

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-B

May 30, 2007

PAGE 1
000 B000000 03/31/2007
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
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007 B000000 0
007 C010100 1
007 C010200 2
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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
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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 WARBURG
011 B000002 8-022651
011 C010002 STAMFORD

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011 C020002 CT
011 C030002 06901
011 A000003 RBC CAPITAL MARKETS
011 B000003 8-045411
011 C010003 MINNEAPOLIS
011 C020003 MN
011 C030003 55402
011 C040003 4422
011 A000004 MERRILL LYNCH, PIERCE, FENNER & SMITH INC.
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 INV. MGMT. SHAREHOLDER SERVICES, INC.
012 B000001 85-00000
012 C010001 BOSTON
012 C020001 MA
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012 A000002 AMERICAN STOCK TRANSFER & TRUST COMPANY
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.
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022 A000001 BLACKROCK, INC.
022 B000001 13-3806694
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022 A000002 LEHMAN BROTHERS, INC.
022 B000002 13-2518466
022 C000002 10168
022 D000002 11376
022 A000003 B.C. ZIEGLER AND COMPANY
022 B000003 39-0727640
022 C000003 19421
022 D000003 1160
022 A000004 WACHOVIA SECURITIES, LLC
022 B000004 54-0796506
022 C000004 6784
022 D000004 13508
022 A000005 UBS FINANCIAL SERVICES, INC.
022 B000005 13-2638166
022 C000005 10450
022 D000005 10415
022 A000006 HERBERT J. SIMS & CO., INC.
022 B000006 13-5213180
022 C000006 16259
022 D000006 2428
022 A000007 MERRILL LYNCH, PIERCE, FENNER & SMITH INC.
022 B000007 13-5674085
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022 A000008 CORBY CAPITAL MARKETS, INC.
022 B000008 52-1037969
PAGE 4
022 C000008 0
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022 A000009 CITIGROUP GLOBAL MARKETS, INC.
022 B000009 11-2418191
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022 A000010 J. GIORDANO SECURITIES GROUP
022 C000010 3398
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PAGE 6

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062 R000000 0.8
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070 P010000 Y

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070 P020000 N
070 Q010000 N
070 Q020000 N
070 R010000 N
070 R020000 N

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071 A000000 85708
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072 A000000 12
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072 C000000 0
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072 F000000 3019
072 G000000 459
072 H000000 0
072 I000000 430
072 J000000 23
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072 O000000 0
072 P000000 0
072 Q000000 0
072 R000000 58
072 S000000 69
072 T000000 0
072 U000000 0
072 V000000 0
072 W000000 50
072 X000000 4159
072 Y000000 48
072 Z000000 26374
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072BB000000 0
072CC010000 12752
072CC020000 0
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072EE000000 0
073 A010000 0.8600
073 A020000 0.0000
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074 H000000 0
074 I000000 3153
074 J000000 11628

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074 K000000 0
074 L000000 9189
074 M000000 1539
074 N000000 513902

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| 074 | P000000 | 270 |
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| 074 | T000000 | 361888 |
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| 074 | U020000 | 0 |
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| 080 | C000000 | 60000 |
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| | PAGE | 9 |
| 087 | A020000 | 723762100 |
| 087 | A030000 | MAV |
| 087 | B010000 | PREFERRED STOCK - SERIES A |
| 087 | B020000 | 723762209 |
| 087 | C010000 | PREFERRED STOCK - SERIES B |
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| 088 | B000000 | N |
| 088 | C000000 | N |
| 088 | D000000 | Y |
| SIGNATURE | MARY KELLERMANN | |
| TITLE | ACCOUNTING MANAGER | |