

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-A

November 29, 2007

PAGE 1
000 A000000 09/30/2007
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
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010 C040002 9095
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.
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PAGE 2
011 C020001 MA
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011 A000002 UBS WARBURG
011 B000002 8-022651
011 C010002 STAMFORD

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011 C020002 CT
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011 B000003 8-045411
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011 C030003 55402
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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
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011 C040005 1675
011 A000006 WACHOVIA CAPITAL MARKETS, LLC
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011 C010006 RICHMOND
011 C020006 VA
011 C030006 23219
012 A000001 PIONEER INV. MGMT. SHAREHOLDER SERVICES, INC.
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012 A000002 AMERICAN STOCK TRANSFER & TRUST COMPANY
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012 A000003 DEUTSCHE BANK TRUST COMPANY AMERICAS (PREF.)
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013 A000001 ERNST & YOUNG LLP
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PAGE 3
015 A000001 BROWN BROTHERS HARRIMAN & CO.
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 022 A000005 PIPER JAFFRAY & CO.
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 022 A000009 WACHOVIA SECURITIES, LLC
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PAGE 6

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070 R020000 N
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PAGE 7

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PAGE 8

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| 087 | B010000 | PREFERRED STOCK - SERIES A |
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| 088 | C000000 | N |
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| SIGNATURE | MARY KELLERMANN | |
| TITLE | ACCOUNTING MANAGER | |