.

The Authority has received approval from the FAA to levy a PFC at the \$4.50 level per PFC-eligible enplaned passenger at the Airport. The Authority currently has approvals to collect and spend a total of \$1.81 billion in PFC revenue under the terms of eleven separate FAA-approved PFC applications (as amended), with a projected PFC charge expiration date of December 1, 2027. PFC revenues are used to fund capital project costs on a pay-as-you-go basis, to pay debt service on a portion of the Terminal A Bonds (and on a portion of the 2019A Bonds, as those will refinance all of the outstanding Terminal A Bonds), and to pay interest and repay principal on commercial paper issued to fund PFC-eligible project costs. From inception of the Authority’s PFC program in 1993 through September 30, 2018, a total of \$1.22 billion in PFC revenue has been collected by the Authority, including interest income.

As noted above, the Authority currently has no bonds issued and outstanding under the PFC Trust Agreement. The Authority intends to continue to leverage its PFC revenue stream, and is currently studying alternatives for accomplishing this objective in the most efficient and effective way. Future leveraging of the PFC revenue stream may be partially or wholly undertaken under the terms of the 1978 Trust Agreement, in accordance with the terms of a pending amendment to the 1978 Trust Agreement, as described in Appendix A of the Official Statement for the 2019A Bonds, to which this review is attached.

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TENANT AND THIRD PARTY FUNDED PROJECTS

The Authority intends to fund certain capital projects using funds from tenants or third parties, or from revenue sources that are not included in Revenues, as defined in the 1978 Trust Agreement. There are ten such projects in the Authority's FY 2018-FY 2022 Capital Program related to the Airport Properties; two projects at Logan Airport – airline improvements in Terminal C related to the JetBlue expansion (\$100 million), and a vendor delivery inspection station by a third party concessionaire (\$20 million) – and eight projects totaling \$59.7 million at the Authority's other airports (Worcester Regional Airport and Hanscom Field). There are also third party funded projects in the Authority's non-aviation properties. Generally, the Authority would not undertake tenant and third-party projects if funding from those sources was not available.

THE AUTHORITY'S STRATEGIC PLAN

The Authority completed a unified Strategic Plan for all of its facilities, which was adopted by the Board in November 2014. With respect to its Airport Properties, the key goal of the Strategic Plan was to identify the necessary improvements to its airside, landside, and ground access facilities that would allow Logan Airport to serve the needs of its rapidly growing passenger base. Given the robust increase in aviation activity at the Airport since the Strategic Plan was completed, there was a need to embark on a second phase of the Strategic Plan, leading to the implementation of certain of the strategic initiatives identified as part of the planning process on an expedited basis. Several of these initiatives are included in the FY 2018-FY 2022 Capital Program. With respect to Logan Airport, key initiatives include, among others, the implementation of terminal improvements (including additional gates and other improvements to accommodate international activity in Terminal E, and the provision of post-security connectivity for passengers among all Airport terminals), and ground access and curbside improvements at the Airport to accommodate the significant passenger growth.

Authority management and staff will continue to work to develop specific business plans designed to address and implement the strategic initiatives across all of its properties. As detailed business plans for each strategic initiative are developed, refined, and approved in the context of the then-current operating environment and aviation activity levels, those projects will become part of future five-year rolling capital programs to be approved by the Authority's Board.

WORCESTER REGIONAL AIRPORT AND HANSCOM FIELD

The Authority has owned and operated Worcester Regional Airport, a commercial service airport located in Worcester, Massachusetts, since 2010. Prior to that, the Authority was responsible for operating the facility, under ownership by the City of Worcester. While historically this airport has been used for operations ranging from small single-engine aircraft to large corporate business jets, the Authority continues to actively engage in recruiting commercial airlines to the airport. JetBlue commenced scheduled air service at the airport in November 2013, and American Airlines commenced service in October 2018. In addition, Delta Air Lines has announced its planned service from Worcester anticipated to begin in August 2019.

Hanscom Field, located principally in the Town of Bedford, Massachusetts, is a general aviation reliever airport for Logan Airport. The Authority has owned and operated Hanscom Field since 1974.

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Taken together, Worcester Regional Airport and Hanscom Field accounted for approximately 2.3% of the Authority's Airport Properties revenues and 6.8% of its Airport Properties operating expenses in FY 2018.

SUMMARY OF FORECAST

Exhibit A presents forecast Airport Properties revenues and operating expenses, the resultant forecast of Airport Properties Net Revenues for FY 2019 through FY 2023, and the key assumptions that are significant to the forecasts, as prepared by Authority management. These forecasts assume that the airlines currently providing significant levels of service at the Airport will continue to provide uninterrupted service during the forecast period. The forecasts shown in Exhibit A are consistent with the sections of the table entitled "Forecasted Operating Results and Debt Service Coverage Under the 1978 Trust Agreement" (as included in the "Selected Financial Data" section of Appendix A of the Official Statement), which relate to Airport Properties revenues and operating expenses. The information presented in Exhibit A is at a greater level of detail than that presented in the Official Statement, and separately presents information for the Airport, Hanscom Field, and Worcester Regional Airport. Additionally, Exhibit A relates only to the Authority's Airport Properties, while the table in the Official Statement encompasses all of the Authority's properties. To the extent that line items differ between Exhibit A and the Authority's table in Appendix A with respect to the Airport Properties, such variance is due to differences in the methods used to aggregate revenues and operating expenses.

The Authority prepared these financial forecasts on the basis of information and assumptions that were assembled by the Authority. As discussed earlier, LeighFisher assisted the Authority in formulating certain assumptions and developing the forecasts of Airport Properties Net Revenues. The forecasts reflect the Authority's expected course of action during the forecast period and, in the Authority's judgment, based upon the assumptions described herein, present fairly the Authority's forecast financial results of the Airport Properties; however, there can be no assurance that such forecast results will be realized.

In addition to the payment of debt service on the Authority's Bonds issued under the terms of the 1978 Trust Agreement, the Authority is required to make deposits to the PILOT Fund and the Maintenance Reserve Fund and to pay subordinate debt service on private placement debt issued to fund: (1) the acquisition of certain parcels of land, and (2) the development of certain of the Authority's Port properties, as well as make principal and interest payments on the Authority's outstanding commercial paper notes. These amounts must be paid from the Net Revenues of the Airport Properties and other facilities. Our review does not address the amount of such payments nor assess the adequacy of the Authority's forecast Net Revenues to make such payments, as they are subordinate to the payment of debt service on the 2019A Bonds and the Authority's other Bonds issued under the terms of the 1978 Trust Agreement.

SENSITIVITY TEST

To test the sensitivity of the financial forecasts to hypothetical lower levels of air traffic activity, the Authority developed a sensitivity analysis projection in addition to the base forecast. The sensitivity analysis projection should not be considered a forecast of expected future results.

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Exhibit B presents a summary of projected Aviation Properties Net Revenues under the hypothetical assumption that total passenger numbers decrease by 17.7% in FY 2020 compared with the prior year, with a subsequent rebound over the next two years – a 2.1% increase in FY 2021, followed by an 8.7% increase in FY 2022, and a 9.4% increase in FY 2023. This is proportionate to the trend actually experienced at the Airport between FY 2001 and FY 2004, in the aftermath of the terrorist attacks on September 11, 2001. Passenger activity at the Airport has followed this general trend of quickly rebounding following a sharp decline in each of the last three economic downturns – the economic recessions of the early 1990s, the early 2000s, and 2008-09.

All other assumptions under this sensitivity test are the same as for the base forecast, including the assumption that annual operating expenses are unchanged in the sensitivity test. Under the sensitivity test, Airport Properties Net Revenues are projected to be 15.4% below the base forecast level in FY 2020, 14.5% below the base forecast level in FY 2021, 8.4% below the base forecast level in FY 2022, and 2.6% below the base forecast level in FY 2023. While airline revenues are approximately the same due to the cost recovery nature of the airline ratemaking methodology used at the Airport, the nonairline revenues that are based on passenger throughput (such as terminal concessions, parking, and rental car) are lower.

It should be noted that, in the eventuality that Airport passenger totals drop significantly, the Authority would likely undertake a program of operating cost reductions and potentially increases in Airport rates and charges, as was the case in the aftermath of the September 11, 2001 terrorist attacks.

ASSUMPTIONS UNDERLYING THE FORECASTS

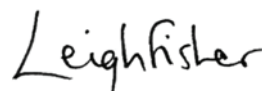
In our opinion, the assumptions underlying the Authority’s base case financial forecasts provide a reasonable basis for the forecasts of Airport Properties Net Revenues and we believe that such forecasts appropriately reflect such assumptions. To the best of our knowledge, we believe that the Authority has taken into account all relevant factors material to the Airport Properties Net Revenues forecasts. We offer no opinion with regard to the forecasts of non-Airport Properties Net Revenues.

Any forecast is subject to uncertainties. Inevitably, some assumptions will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material. Neither LeighFisher nor any person acting on our behalf makes any warranty, expressed or implied, with respect to the information, assumptions, forecasts, opinions, or conclusions disclosed in this report. We have no responsibility to update this report for events and circumstances occurring after the date of our review.

* * * * *

We appreciate the opportunity to serve the Authority as the Airport Properties financial consultant on this financing.

Respectfully submitted,



LEIGHFISHER

Attachment

KEY ASSUMPTIONS AND FACTORS UNDERLYING
FORECAST AIRPORT PROPERTIES REVENUES AND OPERATING EXPENSES

Massachusetts Port Authority

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**KEY ASSUMPTIONS AND FACTORS UNDERLYING
FORECAST AIRPORT PROPERTIES REVENUES AND OPERATING EXPENSES**

Massachusetts Port Authority

EXHIBIT A: BASE FORECAST

Passenger Traffic and Airline Operations

1. The total number of passengers at Boston-Logan International Airport (the Airport) was 39.4 million in FY 2018 (excluding general aviation passengers). Passengers are forecast to total 41.6 million in FY 2019 (based on actual data for the first four months of FY 2019). Passenger totals are forecast to increase by 5.5% in FY 2019, by 2.0% in FY 2020, and by 1.0% in FY 2021, FY 2022, and FY 2023 to approximately 43.7 million passengers in FY 2023, the last year of the forecast period.
2. The airlines currently providing significant levels of service at the Airport (including American, Delta, JetBlue, Southwest, and United) will continue to provide significant service at the Airport. There will be no sudden, significant reduction in passenger levels at the Airport because of airline mergers or liquidations, or for other reasons.

Bond Issuance and Debt Service

3. The Authority's 2019A Bonds are assumed to be issued in the aggregate principal amount of approximately \$319.5 million (yielding sufficient monies, together with other available funds, to fully defease the entire outstanding principal amount of the Terminal A Bonds), at an interest rate of approximately 5.0%, and with no capitalized interest period.
4. During the forecast period, two further bond issues under the terms of the 1978 Trust Agreement are assumed to occur to partially fund projects included in the FY 2018-FY 2022 Capital Program:
 - Series 2019-B Bonds are assumed to be issued on or about July 1, 2019, in the aggregate principal amount of \$544.6 million (yielding \$446.7 million of net proceeds available to fund project costs), with a 5.5% interest rate and 2 years of capitalized interest.
 - Series 2020 Bonds are assumed to be issued on or about July 1, 2020, in the aggregate principal amount of \$345.5 million (yielding \$278.6 million of net proceeds available to fund project costs), with a 6.0% interest rate and 2 years of capitalized interest.
5. For purposes of this analysis, it was assumed that two PFC-related bond issues would be undertaken in July 2019 and July 2020, in the aggregate principal amount of \$247.7 million (yielding \$211.6 million of net proceeds available to fund project costs), with a 6.0% interest rate, no capitalized interest, and each with a 10-year term. Proceeds would be used to fund a portion of three projects – (1) Terminal B Optimization, (2) Terminal E Modernization Phase 1, and (3) Terminal C Optimization and Terminal B to C Connector.

The PFC Program

6. The PFC Program will continue to be implemented in accordance with the Authority's eleven approved PFC applications.
7. PFC revenues generated during the forecast period will be sufficient to pay: (1) interest on, and principal of, outstanding commercial paper notes issued to finance certain PFC projects, (2) certain PFC project costs on a pay-as-you-go basis, (3) a portion of the debt service on the 2019A Bonds being issued to refinance the Terminal A Bonds (as provided for in the Authority's sixth PFC application approved by the FAA, which approved the use of PFCs to pay debt service on debt related to the development of Terminal A), and (4) debt service on the PFC-related bonds projected to be issued in July 2019 and July 2020, as described in item 5 above.
8. PFC revenues are not pledged to the payment of debt service on the 2019A Bonds or any other of the Authority's Bonds issued under the 1978 Trust Agreement. Such Bonds are payable from and secured by a pledge of the Authority's general Revenues (which exclude PFC revenues). However, the Authority anticipates, and this forecast assumes, that the Authority will continue to apply PFCs to pay a portion of the debt service on the 2019A Bonds in the amount of approximately \$8.9 million per year.
9. Under the terms of a pending amendment to the 1978 Trust Agreement that has not yet been approved by the required percentage (51%) of bondholders, the Authority may undertake future debt issues under the 1978 Trust Agreement using a PFC direct debt service offset structure (i.e., PFC revenues would be used to pay a designated portion of the associated debt service). For purposes of this analysis, it was assumed that PFC revenues would be used to pay annual debt service associated with a PFC-related bond issues to be undertaken in July 2019 and July 2020 (see items 5 and 7 above). Upon the effective date of the proposed amendments to the 1978 Trust Agreement, if any PFCs are pledged or irrevocably committed or are held by a fiduciary and are to be set aside exclusively for the payment of principal of, interest or premium, if any, on such Bonds pursuant to a resolution of the Authority then the principal, interest and/or premium to be paid from such PFCs or from earnings thereon shall be disregarded and not included in calculating debt service coverage requirements under the 1978 Trust Agreement.

Grants

10. Based on discussions with the FAA, the Authority expects to receive Airport Improvement Program (AIP) entitlement and discretionary funds, and Voluntary Airport Low Emissions (VALE) grants, for all three airports totaling approximately \$49.3 million during the FY 2018 to FY 2022 period.

Operating Expenses

11. Operating expenses at the Airport Properties are projected to increase an average of approximately 4.3% per year during the forecast period – from FY 2019 through FY 2023. The operating expense forecasts account for the impact of projects included in the FY 2018-FY 2022 Capital Program that enter service prior to the end of FY 2023.

Airline Revenues

12. The fees and charges paid by the airlines are primarily calculated on a cost recovery basis, reflecting both allocated capital and operating costs to facilities used by the airlines. The calculation of the landing fee, terminal rental rates for all four terminals, and the checked bag screening fee, will continue to reflect current rate-making practices.
13. The Authority will include allocable asset amortization related to projects in the FY 2018-FY 2022 Capital Program in the airline cost basis for computing airline terminal rentals and landing fees.

Nonairline Revenues

14. An increase of \$3 in the maximum daily parking rate at all on-Airport facilities is assumed to be implemented on July 1, 2019 (the start of FY 2020), with a further \$3 increase on July 1, 2021 (the start of FY 2022). The Authority's Board has already approved these increases. Parking rates at the Authority's off-Airport Logan Express parking lots are assumed to remain unchanged throughout the forecast period.
15. The rental car privilege fee will remain at 10% of annual gross rental car revenues and minimum annual guaranteed payments will remain unchanged.
16. The Authority conservatively budgeted for terminal concession revenues for FY 2019. Terminal concession revenues are assumed to generally increase in line with the increase in passenger enplanements and as a result of price increases, with adjustments for the expected temporary removal of retail space during construction associated with the new concessions agreement with MarketPlace Logan LLC. In addition, for purposes of this analysis, certain increases in per passenger spending on terminal concessions were assumed in connection with the new agreement with MarketPlace Logan LLC for the operation of concessions at all four of the Airport terminals.

