

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-A/A

December 18, 2012

PAGE 1
000 A000000 09/30/2012
000 C000000 0001258943
000 D000000 N
000 E000000 NF
000 F000000 Y
000 G000000 Y
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 C020100 PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST
007 C030100 N
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
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010 A000002 BROWN BROTHERS HARRIMAN & CO.
010 C010002 BOSTON
010 C020002 MA
010 C030002 02109
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.
011 B000001 8-41256
PAGE 2
011 C010001 BOSTON
011 C020001 MA
011 C030001 02109
011 C040001 1820
011 A000002 UBS INVESTMENT BANK
011 B000002 8-022651

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011 C010002 STAMFORD
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 SERV. 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 85-05212
012 C010003 NEW YORK
012 C020003 NY
012 C030003 10005
013 A000001 ERNST & YOUNG, LLP
013 B010001 BOSTON
013 B020001 MA
013 B030001 02116
PAGE 3
013 B040001 5072
015 A000001 BROWN BROTHERS HARRIMAN & CO.
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015 C010001 BOSTON
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015 C030001 02109
015 E010001 X
018 000000 Y
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019 B000000 56
019 C000000 PIONEERFDS
020 A000001 SANFORD C. BERNSTEIN & CO., INC.
020 B000001 13-4132953
020 C000001 2
020 A000002 UBS SECURITIES
020 B000002 13-2638166

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020 C000002 0
 020 A000003 MERRILL LYNCH, PIERCE, FENNER & SMITH
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 020 A000004 WELLS FARGO SECURITIES LLC
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 022 A000001 JP MORGAN SECURITIES, LLC
 022 B000001 13-3379014
 022 C000001 8415
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 022 A000002 CITIGROUP GLOBAL MARKETS, INC.
 022 B000002 11-2418191
 022 C000002 7425
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 022 B000003 64-0474907
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 022 B000004 23-2384977
 022 C000004 4482
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 022 A000005 SOCIETE GENERALE
 022 B000005 00-0000000
 022 C000005 537
 022 D000005 3061
 022 A000006 BLACKROCK INVESTMENTS, LLC
 PAGE 4
 022 B000006 00-0000000
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 022 D000006 3400
 022 A000007 OPPENHEIMER & CO., INC.
 022 B000007 13-5657518
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 022 A000008 MESIROW FINANCIAL, INC.
 022 B000008 00-0000000
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 022 D000008 2024
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 022 B000009 13-5674085
 022 C000009 0
 022 D000009 1990
 022 A000010 BARCLAYS CAPITAL, INC.
 022 B000010 61-0316560
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| 046 | 000000 | N |
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| 048 | C020000 | 0.000 |
| 048 | D010000 | 0 |
| 048 | D020000 | 0.000 |
| 048 | E010000 | 0 |
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| 048 | E020000 | 0.000 |
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| 048 | G020000 | 0.000 |
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| 057 | 000000 | N |
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062 E000000 0.0
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062 G000000 0.0
062 H000000 0.0
062 I000000 0.0

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062 Q000000 0.8
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063 A000000 0
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064 A000000 Y
064 B000000 Y

065 000000 N
066 A000000 N

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070 P020000 N

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070 Q020000 N

070 R010000 N
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| 072 O000000 | 0 |
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| 072 R000000 | 31 |
| 072 S000000 | 137 |
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| 072 U000000 | 0 |
| 072 V000000 | 0 |
| 072 W000000 | 249 |
| 072 X000000 | 1946 |
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| 072 Z000000 | 10998 |
| 072AA000000 | 573 |
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| 072CC020000 | 0 |
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| 072EE000000 | 0 |
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| 073 B000000 | 0.0000 |
| 073 C000000 | 0.0000 |
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| 074 C000000 | 0 |
| 074 D000000 | 449717 |
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| 074 F000000 | 0 |
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| 074 J000000 | 3000 |
| 074 K000000 | 0 |
| 074 L000000 | 8437 |
| 074 M000000 | 1705 |
| 074 N000000 | 467702 |
| 074 O000000 | 0 |
| 074 P000000 | 221 |
| 074 Q000000 | 0 |
| 074 R010000 | 0 |
| 074 R020000 | 0 |
| 074 R030000 | 0 |

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| | |
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| 074 R040000 | 271 |
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| 074 V010000 | 13.59 |
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| 076 000000 | 15.99 |
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| 086 A010000 | 149 |
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| 086 E020000 | 0 |
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| 087 A010000 | COMMON STOCK |
| 087 A020000 | 723762100 |
| 087 A030000 | MAV |
| 087 B010000 | PREFERRED STOCK - SERIES A |
| 087 B020000 | 723762209 |
| PAGE 10 | |
| 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 |