

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  
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 STATE STREET BANK & TRUST COMPANY  
010 C010002 BOSTON  
010 C020002 MA  
010 C030002 02101  
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.  
011 B000001 8-12345678  
011 C010001 BOSTON  
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  
012 C020001 MA  
012 C030001 02109  
012 A000002 AMERICAN STOCK TRANSFER & TRUST CO. (COMMON)  
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  
015 A000001 BROWN BROTHERS HARRIMAN & CO.  
PAGE 3  
015 B000001 C  
015 C010001 BOSTON  
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020 C000001 0  
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020 C000008 0  
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021 000000 0  
022 A000001 BLACKROCK LIQUIDITY FUNDS, MUNIFUND  
022 C000001 544500  
022 D000001 0  
022 A000002 FIRST TRYON SECURITIES LLC  
022 B000002 56-1986792  
022 C000002 4000  
022 D000002 11866  
022 A000003 JEFFERIES & COMPANY, INC.  
022 B000003 95-2622900  
022 C000003 13596  
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022 A000004 B.C. ZIEGLER AND COMPANY  
022 B000004 39-0727640  
022 C000004 11269  
022 D000004 0  
022 A000005 PIPER JAFFRAY & CO.  
022 B000005 41-0953246  
022 C000005 9192  
022 D000005 924  
022 A000006 FMSBONDS, INC.  
022 B000006 59-1842344  
022 C000006 7003  
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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.  
022 C000008 1863  
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022 A000009 BB&T INVESTMENT SERVICES, INC.  
PAGE 4  
022 B000009 05-0346412  
022 C000009 0  
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022 A000010 DOUGHERTY & COMPANY LLC  
022 B000010 41-1883794  
022 C000010 984  
022 D000010 0  
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046 000000 N  
047 000000 Y  
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048 A010000 0  
048 A020000 0.000

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| 048 | H010000 | 0     |
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| 048 | K020000 | 0.000 |
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| 054 | I000000 | N     |
| 054 | J000000 | Y     |
| 054 | K000000 | N     |
| 054 | L000000 | N     |
| 054 | M000000 | Y     |
| 054 | N000000 | N     |
| 054 | O000000 | N     |
| 055 | A000000 | N     |
| 055 | B000000 | N     |
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| 057 | 000000  | N     |
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| 062 | J000000 | 0.0   |
| 062 | K000000 | 0.0   |
| 062 | L000000 | 0.0   |

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| 068 | B000000 | N      |
|     | PAGE    | 6      |
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| 070 | C020000 | N      |
| 070 | D010000 | N      |
| 070 | D020000 | N      |
| 070 | E010000 | Y      |
| 070 | E020000 | N      |
| 070 | F010000 | N      |
| 070 | F020000 | N      |
| 070 | G010000 | Y      |
| 070 | G020000 | N      |
| 070 | H010000 | N      |
| 070 | H020000 | N      |
| 070 | I010000 | N      |
| 070 | I020000 | N      |
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| 070 | J020000 | Y      |
| 070 | K010000 | Y      |
| 070 | K020000 | Y      |
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| 070 | M010000 | N      |
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| 070 | O010000 | Y      |
| 070 | O020000 | N      |
| 070 | P010000 | Y      |
| 070 | P020000 | N      |
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| 070 | R010000 | N      |
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| 072 | A000000 | 12     |
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| 072 | D000000 | 0      |
| 072 | E000000 | 0      |

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|             |      |
|-------------|------|
| 072 F000000 | 2607 |
| 072 G000000 | 421  |
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| 072 I000000 | 12   |
| 072 J000000 | 15   |

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|             |        |
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| 072 K000000 | 0      |
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| 072 M000000 | 14     |
| 072 N000000 | 24     |
| 072 O000000 | 0      |
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| 072 Q000000 | 0      |
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| 072 U000000 | 0      |
| 072 V000000 | 0      |
| 072 W000000 | 483    |
| 072 X000000 | 3843   |
| 072 Y000000 | 0      |
| 072 Z000000 | 27151  |
| 072AA000000 | 632    |
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| 072CC020000 | 19038  |
| 072DD010000 | 24441  |
| 072DD020000 | 0      |
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| 074 F000000 | 1082   |
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| 074 R010000 | 0      |
| 074 R020000 | 0      |
| 074 R030000 | 0      |
| 074 R040000 | 629    |
| 074 S000000 | 150006 |
| 074 T000000 | 266870 |
| 074 U010000 | 23134  |

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|             |        |
|-------------|--------|
| 074 U020000 | 0      |
| 074 V010000 | 11.54  |
| 074 V020000 | 0.00   |
| 074 W000000 | 0.0000 |

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|           |                 |                            |
|-----------|-----------------|----------------------------|
| 074       | X000000         | 8957                       |
| 074       | Y000000         | 0                          |
| 075       | A000000         | 0                          |
| 075       | B000000         | 284553                     |
| 076       | 000000          | 12.64                      |
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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                         |
| 082       | A000000         | N                          |
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| 085       | B000000         | N                          |
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| 086       | B020000         | 0                          |
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| 086       | C020000         | 0                          |
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| 086       | D020000         | 0                          |
| 086       | E010000         | 0                          |
| 086       | E020000         | 0                          |
| 086       | F010000         | 0                          |
| 086       | F020000         | 0                          |
| 087       | A010000         | COMMON STOCK               |
| 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 | MARK E. BRADLEY |                            |
| TITLE     | TREASURER       |                            |