Rental Car Center and the CFC Program

17. The Authority incurs operating and routine maintenance expenses associated with the day-to-day operation of the Rental Car Center. Pursuant to its lease agreements with the rental car companies associated with the development of the Rental Car Center, the Authority collects building and ground rental revenues from the rental car companies operating in the Rental Car Center. The rental car companies also pay Common Airport Transit System (CATS) fees associated with their allocated share of the Authority's terminal-area busing system. The building and ground rental revenues, CATS fees, and the Authority's operating expenses for the Rental Car Center are all Revenues and operating expenses, as the case may be, under the terms of the 1978 Trust Agreement.
18. CFC revenues are not pledged to the payment of debt service on the 2019A Bonds or any other of the Authority's Bonds issued under the 1978 Trust Agreement. Such Bonds are payable from and secured by a pledge of the Authority's general Revenues (which exclude CFC revenues). Conversely, general Revenues of the Authority are not pledged to the payment of debt service on the Authority's bonds issued under the terms of its CFC Trust Agreement.

EXHIBIT B: SENSITIVITY TEST

The underlying assumptions for Exhibit B (Projected Airport Properties revenues and operating expenses under the sensitivity test) are identical to those underlying the forecast shown in Exhibit A; except that annual passenger numbers during FY 2020 to FY 2023 are lower under the sensitivity case. This results in lower Logan Airport annual revenues (and lower annual revenues for the Airport Properties in total) under the sensitivity test than in the base forecast case.

No change in operating expenses is assumed for the sensitivity test, although if a significant reduction in aviation activity at the Airport were to occur, the Authority could implement a program of operating cost reductions as it did in the aftermath of the terrorist attacks of September 11, 2001, and potentially also increase certain categories of Airport rates and charges. Additionally, no deferrals of capital projects were assumed for the sensitivity test.

Exhibit A
BASE FORECAST
FORECAST AIRPORT PROPERTIES NET REVENUES
Massachusetts Port Authority Airport Properties
(for the 12 months ending June 30, passengers and \$ in thousands)

The forecasts presented in this exhibit were prepared by Authority management using information from the sources indicated and assumptions described in the accompanying text. Inevitably, some of the assumptions used to develop the Authority's forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Logan Airport Total Passengers (a)	41,561	42,392	42,816	43,244	43,676
<i>Percentage change</i>	5.5%	2.0%	1.0%	1.0%	1.0%
Revenues					
Landing Fees	\$ 121,891	\$ 124,510	\$ 129,056	\$ 137,639	\$ 147,698
Automobile Parking Fees	\$ 176,267	\$ 182,605	\$ 184,443	\$ 193,059	\$ 197,114
Utility Fees	\$ 14,744	\$ 10,350	\$ 12,191	\$ 13,065	\$ 13,690
Terminal Rentals (b)	\$ 188,271	\$ 221,481	\$ 233,204	\$ 276,934	\$ 290,184
Non-Terminal Building & Ground Rents	\$ 53,937	\$ 54,591	\$ 55,425	\$ 56,277	\$ 57,144
Concessions					
Terminal Concessions	\$ 51,540	\$ 49,864	\$ 53,631	\$ 58,003	\$ 60,045
Ground Transportation	15,240	16,430	16,594	16,760	16,928
Other Commissions	9,116	9,010	9,010	9,010	9,010
Rental Car	34,253	32,375	32,699	33,026	33,356
Subtotal: Concessions	\$ 110,148	\$ 107,679	\$ 111,935	\$ 116,800	\$ 119,339
Other (c)	\$ 31,960	\$ 32,372	\$ 32,692	\$ 33,034	\$ 33,380
Subtotal: Logan Revenues	\$ 697,218	\$ 733,589	\$ 758,946	\$ 826,808	\$ 858,550
<i>Percentage change</i>	0.3%	5.2%	3.5%	8.9%	3.8%
Hanscom and Worcester Revenues	\$ 15,417	\$ 16,230	\$ 16,712	\$ 17,187	\$ 17,668
Total Revenues	\$ 712,635	\$ 749,819	\$ 775,657	\$ 843,995	\$ 876,217
<i>Percentage change</i>	0.2%	5.2%	3.4%	8.8%	3.8%
Operating Expenses					
Logan Expenses (d)	\$ 365,552	\$ 383,743	\$ 401,798	\$ 419,830	\$ 433,816
<i>Percentage change</i>	6.6%	5.0%	4.7%	4.5%	3.3%
Hanscom and Worcester Expenses	\$ 27,583	\$ 28,581	\$ 29,666	\$ 30,648	\$ 31,664
Airport Properties Operating Expenses	\$ 393,135	\$ 412,324	\$ 431,464	\$ 450,478	\$ 465,481
<i>Percentage change</i>	6.8%	4.9%	4.6%	4.4%	3.3%
AIRPORT PROPERTIES NET REVENUES	\$ 319,500	\$ 337,495	\$ 344,194	\$ 393,517	\$ 410,737
<i>Percentage change</i>	-6.8%	5.6%	2.0%	14.3%	4.4%

(a) Excludes general aviation passengers.

(b) Includes Terminal A rental revenues and charges for baggage screening facilities. For FY 2018 and FY 2019, a portion of the rental revenues generated from Terminal A are excluded from this line item, as such portion was directed to Terminal A Bond debt service and is not part of Revenues under the 1978 Trust Agreement. While all Terminal A revenues will be treated as Revenues as of the date of defeasance of the Terminal A Bonds, for purposes of the forecast it has been assumed that such impact from the refunding of the Terminal A Bonds will not commence until FY 2020. Therefore, commencing with FY 2020, all Terminal A rental revenues are included in this line item, reflecting the issuance of the 2019A Bonds to retire the Terminal A Bonds.

(c) Includes subtenant fees, conduit fees, operating grants and other items.

(d) Including expenses for other unrecoverable items, such as budget contingency.

Note: Amounts in the columns may not add to the subtotals and totals because of rounding.

Source: Massachusetts Port Authority.

Exhibit B
SENSITIVITY TEST
PROJECTED AIRPORT PROPERTIES NET REVENUES
Massachusetts Port Authority Airport Properties
(for the 12 months ending June 30, passengers and \$ in thousands)

This scenario is based upon hypothetical assumptions as described in the text.

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Logan Airport Total Passengers (a)	41,561	34,205	34,925	37,966	41,519
<i>Percentage change</i>	5.5%	-17.7%	2.1%	8.7%	9.4%
Revenues					
Landing Fees	\$ 121,891	\$ 124,510	\$ 129,056	\$ 137,639	\$ 147,698
Automobile Parking Fees	\$ 176,267	\$ 150,004	\$ 153,603	\$ 173,409	\$ 192,210
Utility Fees	\$ 14,744	\$ 10,350	\$ 12,191	\$ 13,065	\$ 13,690
Terminal Rentals (b)	\$ 188,271	\$ 221,481	\$ 233,204	\$ 276,934	\$ 290,184
Non-Terminal Building & Ground Rents	\$ 53,937	\$ 54,591	\$ 55,425	\$ 56,277	\$ 57,144
Concessions					
Terminal Concessions	\$ 51,540	\$ 40,041	\$ 43,674	\$ 50,841	\$ 56,959
Ground Transportation	15,240	13,193	13,471	14,644	16,014
Other Commissions	9,116	9,010	9,010	9,010	9,010
Rental Car	34,253	25,998	26,545	28,856	31,557
Subtotal: Concessions	\$ 110,148	\$ 88,242	\$ 92,701	\$ 103,352	\$ 113,540
Other (c)	\$ 31,960	\$ 32,372	\$ 32,692	\$ 33,034	\$ 33,380
Subtotal: Logan Revenues	\$ 697,218	\$ 681,551	\$ 708,873	\$ 793,710	\$ 847,847
<i>Percentage change</i>	0.3%	-2.2%	4.0%	12.0%	6.8%
Hanscom and Worcester Revenues	\$ 15,417	\$ 16,230	\$ 16,712	\$ 17,187	\$ 17,668
Total Revenues	\$ 712,635	\$ 697,781	\$ 725,584	\$ 810,897	\$ 865,515
<i>Percentage change</i>	0.2%	-2.1%	4.0%	11.8%	6.7%
Operating Expenses					
Logan Expenses (d)	\$ 365,552	\$ 383,743	\$ 401,798	\$ 419,830	\$ 433,816
<i>Percentage change</i>	6.6%	5.0%	4.7%	4.5%	3.3%
Hanscom and Worcester Expenses	\$ 27,583	\$ 28,581	\$ 29,666	\$ 30,648	\$ 31,664
Airport Properties Operating Expenses	\$ 393,135	\$ 412,324	\$ 431,464	\$ 450,478	\$ 465,481
<i>Percentage change</i>	6.8%	4.9%	4.6%	4.4%	3.3%
AIRPORT PROPERTIES NET REVENUES	\$ 319,500	\$ 285,457	\$ 294,120	\$ 360,419	\$ 400,034
<i>Percentage change</i>	-6.8%	-10.7%	3.0%	22.5%	11.0%

(a) Excludes general aviation passengers.

(b) Includes Terminal A rental revenues and charges for baggage screening facilities. For FY 2018 and FY 2019, a portion of the rental revenues generated from Terminal A are excluded from this line item, as such portion was directed to Terminal A Bond debt service and is not part of Revenues under the 1978 Trust Agreement. While all Terminal A revenues will be treated as Revenues as of the date of defeasance of the Terminal A Bonds, for purposes of the forecast it has been assumed that such impact from the refunding of the Terminal A Bonds will not commence until FY 2020. Therefore, commencing with FY 2020, all Terminal A rental revenues are included in this line item, reflecting the issuance of the 2019A Bonds to retire the Terminal A Bonds.

(c) Includes subtenant fees, conduit fees, operating grants and other items.

(d) Including expenses for other unrecoverable items, such as budget contingency.

Note: Amounts in the columns may not add to the subtotals and totals because of rounding. No changes in assumptions have been made regarding operating expenses, or the timing of the implementation of capital projects.

Source: Massachusetts Port Authority.

APPENDIX D

SUMMARY OF CERTAIN PROVISIONS OF THE 1978 TRUST AGREEMENT

The following summary does not purport to be complete and is subject to all of the terms and conditions of the 1978 Trust Agreement, to which reference is hereby made, the form of which is available for examination at the offices of the Authority and the Trustee. The summary makes use of terms defined in the 1978 Trust Agreement, certain of which are also defined below. The summary includes the effect of the expected issuance of the 2019A Bonds on February 13, 2019 and the proposed amendments to the 1978 Trust Agreement set forth in the Twenty-First Supplemental Agreement that will not become effective until the date the holders of 51% in the aggregate principal amount of the Bonds outstanding on such date have approved and consented to the amendments to the 1978 Trust Agreement as set forth in such Twenty-First Supplemental Agreement. The proposed amendments to the 1978 Trust Agreement pursuant to the Twenty-First Supplemental Agreement are shown in italics and underlined and indicated by footnotes contained herein.

Pledge Effected by the 1978 Trust Agreement (Sections 701, 601, 507 and 507A)

Payment of the principal, interest and redemption premium on the Bonds is secured by a pledge of the Revenues, in the manner and to the extent set forth in the 1978 Trust Agreement. See “SECURITY FOR THE 2019A BONDS -- General.” The Enabling Act provides that the Authority is authorized in the 1978 Trust Agreement to pledge its tolls and other revenues, over and above the amounts necessary to pay current expenses and to provide reserves therefor, to the payment of the interest on and principal of its Bonds. The Enabling Act further provides that such pledge is valid and binding when made, and that the revenues so pledged shall immediately be subject to the lien of such pledge without physical delivery thereof or further act, and such lien shall be valid and binding as against all parties having claims of any kind irrespective of whether such parties have notice thereof. The Bonds issued under the 1978 Trust Agreement are not a debt or obligation of the Commonwealth or of any political subdivision thereof but are payable solely from the Revenues pledged for their payment and certain Funds and Accounts created by the 1978 Trust Agreement.

The 1978 Trust Agreement provides that the moneys in all Funds and Accounts which are held by the Authority shall be subject to a lien and charge in favor of the Trustee and the holders of the Bonds to the same extent as provided with respect to moneys deposited with the Trustee. All moneys deposited with the Trustee as required by the 1978 Trust Agreement shall be held by the Trustee in trust and applied as provided in the 1978 Trust Agreement and, pending such application, shall be subject to a lien and charge in favor of the Trustee and the holders of the outstanding Bonds on the terms and conditions set forth therein until disbursed.

The 1978 Trust Agreement provides that amounts, if any, deposited in a separate account of the Operating Fund created under the 1978 Trust Agreement which represent payments in respect of pension obligations of the Authority will, upon the occurrence of an event of default under the 1978 Trust Agreement, first be applied to present and accrued pension benefits of the Authority’s employees. The 1978 Trust Agreement further provides for the payment of the Authority’s obligations in respect of post-retirement health benefits to a separate trustee or into a separate account of the Operating Fund. Amounts, if any, deposited in such separate account

will, upon the occurrence of an event of default under the 1978 Trust Agreement, first be applied to present and accrued post-retirement health benefits of the Authority's employees.

Establishment of Funds and Accounts (Sections 503, 209 and 401)

The 1978 Trust Agreement creates a Revenue Fund, an Operating Fund (which includes a separate Self-Insurance Account, a separate pension account and a separate post-retirement health benefits account), an Interest and Sinking Fund (which includes three separate accounts, namely, a Bond Service Account, a Redemption Account and a Reserve Account *(which includes a Pooled Reserve Subaccount and one or more additional subaccounts established by resolution of the Authority)*¹, and may also include one or more Term Bond Investment Accounts established by resolution of the Authority for a subsequent Series of Bonds), a Maintenance Reserve Fund, a Payment in Lieu of Taxes Fund, a Capital Budget Fund and an Improvement and Extension Fund (which includes separate Rebate Funds pertaining to each Series of Bonds, separate principal, interest and escrow accounts relating to a subordinated debt financing of the Authority, payment and rebate accounts relating to the tax-exempt commercial paper program of the Authority, and such other accounts as the Authority may from time to time establish). The 1978 Trust Agreement also provides for a Construction Fund and for separate Project Accounts within such Fund.

The Authority holds and administers in trust the Revenue Fund, the Operating Fund (except the Self-Insurance Account, the pension account and the post-retirement health benefits account) and the Improvement and Extension Fund. All of the other Funds and Accounts are held and administered by the Trustee.

Application of Revenues

Under the 1978 Trust Agreement all Revenues are to be deposited, daily as far as practicable, into the Revenue Fund held by the Authority.

Operating Fund (Section 506) -- As often as practicable the Authority shall transfer from the Revenue Fund to the Operating Fund all Revenues on deposit therein. The Authority will pay when due all Operating Expenses from the Operating Fund.

On the seventh business day of each month the Authority is required to make transfers from the moneys on deposit in the Operating Fund as of the seventh business day of such month as follows:

to the trustee of the Authority's pension plan, one-twelfth (1/12) of the Authority's actuarially determined annual pension expense;

to a separate trustee or to a special separate post-retirement health benefit account, one-twelfth (1/12) of the Authority's actuarially determined annual post-retirement health expense; and

¹ Language related to the Pooled Reserve Subaccount to be added upon effective date of the Twenty-First Supplemental Agreement.

to the Trustee for deposit in the Self-Insurance Account, amounts substantially as recommended by the Authority's Risk Management Consultant.

