

Derivative Instruments — Fair value for the swaps is calculated in accordance with GASB Statement No. 72, utilizing the income approach and Level 2 inputs. It incorporates the mid-market valuation, nonperformance risk of either MTA/ MTA Bridges and Tunnels or the counterparty, as well as bid/offer. The fair values were estimated using the zero-coupon method. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement on the swap.

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2022 and December 31, 2021, classified by type, and the changes in fair value of such derivative instruments from the year ended December 31, 2021 are as follows (in \$ millions):

Derivative Instruments - Summary Information as of June 30, 2022

Bond Resolution Credit	Underlying Bond Series	Type of Derivative	Cash Flow or Fair Value Hedge	Effective Methodology	Trade/Hedge Association Date	Notional Amount	Fair Value
Cashflow Hedges							
MTA Bridges and Tunnels Senior Revenue Bonds	2018E & 2003B (Citi 2005B)	Libor Fixed Payer	Cash Flow	Synthetic Instrument/ Dollar Offset	6/2/2005	\$ 186.100	\$ (14.935)
MTA Bridges and Tunnels Senior Revenue Bonds	2005B-2,3,4	Libor Fixed Payer	Cash Flow	Synthetic Instrument	6/2/2005	558.300	(44.806)
MTA Bridges and Tunnels Senior Revenue Bonds	2005A (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	4/1/2016	17.690	(1.013)
MTA Bridges and Tunnels Senior Revenue Bonds	2001C (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	12/5/2016	8.000	(0.483)
MTA Dedicated Tax Fund Bonds	2008A	Libor Fixed Payer	Cash Flow	Synthetic Instrument	3/8/2005	281.450	(18.774)
MTA Transportation Revenue Bonds	2002D-2	Libor Fixed Payer	Cash Flow	Synthetic Instrument	7/11/2002	200.000	(38.521)
MTA Transportation Revenue Bonds	2005D & 2005E	Libor Fixed Payer	Cash Flow	Synthetic Instrument	9/10/2004	317.660	(32.093)
MTA Transportation Revenue Bonds	2012G	Libor Fixed Payer	Cash Flow	Synthetic Instrument	12/12/2007	355.525	(45.005)
MTA Transportation Revenue Bonds	2002G-1 (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	4/1/2016	64.270	(1.851)
MTA Transportation Revenue Bonds	2011B (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	4/1/2016	89.765	(6.974)
Total						\$ 2,078.760	\$ (204.455)

Derivative Instruments - Summary Information as of December 31, 2021

Bond Resolution Credit	Underlying Bond Series	Type of Derivative	Cash Flow or Fair Value Hedge	Effective Methodology	Trade/Hedge Association Date	Notional Amount	Fair Value
Cashflow Hedges							
MTA Bridges and Tunnels Senior Revenue Bonds	2018E & 2003B (Citi 2005B)	Libor Fixed Payer	Cash Flow	Synthetic Instrument/ Dollar Offset	6/2/2005	\$ 187.200	\$ (30.789)
MTA Bridges and Tunnels Senior Revenue Bonds	2005B-2,3,4	Libor Fixed Payer	Cash Flow	Synthetic Instrument	6/2/2005	561.600	(92.368)
MTA Bridges and Tunnels Senior Revenue Bonds	2005A (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	4/1/2016	19.775	(2.043)
MTA Bridges and Tunnels Senior Revenue Bonds	2001C (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	12/5/2016	9.000	(0.963)
MTA Dedicated Tax Fund Bonds	2008A	Libor Fixed Payer	Cash Flow	Synthetic Instrument	3/8/2005	281.450	(37.600)
MTA Transportation Revenue Bonds	2002D-2	Libor Fixed Payer	Cash Flow	Synthetic Instrument	7/11/2002	200.000	(62.934)
MTA Transportation Revenue Bonds	2005D & 2005E	Libor Fixed Payer	Cash Flow	Synthetic Instrument	9/10/2004	317.660	(60.799)
MTA Transportation Revenue Bonds	2012G	Libor Fixed Payer	Cash Flow	Synthetic Instrument	12/12/2007	355.525	(82.754)
MTA Transportation Revenue Bonds	2002G-1 (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	4/1/2016	81.065	(4.481)
MTA Transportation Revenue Bonds	2011B (COPS 2004A)	Libor Fixed Payer	Cash Flow	Synthetic Instrument	4/1/2016	91.135	(13.305)
Total						\$ 2,104.410	\$ (388.036)

