

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
007 B000000 0
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
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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 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
015 C010001 BOSTON
015 C020001 MA
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020 C000001 0
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020 C000007 0
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 022 C000001 792188
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 022 A000003 CORBY CAPITAL MARKETS, INC.
 022 B000003 52-1037969
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 022 A000004 FIRST TRYON SECURITIES, LLC
 022 B000004 56-1986792
 022 C000004 0
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 022 A000005 CITIGROUP GLOBAL MARKETS, INC.
 022 B000005 11-2418191
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 022 A000006 B.C. ZIEGLER & CO.
 022 B000006 39-0727640
 022 C000006 3395
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 022 A000007 MORGAN KEEGAN & CO., INC.
 022 B000007 64-0474907
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 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
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 022 D000009 0
 022 A000010 BB&T INVESTMENT SERVICES, INC.
 022 C000010 2487
 022 D000010 0
 023 C000000 860636
 023 D000000 51765
 024 000000 N
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 026 F000000 N
 026 G010000 N
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| | | |
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| 062 | C000000 | 0.0 |
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| 062 | J000000 | 0.0 |
| 062 | K000000 | 0.0 |
| 062 | L000000 | 0.0 |
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| 062 | O000000 | 146.3 |
| 062 | P000000 | 0.0 |

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| 070 | I010000 | N |
| 070 | I020000 | N |
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| 070 | J020000 | Y |
| 070 | K010000 | Y |
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| 070 | N020000 | N |
| 070 | O010000 | Y |
| 070 | O020000 | N |
| 070 | P010000 | Y |
| 070 | P020000 | Y |
| 070 | Q010000 | N |
| 070 | Q020000 | N |

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

PAGE 7

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074 N000000 464474
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| 074 | R020000 | 0 |
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| 075 | B000000 | 354772 |
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| 077 | Q010000 | N |
| 077 | Q020000 | N |
| 077 | Q030000 | N |
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| 080 | A000000 | ICI MUTUAL INSURANCE CO. |
| 080 | C000000 | 45000 |
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| 083 | B000000 | 0 |
| 084 | A000000 | N |
| 084 | B000000 | 0 |
| 085 | A000000 | Y |
| | PAGE | 9 |
| 085 | B000000 | N |
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| 086 | B010000 | 0 |
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| 086 | C020000 | 0 |
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| 086 | E010000 | 0 |
| 086 | E020000 | 0 |
| 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