After (x) paying Operating Expenses, (y) making any required transfers to the trustee of the Authority's pension fund, to the trustee for the Authority's post-retirement health benefit account and to the Trustee for deposit in the Self-Insurance Account, and (z) retaining in the Operating Fund such amount as the Authority may deem necessary (provided that the balance retained therein does not exceed 15% of annual Operating Expenses established in the Annual Budget of the Authority), the Authority is required on the seventh business day of each month to transfer the balance in the Operating Fund to the Trustee for deposit in the following Funds and Accounts in the following order (no transfer to be made into any Fund or Account until there shall have been deposited in the next preceding Fund or Account the full amount required):

- (1) Interest and Sinking Fund (Sections 510 and 522) -- Amounts in this Fund will be applied to the payment of the Bonds and any additional Bonds which may be issued in the future. Such Bonds which may be issued in the future are hereinafter referred to as "Additional Bonds".

Bond Service Account: There shall be deposited in this Account the amount needed to make the sum therein, together with any amounts transferred from the Construction Fund or Available Funds deposited for the payment of a Series of Bonds pursuant to the 1978 Trust Agreement² equal to (a) interest accrued and to accrue until the first day of the next month on all outstanding 2008 Bonds, 2010 Bonds, 2012 Bonds, 2014 Bonds, 2015 Bonds, 2016 Bonds, 2017 Bonds, 2019A Bonds and any Additional Bonds, plus (b) principal accrued and to accrue until the first day of the next month on all serial 2008 Bonds, serial 2010 Bonds, serial 2012 Bonds, serial 2014 Bonds, serial 2015 Bonds, serial 2016 Bonds, serial 2017 Bonds, serial 2019A Bonds and any serial Additional Bonds, which will become payable within the next year.

Redemption Account: There shall be deposited in this Account the amount needed to make the amount deposited therein equal to the Amortization Requirements, if any, for such fiscal year on all outstanding term 2008 Bonds, term 2010 Bonds, term 2012 Bonds, term 2014 Bonds, term 2015 Bonds, term 2016 Bonds, term 2017 Bonds, term 2019A Bonds and any term Additional Bonds accrued and to accrue until the first day of the next month, plus an amount equal to any premium which would be payable on any date commencing with July 2 in such fiscal year and ending with July 1 in the following fiscal year, both inclusive, accrued or to accrue until the first day of the next month less the amount of Available Funds deposited in the Redemption Account for the payment of a Series of Bonds pursuant to the 1978 Trust Agreement.³ If the balance remaining after making the deposit to the Bond Service Account shall not be sufficient to make the deposits into the Redemption Account and the Term Bond Investment Account, described below, the amount to be deposited in each Account shall be pro-rated in accordance with the respective amounts required.

² Offset of Available Funds to be added upon effective date of the Twenty-First Supplemental Agreement.

³ Offset of Available Funds to be added upon effective date of the Twenty-First Supplemental Agreement.

Term Bond Investment Account: The 1978 Trust Agreement allows the Authority to provide for the payment of the principal of Additional Bonds issued as term Bonds through establishment of a Term Bond Investment Account. If a Term Bond Investment Account is established, monthly amounts would be deposited therein and invested in Government Obligations in accordance with the resolution authorizing such term Additional Bonds. No Term Bond Investment Account was established for any Series of outstanding Bonds, and none will be established for the 2019A Bonds.

*Reserve Account:*⁴ Within the Reserve Account there is hereby created the "Pooled Reserve Subaccount" and one or more additional subaccounts hereafter established by resolution of the Authority. Upon issuance of any Bonds there shall be deposited in the Reserve Account an amount at least equal to one-half of the difference between (a) the increase in the maximum annual Principal and Interest Requirements on such Bonds and all then-outstanding Bonds, and (b) the amount, if any, in the Reserve Account in excess of the maximum annual Principal and Interest Requirements on all then-outstanding Bonds. Following the effective date of the Twenty-First Supplemental Agreement, the Authority shall deposit into the Pooled Reserve Subaccount from the proceeds of any Series of additional Bonds secured by such subaccount, or from such other moneys of the Authority as may be available and which the Authority elects to apply for such purpose, an amount at least equal to one-half the amount equal to (a) the increase in the maximum annual Principal and Interest Requirements on such Bonds and all then-outstanding Bonds secured by such subaccount, and (b) the amount, if any, in the Reserve Account in excess of the maximum annual Principal and Interest Requirements on all then-outstanding Bonds secured by such subaccount. In addition, there shall be deposited in this Account each month a sum equal to one-sixtieth of the difference between (a) the maximum annual Principal and Interest Requirements for any fiscal year thereafter on account of all Bonds then outstanding, less (b) the sum of (x) the amount so deposited into the Reserve Account upon the issuance of such Bonds, and (y) any amount in the Reserve Account in excess of the maximum annual Principal and Interest Requirements on all then-outstanding Bonds prior to the issuance of such Bonds. If the amounts held on deposit in the Reserve Account exceed the maximum Principal and Interest Requirements for any fiscal year on account of all Bonds then outstanding, the excess shall be transferred to the Improvement and Extension Fund.

Prior to the authentication and delivery of any Series of Bonds, the Authority shall adopt a resolution which shall specify or shall delegate, within specified parameters to an authorized officer of the Authority, the ability to determine the Reserve Requirement, if any, with respect to such Series of Bonds to be deposited in or credited to a subaccount in the Reserve Account with respect to such Series of Bonds designated by such resolution and any other terms with respect to the funding of such Reserve Requirement.

There may be created within the Reserve Account by the resolution of the Authority authorizing a Series of Bonds a separate subaccount for such Series of Bonds;

⁴ Amendments regarding the Reserve Fund and Reserve Requirement to be added upon effective date of the Twenty-First Supplemental Agreement.

provided that (i) the Authority may elect in such resolution that any then-existing subaccount within the Reserve Account (including without limitation the Pooled Reserve Subaccount) shall secure such additional Series of Bonds on a parity basis (if permitted by the resolution of the Authority which established such subaccount); and (ii) with respect to any Series of Bonds, the Authority may elect in the resolution that such Series of Bonds shall not be secured by any subaccount in the Reserve Account and, accordingly, not to establish any subaccount in the Reserve Account to secure such Series of Bonds. Any resolution of the Authority providing for the issuance of a Series of Bonds which establishes a separate subaccount within the Reserve Account shall specify (a) whether such subaccount shall secure only such Series of Bonds or may secure additional Series of Bonds and (b) the Reserve Requirement applicable to such subaccount.

The Authority shall not be required to fully fund a subaccount in the Reserve Account at the time of issuance of a Series of Bonds, if it elects, by the resolution of the Authority authorizing issuance of such Series of Bonds, to fully fund the applicable subaccount in the Reserve Account over a period specified in such resolution, not to exceed sixty (60) months, commencing with the next succeeding fiscal year of the Authority, during which it shall make substantially equal monthly installments in order that the amounts on deposit therein at the end of such period shall equal the Reserve Requirement for such Series of Bonds.

In lieu of making deposits to the Reserve Account as and at the times required by the 1978 Trust Agreement, the Authority, at its option, may satisfy all or any portion of such deposit requirement by providing to the Trustee (a) an irrevocable, unconditional letter of credit issued by a bank, savings and loan association or other provider of such letters of credit whose long-term obligations are rated in one of the two highest rating categories by Moody's Investors Service and Standard & Poor's, or (b) an insurance policy providing substantially equivalent liquidity as an irrevocable, unconditional letter of credit and issued by a municipal bond or other insurance company that is of sufficient credit quality to entitle debt backed by its insurance policy or surety bond to be rated in one of the two highest rating categories by Moody's Investors Service and Standard & Poor's.

(2) Maintenance Reserve Fund (Section 510) -- There shall be deposited each month in this Fund an amount equal to one-twelfth of 1% of the Replacement Cost of all Projects of the Authority as determined by the Consulting Engineer for the then current fiscal year, or such greater amount as may have been specified in the Annual Budget for such fiscal year; provided that the amount on deposit in the Maintenance Reserve Fund and not theretofore obligated shall not exceed 5% of the Replacement Cost of all Projects of the Authority.

(3) Payment in Lieu of Taxes Fund (Section 510) -- There shall be deposited in this Fund the amount required to make the balance in this Fund equal to the cumulative amount which should then be on deposit therein assuming the amounts payable in lieu of taxes on the next following payment dates were paid in equal monthly installments from the preceding payment dates under any agreements entered into pursuant to authorizing legislation.

(4) Capital Budget Fund (Section 510) -- There shall be deposited in this Fund amounts necessary to provide for the Capital Budget in each fiscal year as determined by the Authority

less amounts thereof already expended plus all amounts in the Capital Budget Fund obligated with respect to prior fiscal years but not yet expended, subject to increase or reduction by resolution of the Authority. Amounts may be withdrawn from the Capital Budget Fund for expenditure in accordance with the Capital Budget or as otherwise determined by the Authority.

(5) Improvement and Extension Fund (Section 510) -- Any balance of moneys in the Operating Fund after making required transfers to the Trustee for the above Funds and Accounts will be transferred to the Improvement and Extension Fund. Amounts may be withdrawn from the Improvement and Extension Fund for any lawful purpose of the Authority.

Application of Funds and Accounts

Operating Fund (Section 506) -- Operating Expenses, as determined in the Authority's Annual Budget, are paid from this Fund. Amounts deposited in the Self-Insurance Account in the Operating Fund are to be used to pay uninsured or self-insured losses.

Interest and Sinking Fund (Sections 511, 512, 514 and 519) -- Moneys in the Bond Service Account shall be applied to the payment of interest on the Bonds and any Additional Bonds and the principal amount of any Bonds and any Additional Bonds as the same become due.

Moneys in the Redemption Account shall be applied to the purchase (at not more than the current redemption price unless another price is set by the Authority) or redemption of the Bonds and any Additional Bonds. Unless previously applied to purchase Bonds and any Additional Bonds, the Trustee shall apply moneys in such Account to meeting Amortization Requirements of the Bonds or any Additional Bonds on each July 1 when due. Moneys deposited in the Redemption Account shall be applied, first, to the purchase or redemption of term Bonds and any term Additional Bonds of each Series outstanding to the extent of their respective Amortization Requirements for the then current fiscal year plus the applicable premium, if any, and thereafter, at the option of the Authority, to the purchase or redemption of Bonds and any Additional Bonds.

Moneys in the Term Bond Investment Account, if such an account shall be created, shall be applied in the retirement of any applicable Series of term Additional Bonds required to be redeemed by either redemption or, at the direction of the Authority, by purchase at a price not exceeding the next applicable redemption price, or to the purchase of Government Obligations to be applied on the maturity date to payment of such Additional Bonds.

Moneys in each subaccount within⁵ the Reserve Account shall be used by the Trustee to pay interest, principal of any serial Bonds, and Amortization Requirements with respect to term Bonds, or to make deposits to a Term Bond Investment Account, whenever and to the extent that the Bond Service Account and the Redemption Account or the Term Bond Investment Account are insufficient for such purposes.

If at any time after so applying the applicable subaccount within⁶ the Reserve Account, moneys held in the Bond Service Account or the Redemption Account of the Interest and

⁵ Language related to subaccounts to be added upon effective date of the Twenty-First Supplemental Agreement.

⁶ Language related to subaccounts to be added upon effective date of the Twenty-First Supplemental Agreement.

Sinking Fund shall be insufficient for the payment of the principal or premium of, or interest or Amortization Requirements on the Bonds and any Additional Bonds as the same become due, such insufficiency shall be made up by transfers from the Improvement and Extension Fund, the Capital Budget Fund, the Payment in Lieu of Taxes Fund and the Maintenance Reserve Fund, in that order.

Maintenance Reserve Fund (Section 516) -- Moneys in this Fund are to be applied to pay for (i) renewals, reconstruction and replacement of any facilities of the Authority, (ii) acquiring and installing or replacing equipment, (iii) unusual or extraordinary maintenance or repairs, (iv) repairs or replacements for which the proceeds of insurance are inadequate, and (v) transfers to the Bond Service Account and Redemption Account when these Accounts are insufficient to pay the principal or premium, or interest or Amortization Requirements on the Bonds and any Additional Bonds, or for making required deposits to any Term Bond Investment Account, as they become due.

Payment in Lieu of Taxes Fund (Section 517) -- Moneys in this Fund will be used to make payments in lieu of taxes pursuant to agreements entered into by the Authority pursuant to statute or, as provided in the 1978 Trust Agreement, payment of a shortfall in debt service on the Bonds.

Capital Budget Fund (Section 517A) -- Moneys in this Fund are to be disbursed in accordance with any Capital Budget adopted by the Authority. Amounts in this Fund may be withdrawn to the extent not previously obligated. The Authority may transfer amounts from the Improvement and Extension Fund to this Fund as it sees fit.

Improvement and Extension Fund (Section 518) -- Moneys in this Fund may be used by the Authority for any lawful purpose, including, without limitation, transfer to any other Fund or Account. The resolutions of the Authority pertaining to each outstanding Series of Bonds created within the Improvement and Extension Fund as segregated accounts separate Rebate Funds for such Bonds, each to be held for the sole benefit of the United States of America. Excess Earnings (as defined in such resolutions) will be deposited in Rebate Funds and used exclusively to make rebate payments to the United States of America. To the extent of any deficiency in any Rebate Fund, such payments will be made out of the Operating Fund and other available moneys of the Authority.

If then permitted by law, moneys held for the credit of the Improvement and Extension Fund may be pledged to the payment of principal of and interest on notes or other obligations issued for any purpose for which moneys in such Fund may be disbursed. The Improvement and Extension Fund or portions thereof have been and may be pledged to secure certain obligations of the Authority. See “APPENDIX A– Other Obligations—Subordinated Indebtedness” and “– Commercial Paper.”

Covenants as to Fees and Charges (Section 501)

In the 1978 Trust Agreement the Authority covenants:

To charge such tolls, rates, fees, rentals and other charges as from time to time may be necessary so that the Revenues in each fiscal year will at least equal in such fiscal year the

greater of (a) an amount sufficient to provide funds for Operating Expenses for such fiscal year plus an amount equal to 125% of Principal and Interest Requirements on all outstanding Bonds during such fiscal year (excluding capitalized interest payable from the Construction Fund), or (b) an amount sufficient to provide funds for Operating Expenses for such fiscal year, to pay principal of, interest on and redemption price, if any, on all outstanding Bonds as required by the 1978 Trust Agreement (less capitalized interest paid from the Construction Fund *and Available Funds deposited as provided in the 1978 Trust Agreement*)⁷, to make required deposits to the Maintenance Reserve Fund, the Payment in Lieu of Taxes Fund and the Capital Budget Fund, and to provide amounts required to be deposited to the Improvement and Extension Fund pursuant to any supplement to the 1978 Trust Agreement which may be entered into by the Trustee and the Authority providing for the issuance of separately secured obligations.

If in any year the Revenues shall be less than the amounts required by the preceding paragraphs, the Authority, before the first day of October of the following fiscal year, will cause recognized experts, other than the Consulting Engineers, in the field of estimating revenues of a facility or element of a facility to which the recommendations relate, to recommend revised schedules of tolls, rates, fees, rentals and other charges; and if the Authority shall comply with all such recommendations, the failure of Revenues to equal the amounts specified in the preceding paragraph will not of itself constitute an event of default under the 1978 Trust Agreement.

Before placing in operation any Additional Facilities financed by a Series of Bonds, to fix and place in effect tolls, rates, fees, rentals and other charges in substantial conformity with those anticipated by the recognized experts in estimating the Revenues of such Additional Facilities in connection with the issuance of such Series of Bonds.