	Changes In Fair Value		Fair Value at June 30, 2022		Notional (in millions)
	Classification	Amount (in millions)	Classification	Amount (in millions)	
Government activities					
Cash Flow hedges:					
Pay-fixed interest rate swaps	Deferred outflow of resources	\$183.581	Debt	\$(204.455)	\$2,078.760

Swap Agreements Relating to Synthetic Fixed Rate Debt

Board-adopted Guidelines. The Related Entities adopted guidelines governing the use of swap contracts on March 26, 2002. The guidelines were amended and approved by the MTA Board on March 13, 2013. The guidelines establish limits on the amount of interest rate derivatives that may be outstanding and specific requirements that must be satisfied for a Related Entity to enter into a swap contract, such as suggested swap terms and objectives, retention of a swap advisor, credit ratings of the counterparties, collateralization requirements and reporting requirements.

Objectives of synthetic fixed rate debt. To achieve cash flow savings through a synthetic fixed rate, MTA and MTA Bridges and Tunnels have entered into separate pay-fixed, receive-variable interest rate swaps at a cost anticipated to be less than what MTA and MTA Bridges and Tunnels would have paid to issue fixed-rate debt, and in some cases where Federal tax law prohibits an advance refunding to synthetically refund debt on a forward basis.

Terms and Fair Values. The terms, fair values and counterparties of the outstanding swaps of MTA and MTA Bridges and Tunnels are reflected in the following tables (as of June 30, 2022).

Metropolitan Transportation Authority						
Related Bonds	Notional Amount as of 6/30/22	Effective Date	Maturity Date	Terms	Counterparty and Ratings(S&P / Moody's / Fitch)	Fair Value as of 6/30/22
TRB 2002D-2	\$ 200.000	01/01/07	11/01/32	Pay 4.45%; receive 69% 1M LIBOR	JPMorgan Chase Bank, NA (A+ / Aa2 / AA)	\$ (38.521)
TRB 2005D & 2005E	238.245	11/02/05	11/01/35	Pay 3.561%; receive 67% 1M LIBOR	UBS AG (A+ / Aa3 / AA-)	(24.070)
TRB 2005E	79.415	11/02/05	11/01/35	Pay 3.561%; receive 67% 1M LIBOR	AIG Financial Products ⁽¹⁾ (BBB+ / Baa2 / BBB+)	(8.023)
TRB 2012G	355.525	11/15/12	11/01/32	Pay 3.563%; receive 67% 1M LIBOR	JPMorgan Chase Bank, NA (A+ / Aa2 / AA)	(45.005)
DTF 2008A	281.450	03/24/05	11/01/31	Pay 3.3156%; receive 67% 1M LIBOR	Bank of New York Mellon (AA- / Aa2 / AA)	(18.774)
Total	\$ 1,154.635					\$ (134.393)

¹ Guarantor: American International Group, Inc., parent of AIG Financial Products.

MTA Bridges and Tunnels						
Related Bonds	Notional Amount as of 6/30/22	Effective Date	Maturity Date	Terms	Counterparty and Ratings (S&P / Moody's / Fitch)	Fair Value as of 6/30/22
TBTA 2018E & 2003B ⁴	\$ 186.100	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	Citibank, N.A. (A+ / Aa3 / A+)	\$ (14.935)
TBTA 2005B-2	186.100	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	JPMorgan Chase Bank, NA (A+ / Aa2 / AA)	(14.935)
TBTA 2005B-3	186.100	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	BNP Paribas North America (A+ / Aa3 / AA-)	(14.935)
TBTA 2005B-4	186.100	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	UBS AG (A+ / Aa3 / AA-)	(14.935)
TRB 2002G-1 & 2011B TBTA 2005A & 2001C ²	89.863 ³	04/01/16	01/01/30	Pay 3.52%; receive 67% 1M LIBOR	U.S. Bank N.A. (AA- / A1 / AA-)	(5.161) ³
TRB 2002G-1 & 2011B TBTA 2005A & 2001C ²	89.862 ³	04/01/16	01/01/30	Pay 3.52%; receive 67% 1M LIBOR	Wells Fargo Bank, N.A. (A+ / Aa2 / AA-)	(5.161) ³
Total	\$ 924.125					\$ (70.062)

1 Guarantor: BNP Paribas.

2 Between November 22, 2016 and December 5, 2016, the Variable Rate Certificates of Participation, Series 2004A were redeemed. Corresponding notional amounts from the Series 2004A COPs were reassigned to MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2001C.

