

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST
Form NSAR-B
May 29, 2008

PAGE 1
000 B000000 03/31/2008
000 C000000 1258943
000 D000000 N
000 E000000 NF
000 F000000 Y
000 G000000 N
000 H000000 N
000 I000000 6.1
000 J000000 A
001 A000000 PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST
001 B000000 811-21409
001 C000000 6177427825
002 A000000 60 STATE STREET
002 B000000 BOSTON
002 C000000 MA
002 D010000 02109
003 000000 N
004 000000 N
005 000000 N
006 000000 N
007 A000000 N
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007 C010100 1
007 C010200 2
007 C010300 3
007 C010400 4
007 C010500 5
007 C010600 6
007 C010700 7
007 C010800 8
007 C010900 9
007 C011000 10
008 A000001 PIONEER INVESTMENT MANAGEMENT, INC.
008 B000001 A
008 C000001 801-8255
008 D010001 BOSTON
008 D020001 MA
008 D030001 02109
010 A000001 PIONEER INVESTMENT MANAGEMENT, INC.
010 B000001 801-8255
010 C010001 BOSTON
010 C020001 MA
010 C030001 02109
010 A000002 PRINCETON ADMINISTRATORS, LLC
010 C010002 PRINCETON
010 C020002 NJ
010 C030002 08543
010 C040002 9095
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.
011 B000001 8-12345678
011 C010001 BOSTON
PAGE 2
011 C020001 MA
011 C030001 02109
011 C040001 1820
011 A000002 UBS INVESTMENT BANK
011 B000002 8-022651
011 C010002 STAMFORD

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011 C020002 CT
011 C030002 06901
011 A000003 RBC CAPITAL MARKETS CORP.
011 B000003 8-045411
011 C010003 MINNEAPOLIS
011 C020003 MN
011 C030003 55402
011 C040003 4422
011 A000004 MERRILL LYNCH & CO.
011 B000004 8-7221
011 C010004 NEW YORK
011 C020004 NY
011 C030004 10281
011 C040004 1201
011 A000005 JANNEY MONTGOMERY SCOTT, LLC
011 B000005 8-462
011 C010005 PHILADELPHIA
011 C020005 PA
011 C030005 19103
011 C040005 1675
011 A000006 WACHOVIA CAPITAL MARKETS, LLC
011 B000006 8-99999
011 C010006 RICHMOND
011 C020006 VA
011 C030006 23219
012 A000001 PIONEER INVEST. MGMT. SHAREHOLDER SVCS., INC.
012 B000001 85-01359
012 C010001 BOSTON
012 C020001 MA
012 C030001 02109
012 A000002 AMERICAN STOCK TRANSFER & TRUST CO.
012 B000002 85-00000
012 C010002 BROOKLYN
012 C020002 NY
012 C030002 11219
012 A000003 DEUTSCHE BANK TRUST COMPANY AMERICAS (PREF.)
012 B000003 85-00000
012 C010003 NEW YORK CITY
012 C020003 NY
012 C030003 10005
013 A000001 ERNST & YOUNG, LLP
013 B010001 BOSTON
013 B020001 MA
013 B030001 02116
013 B040001 5072
PAGE 3
015 A000001 BROWN BROTHERS HARRIMAN & CO.
015 B000001 C
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020 C000007 0
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022 A000001 BLACKROCK INVESTMENTS, INC.
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022 A000002 LEHMAN BROTHERS, INC.
022 B000002 13-2518466
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022 D000002 28783
022 A000003 CORBY CAPITAL MARKETS, INC.
022 B000003 52-1037969
022 C000003 5207
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022 A000004 FIRST TRYON SECURITIES, LLC
022 B000004 56-1986792
022 C000004 0
022 D000004 6709
022 A000005 CITIGROUP GLOBAL MARKETS, INC.
022 B000005 11-2418191
022 C000005 4635
022 D000005 1969
022 A000006 B.C. ZIEGLER & CO.
022 B000006 39-0727640
022 C000006 3395
022 D000006 1984
022 A000007 MORGAN KEEGAN & CO., INC.
022 B000007 64-0474907
022 C000007 3931
022 D000007 0
022 A000008 PIPER JAFFRAY & CO.
022 B000008 41-0953246
022 C000008 3000
PAGE 4
022 D000008 0
022 A000009 DOUGHERTY & CO., LLC
022 B000009 41-1883794
022 C000009 2640
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022 A000010 BB&T INVESTMENT SERVICES, INC.
022 C000010 2487
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023 C000000 860636
023 D000000 51765
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026 F000000 N
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026 H000000 N
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042 A000000 0
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070	P020000	Y
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070	Q020000	N

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070 R010000 N
070 R020000 N
071 A000000 79416
071 B000000 60249
071 C000000 483413

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071 D000000 12
072 A000000 12
072 B000000 33345
072 C000000 0
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072 H000000 0
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072 K000000 0
072 L000000 27
072 M000000 14
072 N000000 24
072 O000000 0
072 P000000 0
072 Q000000 0
072 R000000 56
072 S000000 0
072 T000000 0
072 U000000 0
072 V000000 0
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072 X000000 4014
072 Y000000 0
072 Z000000 29331
072AA000000 0
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073 A010000 0.8900
073 A020000 0.0000
073 B000000 0.0000
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074 D000000 451307
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074 L000000 9408
074 M000000 40

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074 N000000 464474
074 O000000 3175
074 P000000 268
074 Q000000 0

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074	R010000	0
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080	A000000	ICI MUTUAL INSURANCE CO.
080	C000000	45000
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086	F010000	0
086	F020000	0
087	A010000	COMMON STOCK

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087 A020000 723762100
087 A030000 MAV
087 B010000 PREFERRED STOCK - SERIES A
087 B020000 723762209
087 C010000 PREFERRED STOCK - SERIES B
087 C020000 723762308
088 A000000 N
088 B000000 N
088 C000000 N
088 D000000 Y
SIGNATURE MARY KELLERMANN
TITLE ACCOUNTING MANAGER