Before placing in operation any Additional Improvements financed by a Series of Bonds for the use of which a charge would ordinarily be made, to place in effect with respect thereto tolls, rates, fees, rentals and other charges in substantial conformity with those anticipated by the recognized experts in estimating the Revenues of the Project to which such Additional Improvements relate in connection with the issuance of such Series of Bonds.

To place in effect on the date or dates specified any increase in rates and charges that have been adopted by the Authority and taken into account by the recognized experts who estimated Revenues in connection with the issuance of an additional Series of Bonds, provided that such increase need not be imposed in the event that the Secretary-Treasurer certifies in writing, confirmed by certificates of such recognized experts, that such additional Series of Bonds could then be issued under the provision of the 1978 Trust Agreement that permitted the issuance of such additional Series of Bonds.

Issuance of Additional Bonds (Sections 209 and 210)

The 1978 Trust Agreement permits the issuance of Additional Bonds for the purpose of financing costs incident to any Additional Improvements or Additional Facilities and of refunding outstanding Bonds and subordinated obligations of the Authority. Such Additional

⁷ Offset of Available Funds to be added upon effective date of the Twenty-First Supplemental Agreement.

Bonds may be issued only if, at the time of such issuance, there is no existing default under the 1978 Trust Agreement and certain projected or historical earnings tests are met. Such tests are to be based on information with respect to the Additional Improvements or Additional Facilities provided by recognized experts (as to estimated future Revenues), by the Consulting Engineers *or a Consultant*⁸ (as to cost and estimates of funds available to pay such cost, completion date, date on which such Additional Facilities or Additional Improvements will be placed in operation, and estimated future Operating Expenses), and by the Authority (as to historical financial information, estimated investment earnings and the Principal and Interest Requirements on the Additional Bonds). Certificates must be filed with the Trustee showing compliance with the following requirements:

A. If the Additional Bonds are issued to finance all or the first portion of the estimated cost of Additional Improvements, (i) Net Revenues in any twelve consecutive months of the last 18 months were at least 125% of the Principal and Interest Requirements on all Bonds outstanding during such twelve months, and (ii) the estimated average annual Net Revenues for the three fiscal years commencing immediately following the latest estimated date of placing in operation any Additional Improvements or Additional Facilities for which any Series of Bonds has been or is then being issued will be at least 130% of the estimated maximum Principal and Interest Requirements in any year thereafter on account of all Bonds to be outstanding, including the estimated amount of Bonds to be issued in the future to complete such Additional Improvements or Additional Facilities.

B. If the Bonds issued under Paragraph A were issued to finance only the first portion of the estimated cost of Additional Improvements, subsequent Bonds may be issued to finance the cost of such Additional Improvements upon compliance with a test comparable to that set forth in clause (ii) of Paragraph A modified by changing the percentage contained therein to 125%.

C. If the Bonds are issued to finance all or the first portion of the estimated cost of Additional Facilities, the applicable test is comparable to that set forth in Paragraph A modified by changing the percentage in clause (ii) of Paragraph A to 140%.

D. If the Bonds issued under Paragraph C are issued to finance only the first portion of the estimated cost of Additional Facilities, subsequent Bonds may be issued to finance the cost of such Additional Facilities upon compliance with a test comparable to that set forth in clause (ii) of Paragraph A modified by changing the percentage contained therein to 135%.

E. Notwithstanding Paragraphs A, B, C and D, if the Additional Bonds are being issued to finance all or any portion of the estimated cost of Additional Improvements or Additional Facilities, they may be issued if Net Revenues in any twelve consecutive months of the last 18 months were at least 125% of the maximum annual Principal and Interest Requirements on all outstanding Bonds, the Bonds then being issued and any subsequent Additional Bonds estimated to be issued to complete

⁸ Option for “a Consultant” to be added upon effective date of the Twenty-First Supplemental Agreement.

Additional Improvements or Additional Facilities for which a Series of Additional Bonds has been issued under Paragraph A or C. In addition to the statement by the Consulting Engineers *or a Consultant* described above, the Authority is required to file the certificate of the Consulting Engineers *or a Consultant* described below under “Restrictions on Certain Additional Facilities”.⁹

F. If Bonds are issued under Paragraph A or C to finance all of the then estimated cost of Additional Improvements or Additional Facilities, an additional Series of Bonds to complete such Additional Improvements or Additional Facilities may be issued without compliance with any of the tests in the paragraphs above.

With respect to any Additional Bonds which bear interest at a variable rate or a rate which is otherwise not subject to definite determination over the period of any calculation required by the 1978 Trust Agreement, all provisions of the 1978 Trust Agreement which require use of a definite interest rate for purposes of any calculation shall be applied as if the interest rate for such Additional Bonds were the rate estimated by a nationally known investment banking firm, selected by the Authority (which firm may be an owner or underwriter of any Bonds), to be the rate at which such Additional Bonds would bear interest if they were issued at par and bore a fixed rate for the entirety of their term. The provisions of the 1978 Trust Agreement requiring any calculation shall be applied to Additional Bonds which accrue and compound interest for all or any portion of the term thereof as if interest accrued during such period in the manner provided in such Additional Bonds. Any Additional Bonds may accrue interest at such rate or rates as are determined in accordance with the resolution of the Authority providing for their issuance and such interest may be payable on such date or dates, which may be other than January 1 and July 1, as are set forth in such resolution.

Issuance of Refunding Bonds (Sections 209 and 212)

Under the 1978 Trust Agreement the Authority may issue Additional Bonds for the purpose of refunding all or any part of the outstanding Bonds of any one or more issues or series then outstanding and paying issuance costs.

Such refunding Bonds may be issued only if one of the following conditions is met: (i) the Principal and Interest Requirements on account of all Bonds for each fiscal year until the year following the fiscal year in which any non-refunded Bonds mature are not increased by reason of the refunding, (ii) the Net Revenues of the Authority during any twelve consecutive months out of the most recent 18-month period were not less than 125% of the maximum annual Principal and Interest Requirements for any fiscal year thereafter (giving effect to the refunding and any Bonds to be issued for the completion of Additional Improvements and Additional Facilities); or (iii) (a) the Net Revenues during any twelve consecutive months out of the most recent 18-month period were at least 125% of the Principal and Interest Requirements on all outstanding Bonds during such twelve months, and (b) the estimated average annual Net Revenues for the three fiscal years commencing immediately following the latest estimated date of placing in operation any Additional Improvements or Additional Facilities for which any series of Bonds has been issued will be at least 135% of the estimated maximum Principal and

⁹ Option for “a Consultant” to be added upon effective date of the Twenty-First Supplemental Agreement.

Interest Requirements for any year (giving effect to the refunding and any Bonds to be issued for the completion of Additional Improvements and Additional Facilities).

Issuance of Other Obligations (Section 216)

The 1978 Trust Agreement permits the Authority to issue obligations for any lawful purpose which are not secured by any pledge on, nor payable from, the Revenues or any of the Funds and Accounts created by the 1978 Trust Agreement.

The 1978 Trust Agreement permits the Authority, if permitted by law, to issue notes or other obligations for any purposes (as described above) for which Additional Bonds may be issued and to pledge moneys held for the credit of the Improvement and Extension Fund to the payment of principal and interest of such notes or other obligations which have been issued for any purpose for which the moneys held for the credit of such Fund may be disbursed. The Authority may also issue notes payable solely from the proceeds of the issuance of Additional Bonds or other permitted borrowing. The 1978 Trust Agreement also provides that the Authority may issue obligations the principal of and redemption premium, if any, and interest on which is payable from and secured by a pledge of and lien on the Revenues junior and subordinate to those created by the 1978 Trust Agreement for the benefit of the Bondholders, provided that such obligations shall be payable solely from moneys in the Improvement and Extension Fund, from additional issues of such subordinate obligations, or, if such obligations were issued for purposes for which Additional Bonds could have been issued, from the proceeds of Additional Bonds thereafter issued.

Construction Fund (Article IV)

Under the 1978 Trust Agreement, the proceeds of all Additional Bonds or Notes issued to provide funds to pay the cost of Additional Improvements or Additional Facilities are to be deposited in separate Project Accounts within the Construction Fund. The Construction Fund is held by the Trustee. There may also be deposited in the appropriate Project Accounts other moneys received from any other source for the construction of Additional Improvements or Additional Facilities. Except for payments to cover interest on any Additional Bonds through the second interest payment date after completion of construction of the last of the Additional Improvements or Additional Facilities financed therewith (to the extent such interest payments are called for by the resolution of the Authority authorizing the issuance of such Additional Bonds), payments may be made only upon filing with the Trustee a requisition properly executed on behalf of the Authority and accompanied by an approving certificate of the Consulting Engineers *or a Consultant* and a certificate of the Authority to the effect that the obligations which are the subject of the requisition are due and payable. Any balance remaining in the appropriate Project Account in the Construction Fund upon completion of the Additional Improvements or Additional Facilities funded with a particular Series of Bonds not reserved by the Authority with the approval of the Consulting Engineers *or a Consultant* for the payment of any remaining cost thereof shall be transferred to the Improvement and Extension Fund.¹⁰

¹⁰ Option for “a Consultant” to be added upon effective date of the Twenty-First Supplemental Agreement.

Completion of Projects (Section 702)

The Authority covenants that forthwith after the issuance of any Series of Additional Bonds to finance Additional Improvements or Additional Facilities it will proceed with the construction or acquisition of such Additional Improvements or Additional Facilities. Such construction will be in accordance with plans approved by the Consulting Engineers *or a Consultant*.¹¹ If the Authority determines not to construct or acquire, or to reduce the scope of, any such Additional Improvements or Additional Facilities, it may construct other improvements or facilities or broaden the scope of such improvements or facilities if the recognized experts certify that there will be no overall cost increase and that the changes will not impair the operating efficiency of the Project or materially adversely affect estimated Net Revenues. However, in the case of the improvements or facilities financed with Bonds issued pursuant to Paragraph E under “Issuance of Additional Bonds” above, construction or acquisition may be suspended or abandoned without compliance with the preceding sentence and any unexpended Bond proceeds will be transferred to another Project Account in the Construction Fund or to the Redemption Account. In any event, if the Authority determines that changes in financial, economic or other conditions since the issuance of any Additional Bonds make it imprudent to continue construction or acquisition of the Additional Improvements or Additional Facilities financed therewith, then construction or acquisition may be suspended or abandoned and any unexpended Bond proceeds may be transferred to another Project Account in the Construction Fund or the Redemption Account, as the Authority may determine.

No Liens (Section 704)

The Authority covenants not to create or suffer to be created any lien upon any Project or any of the Revenues except the lien created by the 1978 Trust Agreement and the liens described under “Issuance of Other Obligations” above. The Authority is required to pay or cause to be discharged all claims and demands which if unpaid might become such a lien, but is not required to provide for the payment and discharge of liens which are being contested in good faith and by appropriate legal proceedings.

Accountants, Consultants and Engineers (Section 706)

The 1978 Trust Agreement provides that the Authority (i) will, for the purpose of performing and carrying out the duties imposed on the Accountants by the 1978 Trust Agreement, employ a firm of independent certified public accountants of recognized ability and standing nationwide, (ii) will, for the purpose of performing and carrying out the duties imposed upon the Consulting Engineers, the Airport Consultants and the Traffic Engineers by the 1978 Trust Agreement, employ independent engineers or engineering firms having a nationwide and favorable repute for skill and experience in such work, and (iii) for the purpose of determining its annual pension expense and its annual post-retirement health benefit expense, may employ as Pension Consultants an independent actuarial consulting organization having a nationwide and favorable repute for skill and experience in such work. Other experts must be independent experts or firms of recognized ability and standing in their fields. The Consulting Engineers must prepare an annual report regarding maintenance of each Project and recommendations,

¹¹ Option for “a Consultant” to be added upon effective date of the Twenty-First Supplemental Agreement.

including estimated costs, for maintenance and repair. Such reports are furnished to the Trustee and each Bondholder of Record. The Pension Consultants must submit annual reports setting forth the amount required to be transferred to the trustee for the Authority's pension plan in the next succeeding fiscal year.

Insurance (Sections 706 and 707)

The Authority covenants in the 1978 Trust Agreement that it will employ a Risk Management Consultant of recognized ability and standing nationwide to make recommendations with respect to insurance against direct physical damage and hazards, including the amounts thereof, with deductibles and exclusions and a program of self-insurance. The Risk Management Consultant will submit an annual report setting forth the insurance recommended to be carried or the program of self-insurance recommended to be undertaken. The Authority covenants that it will substantially comply with the recommendations of the Risk Management Consultant or with additional recommendations with respect to a reduced program of self-insurance if the Authority requests the Risk Management Consultant to make such additional recommendations. The Authority also covenants to carry insurance against loss of revenues due to physical loss or damage to its facilities and excess liability insurance substantially as recommended by the Risk Management Consultant. The 1978 Trust Agreement also provides that the Authority will provide such workers' compensation benefits or such employer's liability protection as may be required by law but may provide the same through self-insurance.

No Impairment of Tax Exemption (Section 709)

The Authority covenants that it will not take any action adversely affecting the federal income tax exemption of interest on the Bonds (except Bonds issued as taxable Bonds the interest on which is subject to federal income taxation) and will seek to preserve the exemption of interest on the Bonds from state income taxation. The Authority also will take or require to be taken such acts as may be reasonably within its ability and as may be required under applicable law to preserve the exemption from federal income taxation of interest on the Bonds (except any Bonds issued as taxable Bonds the interest on which is subject to federal income taxation).

Restrictions on Certain Additional Facilities (Section 710)

The Authority covenants that it will not construct, acquire, or operate any building, structure or other facility, other than facilities financed by Additional Bonds issued under Paragraphs A through D under "Issuance of Additional Bonds" above, unless the Consulting Engineers *or a Consultant* file a statement to the effect that in their opinion the operation of such facility will not materially adversely affect the Net Revenues or impair the operating efficiency of the Projects taken as a whole.¹²

Restrictions on Disposition of Property (Section 714)

The Authority covenants that it will not dispose of or encumber any Project or part thereof except that it may sell or otherwise dispose of machinery, fixtures and other movable

¹² Option for "Consultants" to be added upon effective date of the Twenty-First Supplemental Agreement.

property if they are no longer needed or useful and the proceeds are applied to replacement or are deposited in the appropriate Project Account in the Construction Fund or in the Maintenance Reserve Fund, the Improvement and Extension Fund or the Redemption Account, as the Authority may determine. Subject to the provisions of the Authority's Enabling Act, real estate which the Authority, with the approval of the Consulting Engineers *or a Consultant*, determines is no longer needed or useful may be sold or may be exchanged for real estate if the Authority and Consulting Engineers *or a Consultant* declare such exchange advantageous. No approval of the Consulting Engineers *or a Consultant* is required for the sale or exchange of real estate where the aggregate value of the real estate and contiguous parcels sold or exchanged within two years is no more than \$500,000.¹³

Notwithstanding the preceding paragraph, the Authority may, if permitted by law, sell or exchange all or any part of a Project other than any property necessary for the efficient operation of the Airport, provided that certificates are filed with the Trustee showing compliance with the following requirements:

- (A) no event of default is then existing under the 1978 Trust Agreement;
- (B) the amount on deposit in *each subaccount within* the Reserve Account is at least equal to the *Reserve Requirement for* all Bonds then outstanding;¹⁴ and
- (C) pro forma estimates confirmed by recognized experts show that the average annual Net Revenues for the two preceding fiscal years after giving effect to such sale or exchange would be at least 140% of the maximum annual Principal and Interest Requirements in any fiscal year thereafter on all Bonds then outstanding.

