

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-A

November 29, 2011

PAGE 1  
000 A000000 09/30/2011  
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  
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006 000000 N  
007 A000000 N  
007 B000000 0  
007 C010100 1  
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  
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010 A000002 STATE STREET BANK & TRUST COMPANY  
010 C010002 BOSTON  
010 C020002 MA  
010 C030002 02101  
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.  
011 B000001 8-41256  
011 C010001 BOSTON  
011 C020001 MA  
011 C030001 02109  
011 C040001 1820  
011 A000002 UBS INVESTMENT BANK  
011 B000002 8-022651  
011 C010002 STAMFORD  
011 C020002 CT  
011 C030002 06901  
011 A000003 RBC CAPITAL MARKETS CORP.  
011 B000003 8-045411  
PAGE 2  
011 C010003 MINNEAPOLIS  
011 C020003 MN  
011 C030003 55402  
011 C040003 4422  
011 A000004 MERRILL LYNCH & CO.  
011 B000004 8-7221

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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.  
015 B000001 C  
015 C010001 BOSTON  
015 C020001 MA  
015 C030001 02109  
015 E010001 X  
018 000000 Y  
019 A000000 Y  
019 B000000 55  
019 C000000 PIONEERFDS  
PAGE 3  
021 000000 0  
022 A000001 FMSBONDS, INC.  
022 B000001 59-1842344  
022 C000001 3489  
022 D000001 7377  
022 A000002 JP MORGAN SECURITIES, INC.  
022 B000002 13-3379014  
022 C000002 6651  
022 D000002 2535  
022 A000003 RAYMOND JAMES & ASSOCIATES, INC.  
022 B000003 59-1237041  
022 C000003 1500  
022 D000003 4566  
022 A000004 B.C. ZIEGLER AND COMPANY  
022 B000004 39-0727640  
022 C000004 1971

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022 D000004 1553  
022 A000005 PIPER JAFFRAY & CO.  
022 B000005 41-0953246  
022 C000005 2430  
022 D000005 868  
022 A000006 BANK OF AMERICA CORP  
022 B000006 56-0906609  
022 C000006 1589  
022 D000006 0  
022 A000007 JEFFERIES & COMPANY, INC.  
022 B000007 95-2622900  
022 C000007 1501  
022 D000007 0  
022 A000008 CAIN BROTHERS & COMPANY, LLC  
022 B000008 13-3960078  
022 C000008 1500  
022 D000008 0  
022 A000009 FIRST TRYON SECURITIES LLC  
022 B000009 56-1986792  
022 C000009 0  
022 D000009 1076  
022 A000010 BARCLAYS CAPITAL, INC.  
022 B000010 61-0316560  
022 C000010 1000  
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023 C000000 23900  
023 D000000 18511  
024 000000 N  
026 A000000 N  
026 B000000 Y  
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PAGE 4  
026 G020000 N  
026 H000000 N  
027 000000 N  
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028 E040000 0  
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028 F020000 0  
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| 054 | D000000 | N     |

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054 E000000 N  
054 F000000 N  
054 G000000 N  
054 H000000 Y  
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  
056 000000 Y  
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058 A000000 N  
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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

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| 070   | M010000 | N |        |
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| 072DD | 010000  |   | 13088  |
| 072DD | 020000  |   | 0      |
| 072EE | 000000  |   | 0      |

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|     |         |                            |
|-----|---------|----------------------------|
| 073 | A010000 | 0.5700                     |
| 073 | A020000 | 0.0000                     |
| 073 | B000000 | 0.0000                     |
| 073 | C000000 | 0.0000                     |
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| 074 | B000000 | 0                          |
| 074 | C000000 | 0                          |
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| 074 | E000000 | 0                          |
| 074 | F000000 | 831                        |
| 074 | G000000 | 0                          |
| 074 | H000000 | 0                          |
| 074 | I000000 | 0                          |
| 074 | J000000 | 90                         |
| 074 | K000000 | 0                          |
| 074 | L000000 | 9488                       |
| 074 | M000000 | 49                         |
| 074 | N000000 | 448657                     |
| 074 | O000000 | 0                          |
| 074 | P000000 | 301                        |
| 074 | Q000000 | 0                          |
| 074 | R010000 | 0                          |
| 074 | R020000 | 0                          |
| 074 | R030000 | 0                          |
| 074 | R040000 | 2126                       |
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| 074 | U010000 | 23204                      |
| 074 | U020000 | 0                          |
| 074 | V010000 | 12.77                      |
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| 081 | B000000 | 0                          |
| 082 | B000000 | 0                          |
| 083 | B000000 | 0                          |
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| 086 | A020000 | 895                        |
| 086 | B010000 | 0                          |
|     | PAGE    | 9                          |
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| 086 | C020000 | 0                          |
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| 086 | F020000 | 0                          |
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| 087 | A020000 | 723762100                  |
| 087 | A030000 | MAV                        |
| 087 | B010000 | PREFERRED STOCK - SERIES A |
| 087 | B020000 | 723762209                  |

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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