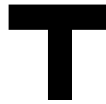

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MASTER SWAP POLICY

June 20, 2016

1. Purpose

The purpose of this Swap Policy is to provide a policy for the Massachusetts Bay Transportation Authority's use of swaps, cap, floors, collars, options and other, hedges or derivative financial products (collectively referred to herein as "Swaps") in conjunction with the Authority's management of its assets and liabilities. The policy is intended to serve as a source of information and guidance on the issuance and ongoing monitoring of Swaps for the professional staff of the Authority, its Board of Directors, the Fiscal and Management Control Board and the rating agencies, as well as the general public and financial institutions wishing to do business with the Authority.

2. Scope

The policy describes the circumstances and methods by which Swaps will be used, the guidelines to be employed when Swaps are used, and who is responsible for carrying out these policies.

3. Authority

The Authority's legal authority for using Swaps is based on the Authority's general contractual powers and statutory authority as contained in Chapter 161A of Massachusetts General Law. Under this authority, the Authority may enter into Swaps as authorized by the Board of Directors in connection with or incidental to the issuance or payment of certain debt obligations, before, concurrently with, or after the actual issuance of the debt.

4.
Procedure

The Authority shall consider entering into Swaps based on the following analysis:

(i) The appropriateness of the transaction for the Authority based on the balance of risks and rewards presented by the proposed transaction, including a detailed description of the transactional structure, a description of the risks it presents, and risk mitigation measures, where applicable;

(ii) The legal framework for the transaction within the context of Massachusetts statutes, Authority authorization, and relevant indenture and contractual requirements (including those contained in credit agreements), as well as any implications of the transaction under federal tax regulations;

(iii) The potential effects that the transaction may have on the credit ratings of any

Authority obligations assigned by the rating agencies;

(iv) The potential impact of the transaction on any areas where the Authority's capacity is limited, now or in the future, including the use of variable-rate debt, bank liquidity facilities or letters of credit, and bond insurance;

(v) The administrative burden that may be imposed by the transaction, including accounting and financial reporting requirements;

(vi) Other implications of the proposed transaction as warranted; and

(vii) Whether there would be sufficient price transparency, as a result, for example, of unusual structures or terms, to permit the Authority and a swap advisor to reasonably determine the fair-market value of the Swap.

5. Permitted Uses

While the Authority may use Swaps for managing risk and other business reasons listed above, the Authority does not and will not enter into Swaps for purely speculative purposes. Among the strategies which the Authority will consider in applying Swaps are:

(i) Managing the Authority's exposure to floating and fixed interest rates, through interest rate swaps, caps, floors, collars, and other option products;

(ii) Hedging floating rate risk with caps, collars, basis swaps, and other instruments;

(iii) Locking in fixed rates in current markets for use at a later date, through the use of forward swaps, swaptions, rate locks, options, and forward delivery products;

(iv) Reducing the cost of fixed or floating rate debt, through swaps and related products to create "synthetic" fixed or floating rate debt;

(v) More rapidly accessing the capital markets than may be possible with conventional debt instruments;

(vi) Managing the Authority's exposure to the risk of changes in the legal and regulatory treatment of tax-exempt bonds, including changes in federal marginal tax rates and other changes in tax laws that may affect the value of tax-exempt bonds relative to other investment alternatives;

(vii) Managing the Authority's credit exposure to financial institutions and other entities through the use of offsetting swaps and other credit management products; and

(viii) Mitigate the volatility of fuel and electricity prices to increase budgeting certainty.

6. Documentation Guidelines

The Authority will use one of the forms of the International Swaps and Derivatives Association, Inc. ("ISDA") Master Agreement as a framework for Swap documentation. The Swap agreement between the Authority and each counterparty shall include payment, term, security, collateral, default, remedy, termination, and other terms, conditions, provisions and safeguards as the Authority, in consultation with a swap advisor and legal counsel, deems necessary or desirable.

Subject to the provisions contained herein, the terms of any Swap agreement shall adhere to the following guidelines:

(i) Ratings-based downgrade provisions triggering termination shall be included and should reflect the relative credit strength of the Authority in comparison with the Swap Provider. This comparison should give weight to the prevailing greater credit strength of public sector entities as compared with for-profit corporations and financial institutions;

(ii) The Authority will strive to minimize cross default provisions. The specific indebtedness related to credit events in any Swap agreement should be narrowly defined and refer only to indebtedness of the Authority that could have a materially adverse effect on Authority's ability to perform its obligations under the Swap. Debt should only include obligations within the same or superior lien as the Swap obligation;

(iii) Collateral thresholds for the Swap provider should be set on a sliding scale reflective of credit ratings. Collateral requirements should be established and based upon the credit ratings of the Swap provider or its guarantor;

(iv) Eligible collateral should generally be limited to Treasuries and obligations of Federal Agencies where the principal and interest are guaranteed by the United States. At the discretion of the Authority, other highly liquid, high quality obligations of Federal agencies, not secured by the full faith and credit of the U.S. government, may be used as collateral; and

(v) The Authority shall have the right to optionally terminate a Swap agreement "at market," at any time over the term of the agreement. The Swap provider should have no similar right.