The proceeds of any such sale are not Revenues. See "Certain Definitions" below. Such proceeds may be deposited in the Improvement and Extension Fund or the Redemption Account as the Authority may direct. The Authority may also lease and grant licenses to use all or parts of its Projects. The Enabling Act requires the approval of the Governor of the Commonwealth for the sale of any Airport Properties or Port Properties originally acquired from the Commonwealth and provides that any proceeds of such sale be paid to the Commonwealth.

Annual Budget (Section 505)

Under the 1978 Trust Agreement, the Authority agrees to adopt an Annual Budget prior to each fiscal year, setting forth expected Operating Expenses and Revenues of the Authority and deposits in the various Funds and Accounts described above, and to furnish copies thereof to the Trustee, Consulting Engineer and each Bondholder of Record. The Authority may at any time adopt an amended Annual Budget for the remainder of the then current fiscal year which shall be treated as the Annual Budget. The Authority agrees that except for amounts payable from the Maintenance Reserve Fund it will not expend any amount or incur any obligations for maintenance, repair and operation in excess of the amounts provided for Operating Expenses in

¹³ Option for "a Consultant" to be added upon effective date of the Twenty-First Supplemental Agreement.

¹⁴ Language related to subaccounts and the Reserve Requirement to be added upon effective date of the Twenty-First Supplemental Agreement.

the Annual Budget, unless the excess is derived from a source other than Revenues. The Authority is also required to adopt a capital budget annually.

Investments in Funds and Accounts (Section 602)

Moneys held in the various Funds and Accounts, not currently needed for the purposes of such Funds and Accounts, will be invested by the Authority, or the Trustee upon direction of the Authority, in Investment Securities, except that moneys held in a Term Bond Investment Account may be invested only in Government Obligations. See “Certain Definitions -- Investment Securities” and “-- Government Obligations” below. Securities purchased as an investment of moneys in any Fund or Account created under the 1978 Trust Agreement shall be valued at their amortized cost. The income received from such investment shall, in the case of the Construction Fund and the Self-Insurance Account, be applied as provided in the resolution creating such Account.

Events of Default and Remedies of Bondholders (Article VIII)

The 1978 Trust Agreement defines events of default to include, among others, failure to pay principal or redemption price when due or any installment of interest within 30 days after due, failure to make a required deposit in a Term Bond Investment Account relating to Additional Bonds as will permit the purchase of Government Obligations in accordance with the resolution authorizing such Additional Bonds, failure to carry on with reasonable dispatch the construction of any Additional Improvements or Additional Facilities (except as described above under “Completion of Projects”), a determination of receivership or insolvency, and failure to perform the covenants contained in the 1978 Trust Agreement after notice. Certain grace periods, not exceeding 60 days in any case, are permitted for remedying certain defaults.

Upon the occurrence and continuance of an event of default the Trustee may, on its own initiative, and shall, upon the request of the holders of not less than 25% in principal amount of the Bonds then outstanding, declare the entire principal amount of all outstanding Bonds to be immediately due and payable. The Trustee may, and upon the request of not less than 25% in principal amount of all Bonds not then due by their terms shall, annul such declaration at any time before final judgment or decree in any suit instituted on account of the default or before completion of any other remedy, if all amounts then due on all outstanding Bonds by their terms and all other charges and liabilities of the Trustee and amounts payable by the Authority under the 1978 Trust Agreement have been paid or deposited with the Trustee and every other known default shall have been remedied.

Upon the happening and continuance of an event of default the Trustee may, on its own initiative, and shall, upon the request of the holders of not less than 25% in principal amount of the Bonds then outstanding and upon being indemnified to its satisfaction, proceed either at law or in equity to protect and enforce its rights and the rights of bondholders under the Enabling Act or the 1978 Trust Agreement. No holder of any Bonds shall have any right to institute any suit, action or other proceeding for the enforcement of any right under the 1978 Trust Agreement unless such holder shall give to the Trustee written notice of the event of default on account of which such suit, action or proceeding is to be instituted, and unless the holders of 25% in principal amount of the Bonds then outstanding shall have made written request of the Trustee

and shall have afforded the Trustee a reasonable opportunity to institute such suit, action or proceeding and unless there shall have been offered to the Trustee reasonable security and indemnity against the costs, expenses and liabilities to be incurred, and the Trustee shall have refused or failed to comply with such request within a reasonable time. However, these provisions shall not limit or impair the right of any bondholder to take any action to enforce the payment of the principal of, premium, if any, and interest on its Bond.

The Trustee shall mail to all registered owners of Bonds then outstanding at their addresses as they appear on the registration books, and all other Bondholders of Record, written notice of the occurrence of any event of default set forth above within 30 days after the Trustee shall have notice pursuant to the 1978 Trust Agreement that any such event of default has occurred.

Concerning the Trustee (Article IX)

Under the 1978 Trust Agreement, the Trustee is not obliged to institute any suit or proceeding or to defend any suit until indemnified against liabilities and expenses. Under the 1978 Trust Agreement, the Trustee is indemnified by the Authority from Revenues for any liabilities incurred in acting under the 1978 Trust Agreement. The Trustee is entitled to reasonable compensation for acting under the 1978 Trust Agreement and to reimbursement for any litigation expenses and other reasonable expenses by the Authority. If the Authority fails to make payment pursuant to such provisions for indemnity by the Authority or payment of compensation or expenses, the Trustee may obtain such payment from moneys held under the 1978 Trust Agreement and is entitled to a preference therefor over any of the Bonds. The 1978 Trust Agreement provides that the Trustee and its directors, officers, employees or agents, either for its or their own accounts or fiduciary accounts, may buy and sell and hold Bonds.

The Trustee may at any time resign upon at least 60 days' written notice to be given to the Authority and filed with EMMA.¹⁵ The Trustee may be removed at any time (a) by the holders of not less than a majority in principal amount of the outstanding Bonds, or (b) for breach of trust or failure to act in accordance with the 1978 Trust Agreement by a court upon application of the Authority or the holders of not less than 25% in principal amount of the outstanding Bonds. Any removal of the Trustee shall take effect upon the appointment of a new Trustee. If the position of Trustee shall become vacant for any reason, the Authority shall appoint a successor trustee, subject to the right of the holders of a majority in aggregate principal amount of the Bonds then outstanding to appoint a successor Trustee which shall supersede the appointee of the Authority. Any trustee must be a bank or trust company with at least \$50,000,000 in aggregate capital and surplus.

The 1978 Trust Agreement also authorizes the Authority to replace the Trustee acting under the 1978 Trust Agreement, but only at five-year intervals and so long as no Event of Default exists under the 1978 Trust Agreement, upon 120 days written notice to the Trustee by filing with the Trustee an instrument signed on behalf of the Authority by its Secretary-Treasurer or other authorized officer.

¹⁵ Notice by EMMA instead of publication to be added upon effective date of the Twenty-First Supplemental Agreement.

Certain Rights of Bond Insurers (Section 1002)

With respect to any Series of Bonds or any maturity within a Series of Bonds all of the principal of and interest on which is insured by a bond insurance policy, if so provided in the resolution of the Authority authorizing the issuance of such Series, the terms “holder” and “owner” of Bonds and the term “bondholder”, each as used in the 1978 Trust Agreement, for purposes of all consents, directions and notices provided for in the 1978 Trust Agreement shall mean, with respect to the Bonds of such Series or maturity, as the case may be, the issuer of such bond insurance policy as long as such policy issuer has not defaulted under such policy; provided, however, that unless it actually is the beneficial owner of the Bonds in respect of which a consent is requested, the policy issuer shall not have the power to act on behalf of the registered owners of any Bonds to consent to amendments, supplements or waivers that would (a) extend the stated maturity of or time for paying the interest on such Bonds, (b) reduce the principal amount of, purchase price for or redemption premium or rate of interest payable on such Bonds or (c) result in a privilege or priority of any Bond over any other Bond.

Modifications of the 1978 Trust Agreement (Article XI)

Under the terms of the 1978 Trust Agreement, the Authority and the Trustee, without consent of the holders of the Bonds, are authorized to enter into a supplemental agreement or agreements to cure any ambiguity or formal defect or omission or to correct any inconsistent provisions or obvious mistake in the 1978 Trust Agreement, to grant to the Trustee for the benefit of the holders of the Bonds any additional lawful rights to security, to add to the conditions, limitations and restrictions on the issuance of Bonds, to add to the covenants of the Authority, to provide for the issuance of subordinated obligations or to provide for the issuance of obligations under a supplemental agreement which are not payable from Revenues. In addition, the 1978 Trust Agreement may be modified, altered, amended, added to or rescinded with the consent of the holders of not less than 51% in aggregate principal amount of the Bonds then outstanding or, if less than all Series of Bonds then outstanding are affected, the consent of the holders of not less than 51% in aggregate principal amount of each affected Series of Bonds. Notwithstanding the foregoing, without the consent of the holders of not less than 100% in aggregate principal amount of the Bonds then outstanding or, in case less than all of the several Series of Bonds then outstanding are affected thereby, the holders of not less than 100% in aggregate principal amount outstanding of each Series so affected, no such modification or amendment shall permit (a) an extension of the maturity of the principal of or the interest on any Bond issued thereunder, or (b) a reduction in the principal amount or redemption premium of any Bond or the rate of interest thereon, or (c) the creation of a lien upon or pledge of Revenues ranking prior to or on a parity with the lien or pledge created by the 1978 Trust Agreement, or (d) a preference or priority of any Bond or Bonds except as permitted by the 1978 Trust Agreement, or (e) a reduction in the aggregate principal amount of the Bonds required for consent to such modification or amendment.

Defeasance (Article XII)

If the Authority shall pay or cause to be paid the principal, premium, if applicable, and interest to the holders of all outstanding Bonds, then the pledge of any Revenues and other

moneys pledged under the 1978 Trust Agreement and all covenants, agreements and other obligations to the holders of Bonds shall terminate and be discharged and satisfied.

Bonds for the payment or redemption of which sufficient moneys, or sufficient Government Obligations the principal of and interest on which when due will provide moneys, to pay when due the principal, Amortization Requirements and interest on such Bonds have been irrevocably deposited with the Trustee for the sole purpose of paying or redeeming such Bonds will be deemed to have been paid within the meaning of the foregoing paragraph, provided that if any of such Bonds are to be redeemed prior to maturity, notice of such redemption must be duly given or irrevocable instructions to publish a notice to the bondholders, the form and content and substance of which are specified in the 1978 Trust Agreement, must have been given in form satisfactory to the Trustee.

Capital Appreciation Bonds (Section 1311)

Bonds of any Series may be issued with interest payable (i) only at their stated maturity date (or upon earlier redemption, purchase or acceleration) or (ii) in part at their stated maturity date (or upon earlier redemption, purchase or acceleration) and in part on stated interest payment dates, as set forth in the resolution authorizing the issuance of the Bonds.

Certain Definitions

Certain terms used in this Official Statement have the following meanings:

Additional Facilities -- Any revenue-producing facility which serves a public purpose and the acquisition or construction and the financing of which by the Authority may hereafter be authorized by the legislature of the Commonwealth, excluding, however, any extension, enlargement or improvement of a project then under the control of the Authority and any building, structure or other facility financed or refinanced by the Authority by obligations not issued under the provisions of the 1978 Trust Agreement.

Additional Improvements -- Any extension, enlargement or improvement of a Project, other than the extension, enlargement or improvement of any building, structure or other facility financed or refinanced by the Authority by obligations not issued under the provisions of the 1978 Trust Agreement.

Amortization Requirements -- The amounts for the respective fiscal years as determined by the Authority for the retirement of term Bonds of a Series.

Available Funds¹⁶ -- For any period of time, (i) the amount of PFC Revenues and/or CFCs to be received by the Authority during such period and not previously pledged or irrevocably committed to payment of principal of, interest on or premium, if any, on a Series of Bonds, and (ii) the amount of any other future income or revenue source not then included in the definition of "Revenues" that the Authority designates as "Available Funds" in a future resolution duly adopted by the Members of the Authority supplementing the 1978 Trust Agreement; provided, however, that any such resolution shall also establish a corresponding

¹⁶ Definition of "Available Funds" to be added upon effective date of the Twenty-First Supplemental Agreement.

account and the functional provisions for the receipt, deposit and application of such source of income or revenue.

Bondholder of Record -- The registered owner of outstanding fully registered Bonds or Bonds registered as to principal alone (in either case in an aggregate principal amount of at least \$500,000) or any holder of outstanding Bonds who shall have filed with the Secretary-Treasurer of the Authority a request in writing setting forth his name and address and the particular reports, notices or other documents which he desires to receive and which are required to be mailed to bondholders of record under the provisions of the 1978 Trust Agreement. So long as the 2019A Bonds are in book-entry only form, the Bondholder of Record thereof for the purposes of the 1978 Trust Agreement shall be DTC or DTC's partnership nominee (or a successor securities depository). See "THE 2019A BONDS -- Book-Entry Only Method."

Bullet Maturities¹⁷ -- With respect to any Series of Bonds 25% or more of the principal of which matures on the same date or within a fiscal year, that portion of such Series which matures on such date or within such fiscal year; provided, however that the principal amount maturing on any date shall be reduced by the amount of such Bonds scheduled to be amortized by prepayment or redemption prior to their stated maturity date. Notes shall be deemed to be Bullet Maturities for purposes of the 1978 Trust Agreement.

Consultant¹⁸ -- Any Independent consultant, consulting firm (including the Airport Consultants), engineer (including the Consulting Engineers), architect, engineering firm, architectural firm, accountant or accounting firm (including the Accountants), financial advisory or investment banking firm, or other expert recognized to be well-qualified for work of the character required and retained by the Authority to perform acts and carry out the duties provided for such consultant in the 1978 Trust Agreement.

Customer Facility Charges or CFCs¹⁹ -- All amounts received by the Authority from the charges imposed by car rental companies upon car rental customers arriving at Boston Logan International Airport and renting a vehicle from a car rental company serving such Airport, which charges are established by the Authority by resolution.

Designated Debt -- Any Series of Bonds, or portion thereof, with respect to which there shall be in effect a Qualified Hedge Facility.

EMMA²⁰ -- The Electronic Municipal Market Access system operated by the Municipal Securities Rulemaking Board, or any successor thereto designated as a nationally recognized municipal securities information repository by the United States Securities and Exchange Commission.

Government Obligations -- The securities referred to in the first clause of the definition of Investment Securities. See below.

¹⁷ Definition of "Bullet Maturities" to be added upon effective date of the Twenty-First Supplemental Agreement.

¹⁸ Definition of "Consultant" to be added upon effective date of the Twenty-First Supplemental Agreement.

¹⁹ Definition of "Customer Facility Charges" or "CFCs" to be added upon effective date of the Twenty-First Supplemental Agreement.

²⁰ Definition of "EMMA" to be added upon the effective date of the Twenty-First Supplemental Agreement.

Independent²¹ -- When used with respect to any specified firm or individual, such a firm or individual that (a) does not have any direct financial interest or any material indirect financial interest in the operations of the Authority, other than the payment to be received under a contract for services to be performed, and (b) is not connected with the Authority as an official, officer or employee.