3 Pursuant to an Interagency Agreement (following novations from UBS in April 2016), MTA New York City Transit is responsible for 68.7%, MTA is responsible for 21.0%, and TBTA is responsible for 10.3% of the transaction.

4 On October 27, 2021 the 2002F bonds were changed to fixed-rate mode and a portion of the Citi swap was reassigned to the 2018E bonds.

LIBOR: London Interbank Offered Rate

TRB: Transportation Revenue Bonds

DTF: Dedicated Tax Fund Bonds

Risks Associated with the Swap Agreements

From MTA's and MTA Bridges and Tunnels' perspective, the following risks are generally associated with swap agreements:

Credit Risk. The risk that a counterparty becomes insolvent or is otherwise not able to perform its financial obligations. To mitigate the exposure to credit risk, the swap agreements include collateral provisions in the event of downgrades to the swap counterparties' credit ratings. Generally, MTA and MTA Bridges and Tunnels' swap agreements contain netting provisions under which transactions executed with a single counterparty are netted to determine collateral amounts. Collateral may be posted with a third-party custodian in the form of cash, U.S. Treasury securities, or certain Federal agency securities. MTA and MTA Bridges and Tunnels require its counterparties to fully collateralize if ratings fall below certain levels (in general, at the Baa1/BBB+ or Baa2/BBB levels), with partial posting requirements at higher rating levels (details on collateral posting discussed further under "Collateralization/Contingencies"). As of June 30, 2022, all of the valuations were in liability positions to MTA and MTA Bridges and Tunnels; accordingly, no collateral was posted by any of the counterparties.

The following table shows, as of June 30, 2022, the diversification, by percentage of notional amount, among the various counterparties that have entered into ISDA Master Agreements with MTA and/or MTA Bridges and Tunnels. The notional amount totals below include all swaps.

Counterparty	S&P	Moody's	Fitch	Notional Amount (in thousands)	% of Total Notional Amount
JPMorgan Chase Bank, NA	A+	Aa2	AA	\$741,624	35.68%
UBS AG	A+	Aa3	AA-	424,345	20.41
The Bank of New York Mellon	AA-	Aa2	AA	281,450	13.54
Citibank, N.A.	A+	Aa3	A+	186,100	8.95
BNP Paribas US Wholesale Holdings, Corp.	A+	Aa3	AA-	186,100	8.95
U.S. Bank National Association	AA-	A1	AA-	89,863	4.32
Wells Fargo Bank, N.A.	A+	Aa2	AA-	89,863	4.32
AIG Financial Products Corp.	BBB+	Baa2	BBB+	79,415	3.83
Total				\$2,078,760	100.00%

Interest Rate Risk. MTA and MTA Bridges and Tunnels are exposed to interest rate risk on the interest rate swaps. On the pay-fixed, receive variable interest rate swaps, as LIBOR or SIFMA (as applicable) decreases, MTA and MTA Bridges and Tunnels' net payments on the swaps increase.

Basis Risk. The risk that the variable rate of interest paid by the counterparty under the swap and the variable interest rate paid by MTA or MTA Bridges and Tunnels on the associated bonds may not be the same. If the counterparty's rate under the swap is lower than the bond interest rate, then the counterparty's payment under the swap agreement does not fully reimburse MTA or MTA Bridges and Tunnels for its interest payment on the associated bonds. Conversely, if the bond interest rate is lower than the counterparty's rate on the swap, there is a net benefit to MTA or MTA Bridges and Tunnels.

Termination Risk. The risk that a swap agreement will be terminated and MTA or MTA Bridges and Tunnels will be required to make a swap termination payment to the counterparty and, in the case of a swap agreement which was entered into for the purpose of creating a synthetic fixed rate for an advance refunding transaction may also be required to take action to protect the tax-exempt status of the related refunding bonds.

The ISDA Master Agreement sets forth certain termination events applicable to all swaps entered into by the parties to that ISDA Master Agreement. MTA and MTA Bridges and Tunnels have entered into separate ISDA Master Agreements with each counterparty that govern the terms of each swap with that counterparty, subject to individual terms negotiated in a confirmation. MTA and MTA Bridges and Tunnels are subject to termination risk if its credit ratings fall below certain specified thresholds or if MTA/MTA Bridges and Tunnels commits a specified event of default or other specified event of termination. If, at the time of termination, a swap were in a liability position to MTA or MTA Bridges and Tunnels, a termination payment would be owed by MTA or MTA Bridges and Tunnels to the counterparty, subject to applicable netting arrangements.