7. Counterparty Credit Standards

Unlike conventional fixed-rate bonds, many Swap products can create for the Authority a continuing exposure to the creditworthiness of financial institutions that serve as the Authority's counterparties on Swap transactions. To protect the Authority's interests in the event of a counterparty credit problem, the Authority will adhere to the following standards:

(i) Use of highly-rated counterparties: Standards of creditworthiness, as measured by credit ratings, will determine eligible counterparties. Differing standards may be employed depending on the term, size, and interest-rate sensitivity of a transaction, types of counterparty, and potential for impact on the Authority's credit ratings. In cases where the counterparty's obligations are rated based on a guarantee or specialized structure to achieve the required credit rating, the Authority shall thoroughly investigate the nature and legal structure of the guarantee or structure in order to determine that it fully meets the Authority's requirements.

(ii) Collateralization on downgrade: If a counterparty's credit rating is downgraded below the double-A rating category, the Authority shall generally require that its exposure to the counterparty be collateralized.

(iii) Downgrade Notice: The Authority should require that its Swap counterparties notify the Authority in the event of a credit ratings downgrade. The Authority or a swap advisor should independently monitor all ratings agency actions with respect to its counterparties.

In order to limit the Authority's counterparty risk, the Authority will seek to avoid excessive concentration of exposure to a single counterparty or guarantor by diversifying its counterparty exposure over time. Exposure to any counterparty will be measured based on the termination value of any Swap contracts entered into with the Counterparty, as well as such other measurements as the Authority may deem suitable to measure potential changes in exposure, such as "value at risk" or "peak exposure." Termination values should be monitored on not less than a monthly basis, based on a mark-to-market calculation of the cost of terminating the Swap contract given the market conditions on the valuation date. Aggregate Swap termination value for each counterparty should take into account netting of offsetting transactions (i.e., fixed-to-floating vs. floating-to-fixed). As a matter of general principle, the

Authority may require counterparties to provide regular mark-to-market valuations of Swaps they have entered into with the Authority, and should seek regular, periodic valuations from an independent third party professional.

As of the date of execution of any Swap, the aggregate maximum net termination exposure for all of the Authority's then existing and proposed Swaps with all counterparties, as determined in conjunction with a swap advisor, shall not exceed the sum of available cash or investments and unutilized capacity of commercial paper or other debt.

8. Method of Procurement

The Authority may select counterparties for entering into Swap contracts on either a negotiated or competitive basis. Negotiated procurement may be used for original or proprietary products, for original ideas of applying a specified product to an Authority need, or, if in the Authority's and its advisors' judgment it is in the Authority's best interest, e.g. executing the termination of a Swap on a negotiated basis to ensure better coordination in conjunction with the simultaneous issuance of bonds.

If it is determined that a Swap should be competitively bid, the Authority may employ a hybrid structure to reward unique ideas or special effort by reserving a specified percentage of the Swap to the firm presenting the ideas on the condition that the firm match or improve upon the best bid.

Each Swap entered into by the Authority shall be subject to an independent review and analysis by a swap advisor and include a finding that its terms and conditions reflected a fair market value as of the date and time of its execution

9. Risk Management

Because of the size and complexity of the assets and liabilities of the Authority and its established financial systems and controls, the Authority will manage the risks and rewards of the Swap program alongside its overall financial risks and rewards. As part of the risk management process, the Authority will evaluate the aggregate Swap exposure as measured by value at risk, peak exposure, and/or realistic worst case scenarios.

Among the risks that the Authority will monitor, evaluate, and seek to mitigate, are:

Type of Risk	Description	Evaluation Methodology	Mitigation
Counterparty Risk	The risk of a failure of one of the Authority's Swap providers to perform as required under a Swap contract.	The Authority will evaluate the Swap providers' credit ratings and existing exposure on other transactions, including commodity and other transactions across the organization.	The Authority will diversify its exposure, impose minimum credit rating standard and require protective documentation provisions. (See above Sec. 7, "Counterparty Credit Standards")
Termination Risk	The risk that a Swap may be terminated prior to its scheduled maturity due to factors outside the Authority's control.	The Authority will review potential sources of early termination, including those resulting from documentation provisions and the likelihood of credit downgrade that could precipitate an early termination.	The Authority will use protective documentation provisions and will evaluate sources of liquidity and market access that could be used in the event a termination payment were required to be made.
Interest Rate Risk	The risk that the Authority's costs associated with variable- rate exposure increases and negatively affect budgets, coverage ratios and cash flow margins. Variable- rate exposure may be created by a Swap from fixed to floating, or a Swap that otherwise creates some type of floating-rate liability. The interest rate risk presented by such a Swap may be increased as interest rates increase generally, as intra-market relationships change, or because of credit concerns relating to the Authority or a credit enhancer.	Prior to taking on interest rate risk, the Authority will measure its capacity for floating rate exposure, based on policy targets for its mix of fixed and floating rate debt and taking into consideration future variable rate needs.	The Authority will maintain floating rate exposure within policy limits, and will make use of interest rate hedges, like caps and collars on an as-needed basis.

Type of Risk	Description	Evaluation Methodology	Mitigation
Basis Risk	The risk that the floating rate on the Swap fails to offset the floating rate on the underlying asset or liability. Because Swaps are generally based on a floating-rate index, the chosen index should correlate closely, but may not correlate exactly. A common type of basis risk is often referred to as "tax risk", or the risk of a mismatch between the floating rate on tax-exempt debt and a Swap index, based on a taxable index (i.e., LIBOR). The correlation between the LIBOR-based rate and the bond rate may change based on changes in tax law or other market events.	The Authority will measure and review the historic variation between the floating rate index used in the Swap and the underlying floating rate debt it is hedging. In the absence of a sufficient history of underlying debt, it will use relevant comparable floating rate debt. The degree of risks should be evaluated in comparison with degree of benefit provided.	The Authority will consider mitigation techniques as warranted, including maintaining a cushion between the floating rate index and the expected trading level of the floating rate debt, creating a reserve to cover potential basis risk mismatches, and including provisions for optional termination.
Rollover Risk	When a Swap is used in conjunction with underlying puttable floating-rate debt, bank facility rollover risk exists if the term of a needed liquidity or credit facility on the debt is shorter than the term of the Swap. The Authority is at risk as to both the availability and the price of successive bank facilities.	The Authority will evaluate the likelihood of unavailability of bank facilities based on the underlying credit of the debt as well as the general market for liquidity facilities.	The Authority may use any of the following mitigation techniques: purchasing longer term facilities for credits where rollover risk is greatest; including alternative floating rate mechanisms, like auction rate securities, in the bond documents; and, staggering the maturity dates of different liquidity facility programs to diversify points of market re-entry.
Pricing Risk	The risk that the Swap may not be priced competitively in comparison to the market for comparable Swap transactions.	Prior to entering into a Swap, the Authority will make a determination that the transaction can be priced with reasonable transparency and confidence.	The Authority will not enter into overly complex or illiquid transactions where competitive pricing cannot be ascertained. Where it meets Authority objectives (as outlined above in Section 8 "Method of Procurement"), it will use a competitive process. For negotiated transactions, it will seek independent price verification through appropriate professional advice.

The Authority will measure and evaluate the effect of leverage contained within any Swap on the magnitude of any of the above-mentioned risks.

10. Monitoring and Reporting

The Authority will track and regularly report on the financial implications of the Swaps it enters into. An annual report will be prepared for the General Manager, Chief Administrator and Chief Financial Officer, including:

(i) A summary of key terms of the agreements, including notional amounts, interest rates, maturity and method of procurement, including any changes to Swap agreements since the last reporting period;

(ii) The mark-to-market value (termination value) of its Swaps, as measured by the economic cost or benefit of terminating outstanding contracts at specified intervals;

(iii) The amount of exposure that the Authority has to each specific counterparty, as measured by aggregate mark-to-market value, netted for offsetting transactions;

(iv) The credit ratings of each counterparty (or guarantor, if applicable) and any changes in the credit rating since the last reporting period; and

(v) Any collateral posting as a result of Swap agreement requirements.

In addition, the Authority will perform such monitoring and reporting as is required by the rating agencies and for compliance with GASB requirements.

11. Dodd Frank Act and Regulatory Compliance

The Authority will comply with all federal regulatory requirements promulgated under the Dodd Frank Act, or by the Commodity Futures Trading Commission and other applicable regulations as may be implemented during the period covered by this policy. This includes evaluating all financing proposals, including swap proposals, under the framework set forth under these regulations, following all registration protocols, and appointing a qualified party to serve in the role as swap advisor (known as a "Qualified Independent Representative" under the federal regulations) to the Authority.

The Authority will also comply with all regulatory and reporting requirements of the Commonwealth including those of the Finance and Governance Board of Massachusetts or its successors related to derivative transactions as defined by regulations adopted by that board and as may be amended during the period covered by this policy.