Investment Securities -- Any of the following which at the time of investment are legal investments under the laws of the Commonwealth for the moneys proposed to be invested therein:

Direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America;

Bonds, indentures or notes or other evidences of indebtedness issued or guaranteed by any of the following agencies: Bank for Cooperatives; Federal Intermediate Credit Banks; Federal Home Loan Mortgage Corporation; Federal Home Loan Banks; the Federal National Mortgage Association; the United States Postal Service; the Government National Mortgage Association; the Federal Financing Bank; or any other agency or instrumentality of the United States of America now existing or hereafter created;

New Housing Authority Bonds or project notes issued by public agencies or municipalities and fully secured as to the payment of both principal and interest by, respectively, a pledge of annual contributions under an annual contributions contract or contracts or requisition or payment agreements with the United States of America;

Negotiable or non-negotiable bank time deposits evidenced by certificates of deposit issued by banks, trust companies, national banking associations or savings and loan associations (which may include the Trustee) provided that such time deposits are fully insured by the Federal Deposit Insurance Corporation or secured by obligations described in clauses (i), (ii) or (iii) of this definition or by full faith and credit obligations of (a) the Commonwealth or (b) any state of the United States rated in the three highest grades by a nationally recognized rating agency, provided such obligations at all times have a market value at least equal to the maturity value of the deposits so secured, including accrued interest on such deposits;

Repurchase agreements with banks described in clause (iv) of this definition (which may include the Trustee) or government bond dealers reporting to, trading with, and recognized as primary dealers by, a Federal Reserve Bank, the underlying securities of which are obligations described in clauses (i) and (ii) of this definition, provided that the underlying securities are required to be continuously maintained at a market value not less than the amount so invested;

Any bonds or other obligations of any state of the United States of America or of any local government unit of any such state which (1) are rated in the highest rating category by Moody's Investors Service and Standard & Poor's, without regard to

²¹ Definition of "Independent" to be added upon effective date of the Twenty-First Supplemental Agreement.

gradations within categories, (2) are not callable unless irrevocable instructions have been given to the trustee for such bonds to give due notice of redemption and to call such bonds for redemption on the date(s) specified in such instruments, and (3) are secured by cash and Government Obligations;

Direct and general obligations of any state of the United States of America, to the payment of the principal of and interest on which the full faith and credit of such state is pledged, provided such obligations are rated in either of the two highest rating categories without regard to gradations within categories by Moody's Investors Service and Standard & Poor's;

Obligations of any state of the United States of America or any political subdivision thereof which shall be rated in one of the two highest rating categories by Moody's Investors Service and Standard & Poor's without regard to gradations within categories;

Certificates that evidence ownership of the right to payments of principal of or interest on Government Obligations, provided that (1) such obligations shall be held in trust by a bank or trust company or a national banking association meeting the requirements for a successor Trustee under the 1978 Trust Agreement, (2) the owner of the investment is the real party in interest and has the right to proceed directly and individually against the obligor of the underlying Government Obligations, and (3) the underlying Government Obligations are held in a special account separate from the custodian's general assets, and are not available to satisfy any claim of the custodian, any person claiming through the custodian, or any person to whom the custodian may be obligated;

Commercial paper rated at the time of purchase in the highest rating category, without regard to gradations within such category, by Moody's Investors Service and Standard & Poor's;

Investments or deposits in the Massachusetts Municipal Depository Trust;

Money market funds rated in the highest rating category, without regard to gradations within such category, by Moody's Investors Service and Standard & Poor's;

Investment contracts with banks (which may include the Trustee) or other financial institutions whose long-term unsecured debt or claims-paying ability is rated in one of the two highest rating categories by Moody's Investors Service and Standard & Poor's;

Banker's acceptances rated at the time of purchase in the highest short-term rating category, without regard to gradations within such category, of Moody's Investors Service and Standard & Poor's;

Advance-refunded municipal bonds rated in the highest rating category, without regard to gradations within such category, by Moody's Investors Service and Standard & Poor's;

U.S. dollar denominated debt offerings of a multilateral organization of governments rated in the highest rating category, without regard to gradations within such category, by Moody's and S&P;

U.S. dollar denominated corporate bonds, notes or other debt obligations issued or guaranteed by a domestic or foreign corporation, financial institution, non-profit or other entity rated in one of the three highest rating categories, without regard to gradations within such categories, by Moody's Investors Service and S&P;

Negotiable bank certificates of deposit, deposit notes or other deposit obligations issued by a nationally or state chartered bank, credit union or savings association, or by a federally or state-licensed branch of a foreign bank or financial institution, in each case rated in one of the three highest rating categories, without regard to gradations within such categories, by Moody's or S&P; and

Any other investment authorized pursuant to an amendment or supplement to the 1978 Trust Agreement pursuant to Section 1101(g) of the 1978 Trust Agreement.

Section 1101(g) of the 1978 Trust Agreement authorizes modification of the definition of Investment Securities as directed by the Authority, provided that the Authority shall have provided evidence to the Trustee that the details of such modification have been provided in writing to each of Moody's Investors Service (if Moody's Investors Service is then assigning a rating to any outstanding Bonds), Standard & Poor's (if Standard & Poor's is then assigning a rating to any outstanding Bonds) and each other nationally recognized rating agency, if any, then assigning a rating to any outstanding Bonds and that each such rating agency has either (i) confirmed in writing that such modification will not adversely affect the rating it assigns to outstanding Bonds or (ii) issued a rating on a Series of Bonds to be issued which is not lower than the rating assigned by such rating agency to outstanding Bonds prior to such modification, or any other evidence satisfactory to the Trustee that such modification will not adversely affect the then current ratings, if any, assigned to the Bonds by any nationally recognized rating agency.

Operating Expenses -- The Authority's reasonable and necessary current expenses of maintaining, repairing and operating the Projects, including administrative expenses, insurance premiums and payments into the Self-Insurance Account, fees and expenses of the Trustee, engineering expenses relating to operation and maintenance, legal expenses, charges of Paying Agents, payments of annual pension expense and post-retirement health benefits expense, any taxes of general applicability which may be lawfully imposed on the Authority or its income or operations or the property under its control and reserves for such taxes, ordinary and usual expenditures for maintenance and repair, which may include expenses not annually recurring, including such expenditures necessary to maintain the then useful life and operational status of any Project or to keep any Project in its present operational status and all such other costs of maintenance and repair as the Authority may determine to include in Operating Expenses in accordance with sound business practice applied on a consistent basis and any other expenses required to be paid by the Authority under the provisions of the 1978 Trust Agreement or by law on account of the operation or ownership of the Projects, but excluding reserves for operation, maintenance or repair, depreciation allowances or any deposits or transfers to the credit of any of

the Funds or Accounts created under the 1978 Trust Agreement except the Self-Insurance Account, pension account and post-retirement health benefits account.

Passenger Facility Charges or PFCs²² -- The passenger facility charges authorized to be charged by the Authority pursuant to the Aviation Safety and Capacity Expansion Act of 1990, as amended (now codified in Section 40117 of Title 49 of the United States Code).

PFC Revenues²³ -- Amounts derived by the Authority from the imposition of PFCs, exclusive of the amounts retained by the air carriers collecting the PFCs pursuant to Federal Aviation Regulations.

Pooled Reserve Subaccount²⁴ -- The subaccount within the Reserve Account securing all Bonds outstanding prior to the effective date of the Twenty-First Supplemental Agreement and, on and after such effective date, securing those Bonds designated as secured by the Pooled Reserve Subaccount pursuant to a resolution adopted by the Authority.

Principal and Interest Requirements -- With respect to any Series of Bonds, the sum during any fiscal year of (a) interest payable on all Bonds of such Series outstanding which accrues in such fiscal year (less capitalized interest and interest paid or to be paid for such period from moneys in the Construction Fund), (b) principal payable on serial Bonds of such Series on any date commencing with July 2 in such fiscal year and ending with July 1 of the next fiscal year, both inclusive, (c) the Amortization Requirements of term Bonds of such Series, if any, for such fiscal year, plus an amount equal to the premium, if any, which would be payable on any date referred to in subparagraph (b) of this definition on a like principal amount of Bonds if such principal amount of Bonds should be redeemed on such date from moneys in the Interest and Sinking Fund, and (d) the amount required to be deposited in the Term Bond Investment Account (if such an Account is established for such Series of Bonds), if any, for such fiscal year; less income to be accrued during the year on investments in such a Term Bond Investment Account to the extent such income is required to be retained in such Account or deposited in the Bond Service Account or into the Redemption Account.

Regarding the calculation of Principal and Interest Requirements on variable-rate debt, see “SECURITY FOR THE 2019A BONDS -- Additional Bonds”. In computing the Principal and Interest Requirements, Designated Debt which bears interest at a variable rate and with respect to which there exists a Qualified Hedge Facility obligating the Authority to pay a fixed interest rate or a different variable interest rate shall be deemed (for the period during which such Qualified Hedge Facility is reasonably expected to remain in effect) to bear interest at the fixed interest rate or different variable rate payable by the Authority pursuant to the Qualified Hedge Facility relating thereto. In computing Principal and Interest Requirements, Designated Debt which bears interest at a fixed rate and with respect to which there exists a Qualified Hedge Facility obligating the Authority to pay a floating rate shall be deemed (for the period during which such Qualified Hedge Facility is reasonably expected to remain in effect) to bear interest

²² Definition of “Passenger Facility Charges” or “PFCs” to be added upon effective date of the Twenty-First Supplemental Agreement.

²³ Definition of “PFC Revenues” to be added upon effective date of the Twenty-First Supplemental Agreement.

²⁴ Definition of “Pooled Reserve Subaccount” to be added upon effective date of the Twenty-First Supplemental Agreement.

equal to the interest payable on the Designated Debt, minus the fixed amounts received or to be received by the Authority under the Qualified Hedge Facility, plus the amount of the floating payments made or to be made by the Authority under the Qualified Hedge Facility (such floating payments not yet made to be determined as provided for variable rate Bonds).

In computing the Principal and Interest Requirements, if all or any portion or portions of any outstanding Series of Bonds constitute Bullet Maturities, then each maturity which constitutes Bullet Maturities shall, unless a shorter term was otherwise provided in the resolution of the Authority pursuant to which such Bullet Maturities were issued or unless the next succeeding paragraph then applies to such maturity, be treated as if it were to be amortized over a term of not more than thirty (30) years and with substantially level annual debt service funding payments commencing not later than the year following the year in which such Bullet Maturities were issued, and extending not later than thirty (30) years from the date such Bullet Maturities were originally issued. The interest rate used for such computation shall be that rate determined by a Consultant selected by the Authority to be a reasonable market rate for fixed-rate Bonds of a corresponding term and tenor issued under the 1978 Trust Agreement on the date of such calculation, with no credit enhancement. With respect to any Series of Bonds only a portion of which constitutes Bullet Maturities, the remaining portion shall be treated as described in such other provision of this definition as shall be applicable and, with respect to any such Series of Bonds, or that portion of a Series thereof which constitutes Bullet Maturities, all funding requirements of principal and interest becoming due prior to the year of the stated maturity of the Bullet Maturities shall be treated as described in such other provision of this definition as shall be applicable.

In computing the Principal and Interest Requirements, if any maturity of Bonds which constitutes Bullet Maturities as described in the immediately preceding paragraph of this definition and for which the stated maturity date occurs within twelve (12) months from the date such calculation of Principal and Interest Requirements is made, such maturity shall be assumed to become due and payable on the stated maturity date and the immediately preceding paragraph shall not apply thereto unless there is delivered to an officer of the Authority or Consultant making the calculation of Principal and Interest Requirements a certificate of an authorized officer of the Authority stating that the Authority intends to refinance such maturity and stating the probable terms of such refinancing and that the debt capacity of the Authority is sufficient to successfully complete such refinancing; and upon the receipt of such certificate, such Bullet Maturities shall be assumed to be refinanced in accordance with the probable terms set out in such certificate and such terms shall be used for purposes of calculating Principal and Interest Requirements, provided that such assumption shall not result in an interest rate lower than that which would be assumed under the immediately preceding paragraph and shall be amortized over a term of not more than thirty (30) years from the date of refinancing.

If Available Funds (including state and/or federal grants) have been irrevocably committed or are held by the Trustee or another fiduciary and are to be set aside exclusively to be used to pay principal of, interest or premium, if any, on specified Bonds pursuant to a resolution of the Authority (and are not otherwise required for payment of another Series of Bonds), then the principal, interest and/or premium to be paid from such Available Funds or

from earnings thereon shall be disregarded and not included in calculating Principal and Interest Requirements.²⁵

Project -- Any of the Airport Properties, the Port Properties or any Additional Facility financed in whole or in part under the provisions of the 1978 Trust Agreement, either from the proceeds of Bonds or other available funds, including in the case of each such Project all equipment, appurtenances, extensions, enlargements, improvements, renewals and replacements thereof, but shall not include any land, building, structure or other facility financed or refinanced by the Authority by obligations not issued under the provisions of the 1978 Trust Agreement.

Qualified Hedge Facility -- Any interest rate exchange, interest rate cap or other transaction which is intended to convert or limit the interest rate payable with respect to all or part of a particular Series of Bonds and which (a) is with a Qualified Hedge Provider and (b) has been designated in writing to the Trustee by the Authority as a Qualified Hedge Facility with respect to all or part of a particular Series of Bonds;

Qualified Hedge Provider -- A financial institution (a) whose senior long-term obligations are rated not lower than “A1” or the equivalent by Moody’s Investors Service and not lower than “A+” or the equivalent by Standard & Poor’s or (b) whose obligations under each Qualified Hedge Facility (i) are guaranteed by a financial institution, or subsidiary of a financial institution, whose senior long-term debt obligations are rated not lower than “A1” or its equivalent by Moody’s Investors Service and not lower than “A+” or its equivalent by Standard & Poor’s or (ii) are fully secured by investments described in clause (i) or (ii) of the definition of “Investment Securities” which (A) are valued not less frequently than monthly and have a fair market value, exclusive of accrued interest, at all times at least equal to 100% of the Authority’s exposure in respect of such Qualified Hedge Facility, (B) are held by the Trustee or a custodian other than the Qualified Hedge Provider and (C) are subject to a perfected lien in favor of the Authority or the Trustee free and clear of all third-party liens.

Replacement Cost -- As of any date of calculation the then present-day cost to replace or reconstruct all or any of the physical facilities of the Authority to their current use or operational status with materials then used in accordance with sound construction practice but shall exclude (a) the cost to reconstruct or replace all below-ground or below-water foundations and utility improvements and the cost of land, landfill and site improvements and (b) if and to the extent that the Authority shall have so notified the Trustee in writing, the cost to reconstruct or replace any facility financed with the proceeds of obligations other than Bonds, which obligations are not secured by any pledge, lien or charge on, nor payable from, the Revenues or any of the Funds and Accounts created by the 1978 Trust Agreement.

Reserve Requirement²⁶ -- (a) With respect to the Pooled Reserve Subaccount, the maximum annual Principal and Interest Requirements on all of the outstanding Bonds secured by the Pooled Reserve Subaccount, and (b) with respect to each Series of Bonds issued on and after the effective date of the Twenty-First Supplemental Agreement and not secured by the

²⁵ Amendment to the definition of “Principal and Interest Requirements” to be effective upon effective date of the Twenty-First Supplemental Agreement.

²⁶ Definition of “Reserve Requirement” to be added upon effective date of the Twenty-First Supplemental Agreement.

Pooled Reserve Subaccount, as of any date of calculation for a particular subaccount within the Reserve Account other than the Pooled Reserve Subaccount, the amount of money, if any, required by the resolution adopted by the Authority authorizing the issuance of such Series of Bonds to be maintained in a subaccount in the Reserve Account with respect to such Series of Bonds, which amount shall be available for use only with respect to such Series of Bonds. Any Series of Bonds may be secured by the Pooled Reserve Subaccount, or another specified subaccount within the Reserve Account pursuant to the resolution authorizing such Bonds, if the resolution adopted by the Authority that initially established such account provided for securing more than one Series of Bonds with such subaccount, or the Authority may elect not to establish a subaccount within the Reserve Account to secure such Series of Bonds.

