

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-B

May 27, 2011

PAGE 1
000 B000000 03/31/2011
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 C010100 1
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007 C010600 6
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007 C011000 10
008 A000001 PIONEER INVESTMENT MANAGEMENT, INC.
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010 A000001 PIONEER INVESTMENT MANAGEMENT, INC.
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010 A000002 STATE STREET BANK & TRUST COMPANY
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010 C020002 MA
010 C030002 02101
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.
011 B000001 8-12345678
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011 C020001 MA
PAGE 2
011 C030001 02109
011 C040001 1820
011 A000002 UBS INVESTMENT BANK
011 B000002 8-022651
011 C010002 STAMFORD
011 C020002 CT

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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 SER. INC.
012 B000001 85-01359
012 C010001 BOSTON
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012 A000002 AMERICAN STOCK TRANSFER & TRUST CO. (COMMON)
012 B000002 85-00000
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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
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013 B040001 5072
015 A000001 BROWN BROTHERS HARRIMAN & CO.
PAGE 3
015 B000001 C
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020 C000008 0
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 022 A000003 JEFFERIES & COMPANY, INC.
 022 B000003 95-2622900
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 022 A000004 B.C. ZIEGLER AND COMPANY
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 022 A000005 PIPER JAFFRAY & CO.
 022 B000005 41-0953246
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 022 B000006 59-1842344
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 022 A000007 RAYMOND JAMES & ASSOCIATES, INC.
 022 B000007 59-1237041
 022 C000007 2849
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 022 A000008 MESIROW FINANCIAL, INC.
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 022 A000009 BB&T INVESTMENT SERVICES, INC.
 PAGE 4
 022 B000009 05-0346412
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 022 A000010 DOUGHERTY & COMPANY LLC
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| 074 T000000 | 266870 |
| 074 U010000 | 23134 |

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| | |
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| | | |
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| 074 | X000000 | 8957 |
| 074 | Y000000 | 0 |
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| 077 | B000000 | Y |
| 078 | 000000 | N |
| 080 | A000000 | ICI MUTUAL INSURANCE CO. |
| 080 | C000000 | 45000 |
| 081 | A000000 | Y |
| 081 | B000000 | 56 |
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| 085 | B000000 | N |
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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 | 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 | MARK E. BRADLEY | |
| TITLE | TREASURER | |