The following tables set forth the Additional Termination Events for MTA/MTA Bridges and Tunnels and its counterparties.

MTA Transportation Revenue		
Counterparty Name	MTA	Counterparty
AIG Financial Products Corp.; JPMorgan Chase Bank, NA; UBS AG	Below Baa3 (Moody's) or BBB- (S&P)*	Below Baa3 (Moody's) or BBB- (S&P)*

*Note: Equivalent Fitch rating is replacement for Moody's or S&P.

MTA Dedicated Tax Fund		
Counterparty Name	MTA	Counterparty
Bank of New York Mellon	Below BBB (S&P) or BBB (Fitch)*	Below A3 (Moody's) or A- (S&P)**

*Note: Equivalent Moody's rating is replacement for S&P or Fitch.

**Note: Equivalent Fitch rating is replacement for Moody's or S&P.

MTA Bridges and Tunnels Senior Lien		
Counterparty Name	MTA Bridges and Tunnels	Counterparty
BNP Paribas US Wholesale Holdings, Corp.; Citibank, N.A.; JPMorgan Chase Bank, NA; UBS AG	Below Baa2 (Moody's) or BBB (S&P)*	Below Baa1 (Moody's) or BBB+ (S&P)*

*Note: Equivalent Fitch rating is replacement for Moody's or S&P.

MTA Bridges and Tunnels Subordinate Lien		
Counterparty Name	MTA Bridges and Tunnels	Counterparty
U.S. Bank National Association; Wells Fargo Bank, N.A.	Below Baa2 (Moody's) or BBB (S&P)*	Below Baa2 (Moody's) or BBB (S&P)**

*Note: Equivalent Fitch rating is replacement for Moody's or S&P. If not below Investment Grade, MTA Bridges and Tunnels may cure such Termination Event by posting collateral at a Zero threshold.

**Note: Equivalent Fitch rating is replacement for Moody's or S&P.

MTA and MTA Bridges and Tunnels' ISDA Master Agreements provide that the payments under one transaction will be netted against other transactions entered into under the same ISDA Master Agreement. Under the terms of these agreements, should one party become insolvent or otherwise default on its obligations, close-out netting provisions permit the non-defaulting party to accelerate and terminate all outstanding transactions and net the amounts so that a single sum will be owed by, or owed to, the non-defaulting party.

Rollover Risk. The risk that the swap agreement matures or may be terminated prior to the final maturity of the associated bonds on a variable rate bond issuance, and MTA or MTA Bridges and Tunnels may be exposed to then market rates and cease to receive the benefit of the synthetic fixed rate for the duration of the bond issue. The following debt is exposed to rollover risk:

Associated Bond Issue	Bond Maturity Date	Swap Termination Date
MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2001C (swaps with U.S. Bank/Wells Fargo)	January 1, 2032	January 1, 2030
MTA Bridges and Tunnels General Revenue Variable Rate Refunding Bonds, Series 2018E (swap with Citibank, N.A.)	November 15, 2032	January 1, 2032
MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2003B (swap with Citibank, N.A.)	January 1, 2033	January 1, 2032
MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2005A (swaps with U.S. Bank/Wells Fargo and Citibank, N.A.)	November 1, 2041	January 1, 2030 (U.S. Bank/Wells Fargo) January 1, 2032 (Citibank)
MTA Transportation Revenue Variable Rate Bonds, Series 2011B (swaps with U.S. Bank/Wells Fargo)	November 1, 2041	January 1, 2030

Collateralization/Contingencies. Under the majority of the swap agreements, MTA and/or MTA Bridges and Tunnels is required to post collateral in the event its credit rating falls below certain specified levels. The collateral posted is to be in the form of cash, U.S. Treasury securities, or certain Federal agency securities, based on the valuations of the swap agreements in liability positions and net of the effect of applicable netting arrangements. If MTA and/or MTA Bridges and Tunnels do not post collateral, the swap(s) may be terminated by the counterparty(ies).

As of June 30, 2022, the aggregate mid-market valuation of the MTA's swaps subject to collateral posting agreements was \$125.7; as of this date, the MTA was not subject to collateral posting based on its credit ratings (see further details below).

As of June 30, 2022, the aggregate mid-market valuation of MTA Bridges and Tunnels' swaps subject to collateral posting agreements was \$70.6; as of this date, MTA Bridges and Tunnels was not subject to collateral posting based on its credit ratings (see further details below).