Revenues -- All moneys derived or to be derived by the Authority in payment of tolls, rates, fees, rentals and other charges for the use of, and for the services and facilities furnished by, the Projects, any proceeds of use and occupancy and liability insurance (but not casualty insurance proceeds or awards for damages), the proceeds of leases, licenses, permits and concessions, and other income from the ownership or operation of the Projects, including income from investments except those in the Construction Fund, the Self-Insurance Account, any pension or post-retirement health benefit account in the Operating Fund and the Term Bond Investment Account; but excluding (i) moneys derived from facilities financed with the proceeds of obligations not secured by or payable from Revenues to the extent such moneys are pledged to the payment of such obligations, (ii) proceeds of casualty insurance or awards for damages, (iii) proceeds of sales of Bonds, (iv) proceeds of the sale or other disposition of property pursuant to the 1978 Trust Agreement and (v) except to the extent from time to time provided by the Authority by resolution, the proceeds of any passenger facility charge or similar tax levied by or on behalf of the Authority pursuant to the Federal Aviation Safety and Capacity Act of 1990 as from time to time amended, and any successor thereto, and the proceeds of any other charge or tax from time to time levied by or on behalf of the Authority pursuant to any federal statute or regulation enacted or promulgated after May 15, 2003 which restricts the use of such proceeds to purposes identified in or pursuant to such statute or regulation. The Authority has excluded from Revenues the proceeds of PFCs and CFCs. Notwithstanding the foregoing to the contrary, Revenues shall also include Available Funds in the amount, for the period and subject to such conditions as may be provided by a resolution of the Authority.²⁷ See “SECURITY FOR THE 2019A BONDS – Other Revenues of the Authority Not Pledged as Security for the Bonds – Passenger Facility Charges” and “—Customer Facility Charges.”

Term Bond Investment Account -- For a Series of Bonds shall mean each Account so designated which is established in the Interest and Sinking Fund for the term Bonds of such Series pursuant to the resolution of the Authority authorizing the issuance of such Series of Bonds. (No such Account will be established for any of the 2019A Bonds.)

²⁷ Amendment to the definition of “Revenues” to be effective upon effective date of the Twenty-First Supplemental Agreement.

APPENDIX E

AUTHORITY REQUEST FOR WRITTEN CONSENT TO PROPOSED AMENDMENTS

MASSACHUSETTS PORT AUTHORITY

\$ _____ Revenue Bonds, Series 2019-A (AMT)

Anticipated Sale Date: February 5, 2019

Anticipated Delivery Date: February 13, 2019

To: Prospective purchasers of the above bonds (the “*Series 2019A Bonds*”)

The Massachusetts Port Authority (the “*Authority*”) understands that you have indicated your intention to purchase Series 2019A Bonds of certain maturities and amounts. In that regard, the Authority is hereby advising you that the sale of the Series 2019A Bonds by the Authority to the underwriters named in the Preliminary Official Statement prepared by the Authority in connection with the offering of the Series 2019A Bonds (the “*POS*”) and the subsequent sale of the Series 2019A Bonds by such underwriters to you is conditioned upon receipt of your written consent to the proposed amendments to the 1978 Trust Agreement (as defined in the POS) described in the POS (the “*Consent Amendments*”). The text of the Consent Amendments is available from the Authority or the Trustee. A general description of the Consent Amendments is provided in the POS under the caption “SECURITY FOR THE 2019A BONDS-Modifications of the 1978 Trust Agreement”.

In order to become effective, the Consent Amendments require, among other things, the written consent of the Holders of not less than 51% of the Bonds outstanding under the 1978 Trust Agreement. Accordingly, the Authority is requesting that you evidence your consent to the Consent Amendments by executing the acknowledgement set forth below. The underwriters have not been requested to provide, nor will they provide, consent to the Consent Amendments on behalf of any Series 2019A Bond purchaser. The Authority currently anticipates the Consent Amendments becoming effective in calendar year 2019; however, such effective date may be later than such calendar year, or may never occur.

By signing in the space provided below:

- (1) you acknowledge you have read and understand the foregoing;
- (2) you hereby provide your express and irrevocable written consent to the Consent Amendments and you approve execution and delivery of the Twenty-first Supplemental Agreement as provided in the POS, such consent and approval to be effective immediately upon, and simultaneously with, the delivery of the Series 2019A Bonds to your custodial account with your DTC Participant;

- (3) you hereby waive any publication and mailing of notice of the Consent Amendments pursuant to the provisions of the 1978 Trust Agreement;
- (4) you irrevocably waive any right under the 1978 Trust Agreement to any publication that the Consent Amendments have received the necessary Bondholder consent; and
- (5) you agree that you are the purchaser or beneficial holder of the principal amount of the Series 2019A Bonds identified below or you are authorized to execute and deliver this consent on behalf of the purchaser of such Bonds and that a facsimile signature and signature page provided in the form of a “pdf” or similar imaged document transmitted by electronic mail or facsimile shall be deemed an original signature for all purposes.

If you are in agreement with the foregoing, please so indicate by signing and dating in the spaces provided below, having this Consent witnessed and returning this letter to Dalton Bobek at Goldman Sachs & Co. LLC. via Email at dalton.bobek@gs.com; for questions, please call Mr. Bobek at (212) 902-1449.

Very truly yours,

MASSACHUSETTS PORT AUTHORITY

ACKNOWLEDGED AND AGREED:

Print name of Purchaser or Managing Firm (having authority to consent on behalf of the Purchaser):

Custodian/DTC Participant Name: _____

DTC Participant No.: _____

Name(s) of funds which the Managing Firm is authorized to provide consent for:

Purchaser or Authorized Employee of Managing Firm:

_____ (Print Name)

_____ (Sign Name)

Date: _____, 2019

WITNESS AFFIDAVIT

I, _____ (name of witness), the _____ (title) of _____ (firm) hereby certify that I have witnessed the execution of this Consent and that the person signing this Consent is known to me and has the authority to provide the foregoing Consent.

By: _____

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FORM OF CONTINUING DISCLOSURE CERTIFICATE

This Continuing Disclosure Certificate (the “Disclosure Certificate”) is executed and delivered by the Massachusetts Port Authority (the “Issuer”) in connection with the issuance of one or more series of bonds by or on behalf of the Issuer and designated by duly adopted resolution of the Issuer as subject to and having the benefits of this Disclosure Certificate (such bonds referred to herein collectively as the “Bonds”). The Issuer covenants and agrees as follows:

SECTION 1. Purpose of the Disclosure Certificate. This Disclosure Certificate is being executed and delivered by the Issuer for the benefit of the owners of Bonds and in order to assist Participating Underwriters in complying with the Rule (as defined below).

SECTION 2. Definitions. In addition to terms defined elsewhere in this Disclosure Certificate, the following capitalized terms shall have the following meanings:

“Annual Filing” shall mean any Annual Filing provided by the Issuer pursuant to, and as described in, Sections 3 and 4 of this Disclosure Certificate.

“Dissemination Agent” shall mean Digital Assurance Certification, L.L.C., acting in its capacity as dissemination agent for the Issuer pursuant to the Disclosure Dissemination Agent Agreement dated as of January 8, 2010, between the Issuer and Digital Assurance Certification, L.L.C., or any successor thereto designated in writing by the Issuer as its agent for purposes of satisfying the filing and notice requirements assumed by the Issuer under this Disclosure Certificate, and which successor has filed with the Issuer a written acceptance of such designation.

“Listed Events” shall mean any of the events listed in Section 5(a) of this Disclosure Certificate.

“MSRB” means the Municipal Securities Rulemaking Board established pursuant to Section 15B(b)(1) of the Securities Exchange Act of 1934, or any successor thereto or to the functions of the MSRB contemplated by this Disclosure Certificate. Until otherwise designated by the MSRB or the Securities and Exchange Commission, filings with the MSRB are to be made through the Electronic Municipal Market Access (EMMA) website of the MSRB, currently located at <http://emma.msrb.org>.

“Owners of the Bonds” or “Owners” shall mean the registered owners, including beneficial owners, of the Bonds.

“Participating Underwriters” shall mean the original underwriters of any Bonds required to comply with the Rule in connection with the offering of such Bonds.

“Rule” shall mean Rule 15c2-12 adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

“Trust Agreement” shall mean the Trust Agreement dated as of August 1, 1978, as amended and supplemented, between the Issuer and State Street Bank and Trust Company, as Trustee.

SECTION 3. Provision of Annual Filings.

(a) The Issuer shall, or shall cause the Dissemination Agent to, not later than January 1 of each year, commencing January 1, 2013, provide to the MSRB an Annual Filing that is consistent with the requirements of Section 4 of this Disclosure Certificate. The Annual Filing may be submitted as a single document or as separate documents comprising a package, and may cross-reference other information as provided in Section 4 of this Disclosure Certificate; provided that the audited financial statements of the Issuer may be submitted, when available, separately from the balance of the Annual Filing.

APPENDIX F

(b) If the Issuer is unable to provide the Annual Filing to the MSRB by the date required in subsection (a), the Issuer shall send, or cause the Dissemination Agent to send, a notice in a timely manner to the MSRB in substantially the form attached as Exhibit A.

SECTION 4. Content of Annual Filings. The Issuer's Annual Filing shall contain or incorporate by reference the following:

(a) operating data for, or as of the end of, the preceding fiscal year of the type presented in the Issuer's most recent official statement, including data relating to (i) the market shares of total Airport passenger traffic, (ii) the percentage of passengers traveling on U.S. air carrier airlines between the Airport and other final domestic destinations, (iii) general Airport traffic statistics and (iv) cargo and passenger activity relating to the Port Properties;

(b) financial information for, or as of the end of, the preceding fiscal year of the type presented in the Issuer's most recent official statement, including a summary of operating results and debt service coverage; and

(c) the most recently available audited financial statements of the Issuer, prepared in accordance with generally accepted accounting principles. (If audited financial statements for the preceding fiscal year are not available when the Annual Filing is submitted, the Annual Filing will include unaudited financial statements for the preceding fiscal year.)

Any or all of the items listed above may be incorporated by reference from other documents, including official statements of debt issues of the Issuer or related public entities, which (i) are available to the public on the MSRB's Internet Web site or (ii) have been filed with the Securities and Exchange Commission. The Issuer shall clearly identify each such other document so incorporated by reference.

SECTION 5. Reporting of Significant Events.

(a) The Issuer shall give notice, or shall cause the Dissemination Agent to give notice, in accordance with subsection 5(b) below, of the occurrence of any of the following events with respect to any Bonds:

- (i) Principal and interest payment delinquencies.
- (ii) Non-payment related defaults, if material.
- (iii) Unscheduled draws on debt service reserves reflecting financial difficulties.
- (iv) Unscheduled draws on credit enhancements reflecting financial difficulties.
- (v) Substitution of credit or liquidity providers, or their failure to perform.
- (vi) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determination of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax status of the Bonds.
- (vii) Modifications to rights of any Owners of the Bonds, if material.
- (viii) Optional, contingent or unscheduled calls of Bonds, if material, and tender offers.
- (ix) Defeasance of any Bonds or any portion thereof.
- (x) Release, substitution or sale of property securing repayment of any Bonds, if material.
- (xi) Rating changes.

- (xii) Bankruptcy, insolvency, receivership or similar event of the Issuer.*
- (xiii) The consummation of a merger, consolidation, or acquisition involving the Issuer or the sale of all or substantially all of the assets of the Issuer, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material.
- (xiv) Appointment of a successor or additional trustee or the change of name of the Trustee, if material.

(b) Upon the occurrence of a Listed Event, the Issuer shall, in a timely manner not in excess of ten (10) business days after the occurrence of the event, file, or cause the Dissemination Agent to file, a notice of such occurrence with the MSRB.

(c) Anything in this Section 5 to the contrary notwithstanding, the Issuer shall have no obligation to give notice of or otherwise report any Listed Event with respect to any series of Bonds as to which another obligated person (as such term is defined in the Rule) has entered into an undertaking to provide such notice in accordance with the Rule.

SECTION 6. Transmission of Information and Notices. Unless otherwise required by law, all notices, documents and information provided to the MSRB shall be provided in electronic format as prescribed by the MSRB and shall be accompanied by identifying information as prescribed by the MSRB.

SECTION 7. Termination of Reporting Obligation. The Issuer's obligations under this Disclosure Certificate shall terminate upon the defeasance, prior redemption or payment in full of all of the Bonds.

SECTION 8. Amendment; Waiver. Notwithstanding any other provision of this Disclosure Certificate, the Issuer may amend this Disclosure Certificate and any provision of this Disclosure Certificate may be waived, if such amendment or waiver is permitted by the Rule, as evidenced by an opinion of counsel expert in federal securities laws to the effect that such amendment or waiver would not, in and of itself, cause the undertakings herein to violate the Rule if such amendment or waiver had been effective on the date hereof but taking into account any subsequent change in or official interpretation of the Rule.

If the amendment provides for a change in the accounting principles to be followed in preparing financial statements, the Annual Filing for the year in which the change is made shall present a comparison between the financial statements or information prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles. The comparison shall include a qualitative discussion of the differences in the accounting principles and the impact of the change in the accounting principles on the presentation of the financial information in order to provide information to investors to enable them to evaluate the ability of the Issuer to meet its obligations. To the extent reasonably feasible, the comparison shall also be quantitative. A notice of the change in the accounting principles shall be sent to the MSRB.

SECTION 9. Default. In the event of a failure of the Issuer to comply with any provision of this Disclosure Certificate, any Owner of any Bonds may seek a court order for specific performance by the Issuer of its obligations under this Disclosure Certificate. A default under this Disclosure Certificate shall not be deemed an event of default under the Trust Agreement, and the sole remedy under this Disclosure Certificate in the event of any failure of the Issuer to comply with this Disclosure Certificate shall be an action to compel performance of the Issuer's obligations hereunder and not for money damages in any amount.

* As noted in the Rule, this event is considered to occur when any of the following occur: (i) the appointment of a receiver, fiscal agent or similar officer for the Issuer in a proceeding under the U.S. Bankruptcy Code or in any proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Issuer, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or (ii) the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the Issuer.

APPENDIX F

SECTION 10. Beneficiaries. This Disclosure Certificate shall inure solely to the benefit of the Issuer, Participating Underwriters and Owners from time to time of the Bonds, and shall create no rights in any other person or entity.

SECTION 11. Governing Law. This instrument shall be governed by the laws of The Commonwealth of Massachusetts.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Issuer has caused this Disclosure Certificate to be duly executed under seal as of the date hereof.

Date: July 19, 2012

MASSACHUSETTS PORT AUTHORITY

By _____
Title: Director of Administration & Finance/
Secretary-Treasurer

APPENDIX F

EXHIBIT A

NOTICE OF FAILURE TO FILE ANNUAL FILING

Name of Issuer: Massachusetts Port Authority

NOTICE IS HEREBY GIVEN that the Issuer has not provided an Annual Filing as required by the Continuing Disclosure Certificate of the Issuer dated as of July 19, 2012. The Issuer anticipates that the Annual Filing will be filed by _____.

Dated: _____

[DISSEMINATION AGENT],
on behalf of the Issuer

By _____

cc: Massachusetts Port Authority

[FORM OF OPINION OF
KAPLAN KIRSCH & ROCKWELL LLP (CO-BOND COUNSEL)]

February __, 2019

Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, Massachusetts 02128-2909

Re: Massachusetts Port Authority Revenue Bonds, Series 2019-A
(AMT)

Ladies and Gentlemen:

We have acted as bond counsel to the Massachusetts Port Authority (the “*Authority*”) in connection with the issuance by the Authority of its \$315,240,000 Revenue Bonds, Series 2019-A (AMT) (the “*2019A Bonds*”). The 2019A Bonds are issued pursuant to Chapter 465 of the Massachusetts Acts of 1956, as amended to the date hereof (as so amended, the “*Act*”), the Trust Agreement dated as of August 1, 1978, as supplemented and amended to the date hereof (as so supplemented and amended, the “*Trust Agreement*”), by and between the Authority and U.S. Bank National Association, as successor-in-interest to State Street Bank and Trust Company, as trustee (the “*Trustee*”), and the Resolution adopted by the Members of the Authority on January 17, 2019 (the “*Resolution*”). All capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Resolution.

We have examined the Act, a certified copy of the proceedings relating to the issuance of the 2019A Bonds, the Trust Agreement and the Resolution, the by-laws of the Authority, and certifications of Authorized Officers of the Authority (as defined in the Resolution) and other public officials and others, and such other laws and regulations as we have determined to be necessary in order to deliver this opinion. As to questions of fact material to our opinion, we relied upon those certified proceedings and certifications, without independently undertaking to verify them. With respect to the opinion regarding federal tax matters, with your permission, we refer you to the legal opinion of even date of Foley & Lardner LLP, special tax counsel.

Neither The Commonwealth of Massachusetts (the “*Commonwealth*”) nor any political subdivision thereof, other than the Authority is obligated to pay any of the 2019A Bonds or the interest thereon, and neither the faith and credit nor the taxing power of the Commonwealth or any political subdivision thereof is pledged to the payment of the principal of and interest on the 2019A Bonds. The 2019A Bonds are secured on a parity with other Bonds heretofore and hereafter issued pursuant to the Trust Agreement and are secured by and payable solely from Revenues available therefor under the Trust Agreement. The Authority has no taxing power.

APPENDIX G

Massachusetts Port Authority
February __, 2019
Page 2

Based upon the foregoing, we are of the opinion that, under existing law:

1. The Authority is a body politic and corporate and public instrumentality of the Commonwealth duly created by the Act, with all necessary power and authority to adopt the Resolution, perform its obligations under the Resolution and issue the 2019 Bonds.

2. The 2019A Bonds have been duly authorized, executed, and delivered by the Authority and, assuming that the 2019A Bonds have been authenticated as provided in the Act and the Trust Agreement, the 2019A Bonds constitute legal, valid and binding obligations of the Authority, enforceable in accordance with their terms and entitled to the benefits and security of the Resolution and the Trust Agreement.

3. The Resolution and the Trust Agreement are authorized by the Act, the Trust Agreement has been duly authorized, executed and delivered by the Authority, and the Resolution and the Trust Agreement constitute legal, valid and binding obligations of the Authority, enforceable in accordance with their respective terms.

4. Under the Act, the 2019A Bonds, their transfer and the income therefrom (including any profit made on the sale thereof) are exempt from taxation within the Commonwealth. We express no opinion as to whether the 2019A Bonds or the interest thereon are included in the measure of Massachusetts estate and inheritance taxes and certain Massachusetts corporation excise and franchise taxes. We express no opinion regarding other Massachusetts tax consequences arising with respect to the 2019A Bonds, or regarding the tax consequences of states other than the Commonwealth.

The rights of the owners of the 2019A Bonds and the enforceability of the 2019A Bonds, the Trust Agreement and the Resolution may be limited by bankruptcy, insolvency, reorganization, moratorium and similar laws of general application affecting the rights and remedies of creditors and secured parties, and the availability of the remedy of specific enforcement, injunctive relief or other equitable relief is subject to the discretion of the court before which any proceeding therefore may be brought. We express no opinion as to the availability of any particular for of judicial relief.

Except as set forth in our supplemental opinion of even date, we have not been engaged or undertaken to review the accuracy, completeness, or sufficiency of the Official Statement dated February 5, 2019 or other offering materials relating to the 2019A Bonds (except to the extent, if any, stated in the Official Statement), and we express no opinion as to those matters. We have not passed on any matters relating to the business, affairs, or condition (financial or otherwise) of the Authority and no inference should be drawn that we have expressed any opinion on matters relating to the ability of the Authority to perform its obligations under the Resolution or the Trust Agreement.

Massachusetts Port Authority
February __, 2019
Page 3

This letter speaks as of its date. We assume no duty to change this letter to reflect any facts or circumstances that later come to our attention or any changes in law. We express no opinion as to laws other than the laws of the Commonwealth and the federal laws of the United States of America. In acting as bond counsel, we have established an attorney-client relationship solely with the Authority.

Very truly yours,

[FORM OF OPINION OF
FOLEY & LARDNER LLP (CO-BOND COUNSEL)]

ATTORNEYS AT LAW

321 NORTH CLARK STREET, SUITE 2800
CHICAGO, IL 60654-5313
312.832.4500 TEL
312.832.4700 FAX
WWW.FOLEY.COM

CLIENT/MATTER NUMBER
071193-0120

February __, 2019

Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, Massachusetts 02128-2909

Re: Massachusetts Port Authority Revenue Bonds, Series 2019-A
(AMT)

Ladies and Gentlemen:

We have acted as bond counsel with Kaplan Kirsch & Rockwell LLP to the Massachusetts Port Authority (the “*Authority*”) in connection with the issuance by the Authority of its \$315,240,000 Revenue Bonds, Series 2019-A (AMT) (the “*2019A Bonds*”). The 2019A Bonds are issued pursuant to Chapter 465 of the Massachusetts Acts of 1956, as amended to the date hereof (as so amended, the “*Act*”), the Trust Agreement dated as of August 1, 1978, as supplemented and amended to the date hereof (as so supplemented and amended, the “*Trust Agreement*”), by and between the Authority and U.S. Bank National Association, as successor-in-interest to State Street Bank and Trust Company, as trustee (the “*Trustee*”), and the Resolution adopted by the Members of the Authority on January 17, 2019 (the “*Resolution*”). All capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Resolution.

We have examined the Act, a certified copy of the proceedings relating to the issuance of the 2019A Bonds, the Trust Agreement and the Resolution, the by-laws of the Authority, and certifications of Authorized Officers of the Authority (as defined in the Resolution) and other public officials and others, and such other laws and regulations as we have determined to be necessary in order to deliver this opinion. As to questions of fact material to our opinion, we relied upon those certified proceedings and certifications, without independently undertaking to verify them. With respect to the opinion regarding matters other than federal tax matters, with your permission, we refer you to the legal opinion of even date of Kaplan Kirsch & Rockwell LLP, bond

AUSTIN
BOSTON
CHICAGO
DALLAS
DENVER

DETROIT
HOUSTON
JACKSONVILLE
LOS ANGELES
MADISON

MEXICO CITY
MIAMI
MILWAUKEE
NEW YORK
ORLANDO

SACRAMENTO
SAN DIEGO
SAN FRANCISCO
SILICON VALLEY
TALLAHASSEE

TAMPA
WASHINGTON, D.C.
BRUSSELS
TOKYO



FOLEY & LARDNER LLP

February __, 2019

Page 2

counsel. In rendering this opinion, we have relied on the legal opinion of even date of Kaplan Kirsch & Rockwell LLP.

Neither The Commonwealth of Massachusetts (the “*Commonwealth*”) nor any political subdivision thereof, other than the Authority is obligated to pay any of the 2019A Bonds or the interest thereon, and neither the faith and credit nor the taxing power of the Commonwealth or any political subdivision thereof is pledged to the payment of the principal of and interest on the 2019A Bonds. The 2019A Bonds are secured on a parity with other Bonds heretofore and hereafter issued pursuant to the Trust Agreement and are secured by and payable solely from Revenues available therefor under the Trust Agreement. The Authority has no taxing power.

Based upon the foregoing, we are of the opinion that, under existing law, the interest on the 2019A Bonds is excluded from gross income for federal income tax purposes, except for interest on any 2019A Bonds for any period during which such 2019A Bonds are held by a person who is a “substantial user” of the facilities financed with proceeds of the 2019A Bonds or a “related person” of such a substantial user within the meaning of Section 147(a) of the Internal Revenue Code of 1986, as amended (the “*Code*”). Interest on the 2019A Bonds is a specific preference item for purposes of federal alternative minimum tax. The opinions set forth in this paragraph are subject to the condition that the Authority comply with various requirements imposed by the Code that must be complied with after the 2019A Bonds are issued for interest on the 2019A Bonds to be, or continue to be, excluded from gross income for federal income tax purposes. The Authority has covenanted in the Trust Agreement and the Resolution that it will not take or permit to be taken on its behalf any action that would adversely affect the exemption from federal income taxation of the interest on the 2019A Bonds and that it will take or require to be taken such actions as may be reasonably within its ability and as may be required under applicable law to continue the exemption from federal income taxation of the interest on the 2019A Bonds. The Authority’s failure to comply with such covenants may result in the inclusion of interest on the 2019A Bonds in gross income for federal income tax purposes, in some cases retroactively to the date the 2019A Bonds were issued. We have not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) after the date of issuance of the 2019A Bonds may adversely affect the tax status of interest on the 2019A Bonds. We express no opinion regarding any other federal tax consequences arising with respect to the 2019A Bonds.

In rendering the opinion above, we have relied upon federal tax law and interpretations thereof, as in effect on the date hereof. We express no opinion as to the impact of changes in federal income tax law which occur subsequent to the date hereof on the exclusion from gross income of the holders of the 2019A Bonds of the interest thereon and assume no duty to update this opinion or provide notice of changes in federal tax law or the impact thereof on the opinions rendered hereby.

APPENDIX G



FOLEY & LARDNER LLP

February __, 2019

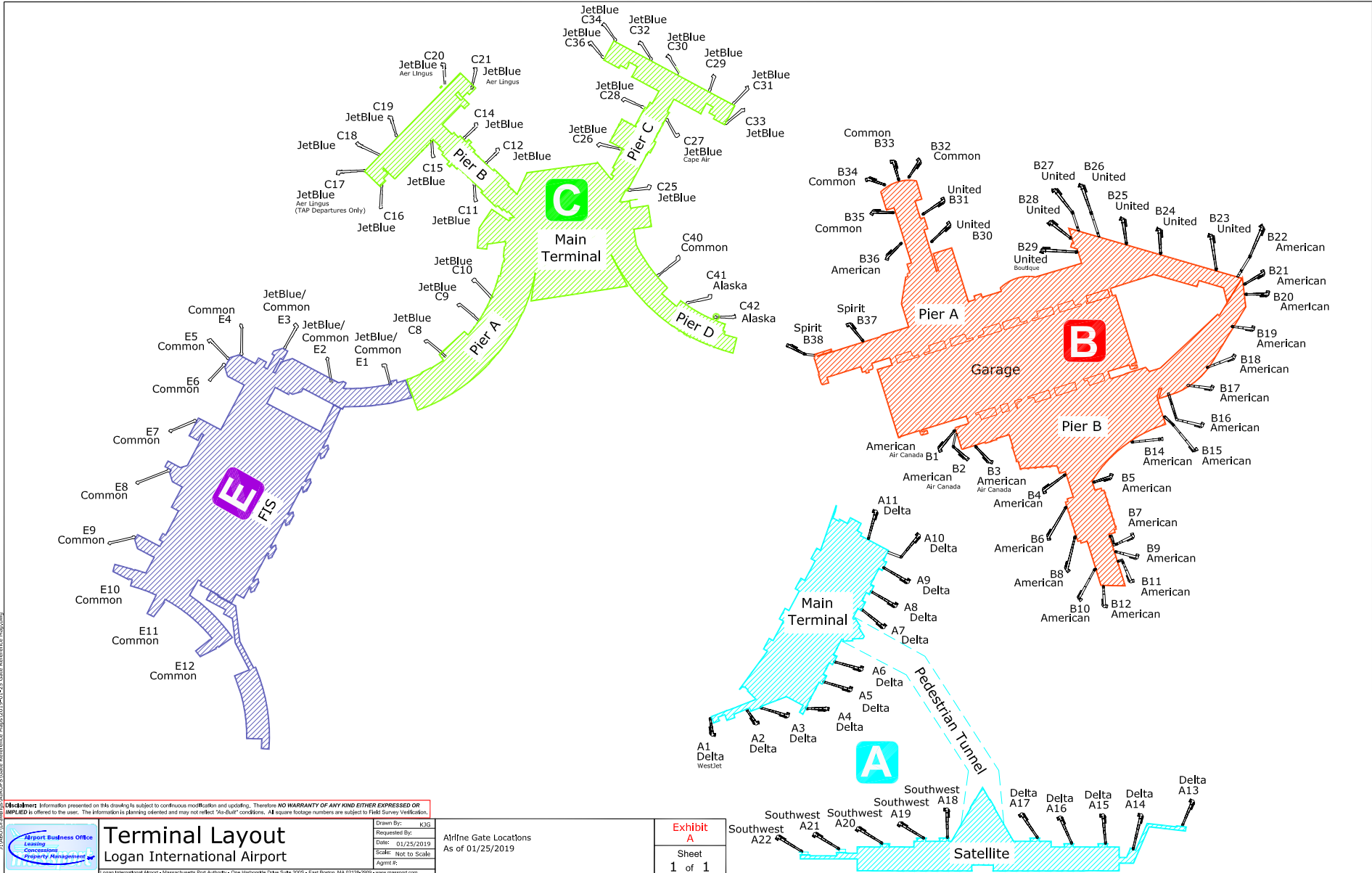
Page 3

The rights of the owners of the 2019A Bonds and the enforceability of the 2019A Bonds, the Trust Agreement and the Resolution may be limited by bankruptcy, insolvency, reorganization, moratorium and similar laws of general application affecting the rights and remedies of creditors and secured parties, and the availability of the remedy of specific enforcement, injunctive relief or other equitable relief is subject to the discretion of the court before which any proceeding therefore may be brought. We express no opinion as to the availability of any particular for of judicial relief.

Except as set forth in our supplemental opinion of even date, we have not been engaged or undertaken to review the accuracy, completeness, or sufficiency of the Official Statement dated February 5, 2019 or other offering materials relating to the 2019A Bonds (except to the extent, if any, stated in the Official Statement), and we express no opinion as to those matters. We have not passed on any matters relating to the business, affairs, or condition (financial or otherwise) of the Authority and no inference should be drawn that we have expressed any opinion on matters relating to the ability of the Authority to perform its obligations under the Resolution or the Trust Agreement.

This letter speaks as of its date. We assume no duty to change this letter to reflect any facts or circumstances that later come to our attention or any changes in law. We express no opinion as to laws other than the federal laws of the United States of America. In acting as co-bond counsel, we have established an attorney-client relationship solely with the Authority.

Very truly yours,



Disclaimer: Information presented on this drawing is subject to continuous modification and updating, therefore **NO WARRANTY OF ANY KIND EITHER EXPRESSED OR IMPLIED** is offered to the user. The information is planning oriented and may not reflect "As-Built" conditions. All square footage numbers are subject to Field Survey Verification.



Terminal Layout Logan International Airport

Drawn By: KJC
 Requested By:
 Date: 01/25/2019
 Scale: Not to Scale
 Agmt #:

Alf/Ine Gate Locations
 As of 01/25/2019

Exhibit
A
 Sheet
 1 of 1

J:\A000\Drawings\A00005\Gate Reference Map\012519\12-25_Gate Reference Map.dwg