The following tables set forth the ratings criteria and threshold amounts applicable to MTA/MTA Bridges and Tunnels and its counterparties.

MTA Transportation Revenue		
Counterparty	MTA Collateral Thresholds (based on highest rating)	Counterparty Collateral Thresholds (based on highest rating)
AIG Financial Products Corp.; JPMorgan Chase Bank, NA; UBS AG	Baa1/BBB+: \$10 million Baa2/BBB & below: Zero	Baa1/BBB+: \$10 million Baa2/BBB & below: Zero

Note: Based on Moody's and S&P ratings. In all cases except JPMorgan counterparty thresholds, Fitch rating is replacement for either Moody's or S&P, at which point threshold is based on lowest rating.

MTA Dedicated Tax Fund		
Counterparty	MTA Collateral Thresholds	Counterparty Collateral Thresholds (based on lowest rating)
Bank of New York Mellon	N/A—MTA does not post collateral	Aa3/AA- & above: \$10 million A1/A+: \$5 million A2/A: \$2 million A3/A-: \$1 million Baa1/BBB+ & below: Zero

MTA Bridges and Tunnels Senior Lien		
Counterparty	MTA Bridges and Tunnels Collateral Thresholds (based on highest rating)	Counterparty Collateral Thresholds (based on highest rating)
BNP Paribas US Wholesale Holdings, Corp.; Citibank, N.A.; JPMorgan Chase Bank, NA; UBS AG	Baa1/BBB+: \$30 million Baa2/BBB: \$15 million Baa3/BBB- & below: Zero	A3/A-: \$10 million Baa1/BBB+ & below: Zero

Note: MTA Bridges and Tunnels thresholds based on Moody's, S&P, and Fitch ratings. Counterparty thresholds based on Moody's and S&P ratings; Fitch rating is replacement for Moody's or S&P.

MTA Bridges and Tunnels Subordinate Lien		
Counterparty	MTA Bridges and Tunnels Collateral Thresholds (based on lowest rating)	Counterparty Collateral Thresholds (based on lowest rating)
U.S. Bank National Association; Wells Fargo Bank, N.A.	Baa3/BBB- & below: Zero (note: only applicable as cure for Termination Event)	Aa3/AA- & above: \$15 million A1/A+ to A3/A-: \$5 million Baa1/BBB+ & below: Zero

Note: Thresholds based on Moody's and S&P ratings. Fitch rating is replacement for Moody's or S&P.

Swap Payments and Associated Debt. The following tables contain the aggregate amount of estimated variable-rate bond debt service and net swap payments during certain years that such swaps were entered into in order to: protect against the potential of rising interest rates; achieve a lower net cost of borrowing; reduce exposure to changing interest rates on a related bond issue; or, in some cases where Federal tax law prohibits an advance refunding, achieve debt service savings through a synthetic fixed rate. As rates vary, variable-rate bond interest payments and net swap payments will vary. Using the following assumptions, debt service requirements of MTA's and MTA Bridges and Tunnels' outstanding variable-rate debt and net swap payments are estimated to be as follows:

- It is assumed that the variable-rate bonds would bear interest at a rate of 4.0% per annum.
- The net swap payments were calculated using the actual fixed interest rate on the swap agreements.

MTA (in millions)				
Period Ended June 30, 2022	Variable-Rate Bonds		Net Swap Payments	Total
	Principal	Interest		
2022	63.3	42.6	(4.4)	101.5
2023	65.7	40.1	(4.1)	101.7
2024	68.2	37.5	(3.8)	101.9
2025	70.8	34.8	(3.4)	102.2
2026	63.6	32.0	(3.1)	92.5
2027-2031	617.0	351.7	(10.5)	958.2
2032-2036	370.8	156.3	(2.0)	525.1
2037-2041	99.6	11.6	(0.3)	110.9

MTA Bridges and Tunnels (in millions)				
Period Ended June 30, 2022	Variable-Rate Bonds		Net Swap Payments	Total
	Principal	Interest		
2022	27.6	34.9	(6.8)	55.7
2023	28.6	33.8	(6.8)	55.6
2024	57.2	31.5	(6.4)	82.3
2025	30.4	30.3	(6.4)	54.3
2026	31.5	29.1	(6.3)	54.3
2027-2031	543.0	95.3	(22.8)	615.5
2032-2036	184.1	3.0	(0.1)	187.0
2037-2041	-	1.0	-	1.0