

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-A

November 29, 2010

PAGE 1
000 A000000 09/30/2010
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
007 B000000 0
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

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

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
015 C020001 MA
015 C030001 02109
015 E010001 X
018 000000 Y
019 A000000 Y
019 B000000 57
019 C000000 PIONEERFDS
020 C000001 0
020 C000002 0
020 C000003 0
020 C000004 0
020 C000005 0
020 C000006 0
020 C000007 0

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

| | | |
|-----|---------|-------------------------------------|
| 020 | C000008 | 0 |
| 020 | C000009 | 0 |
| 020 | C000010 | 0 |
| 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 | 6908 |
| 022 | A000003 | B.C. ZIEGLER AND COMPANY |
| 022 | B000003 | 39-0727640 |
| 022 | C000003 | 8337 |
| 022 | D000003 | 0 |
| 022 | A000004 | JEFFERIES & COMPANY, INC. |
| 022 | B000004 | 95-2622900 |
| 022 | C000004 | 3146 |
| 022 | D000004 | 0 |
| 022 | A000005 | PIPER JAFFRAY & CO. |
| 022 | B000005 | 41-0953246 |
| 022 | C000005 | 2961 |
| 022 | D000005 | 0 |
| 022 | A000006 | RAYMOND JAMES & ASSOCIATES, INC. |
| 022 | B000006 | 59-1237041 |
| 022 | C000006 | 2849 |
| 022 | D000006 | 0 |
| 022 | A000007 | FMSBONDS, INC. |
| 022 | B000007 | 59-1842344 |
| 022 | C000007 | 2098 |
| 022 | D000007 | 0 |
| 022 | A000008 | BB&T INVESTMENT SERVICES, INC. |
| 022 | B000008 | 05-0346412 |
| 022 | C000008 | 0 |
| 022 | D000008 | 1452 |
| | PAGE | 4 |
| 022 | C000009 | 0 |
| 022 | D000009 | 0 |
| 022 | C000010 | 0 |
| 022 | D000010 | 0 |
| 023 | C000000 | 567891 |
| 023 | D000000 | 8360 |
| 024 | 000000 | N |
| 026 | A000000 | N |
| 026 | B000000 | Y |
| 026 | C000000 | N |
| 026 | D000000 | Y |
| 026 | E000000 | N |
| 026 | F000000 | N |
| 026 | G010000 | N |
| 026 | G020000 | N |
| 026 | H000000 | N |
| 027 | 000000 | N |
| 045 | 000000 | Y |
| 046 | 000000 | N |
| 047 | 000000 | Y |
| 048 | 000000 | 0.600 |
| 048 | A010000 | 0 |
| 048 | A020000 | 0.000 |
| 048 | B010000 | 0 |
| 048 | B020000 | 0.000 |
| 048 | C010000 | 0 |

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

048 C020000 0.000
048 D010000 0
048 D020000 0.000
048 E010000 0
048 E020000 0.000
048 F010000 0
048 F020000 0.000
048 G010000 0
048 G020000 0.000
048 H010000 0
048 H020000 0.000
048 I010000 0
048 I020000 0.000
048 J010000 0
048 J020000 0.000
048 K010000 0
048 K020000 0.000
049 000000 N
050 000000 N
051 000000 N
052 000000 N
053 A000000 N
054 A000000 Y
054 B000000 Y
054 C000000 Y
PAGE 5
054 D000000 N
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 Y
055 B000000 N
056 000000 Y
057 000000 N
058 A000000 N
059 000000 Y
060 A000000 Y
060 B000000 Y
061 000000 0
062 A000000 Y
062 B000000 0.0
062 C000000 0.0
062 D000000 0.0
062 E000000 0.0
062 F000000 0.0
062 G000000 0.0
062 H000000 0.0
062 I000000 0.0
062 J000000 0.0
062 K000000 0.0
062 L000000 0.0
062 M000000 0.0
062 N000000 0.0
062 O000000 146.1

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

| | | |
|-----|---------|--------|
| 062 | P000000 | 0.0 |
| 062 | Q000000 | 0.0 |
| 062 | R000000 | 0.4 |
| 063 | A000000 | 0 |
| 063 | B000000 | 20.5 |
| 064 | A000000 | Y |
| 064 | B000000 | Y |
| 065 | 000000 | N |
| 066 | A000000 | N |
| 067 | 000000 | N |
| 068 | A000000 | N |
| 068 | B000000 | N |
| 069 | 000000 | N |
| 070 | A010000 | Y |
| 070 | A020000 | N |
| | PAGE | 6 |
| 070 | B010000 | N |
| 070 | B020000 | N |
| 070 | C010000 | Y |
| 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 |
| 070 | J010000 | Y |
| 070 | J020000 | Y |
| 070 | K010000 | Y |
| 070 | K020000 | Y |
| 070 | L010000 | N |
| 070 | L020000 | N |
| 070 | M010000 | N |
| 070 | M020000 | N |
| 070 | N010000 | N |
| 070 | N020000 | N |
| 070 | O010000 | Y |
| 070 | O020000 | N |
| 070 | P010000 | Y |
| 070 | P020000 | N |
| 070 | Q010000 | N |
| 070 | Q020000 | N |
| 070 | R010000 | N |
| 070 | R020000 | N |
| 071 | A000000 | 23391 |
| 071 | B000000 | 17405 |
| 071 | C000000 | 428196 |
| 071 | D000000 | 4 |
| 072 | A000000 | 6 |
| 072 | B000000 | 15312 |
| 072 | C000000 | 0 |
| 072 | D000000 | 0 |
| 072 | E000000 | 0 |
| 072 | F000000 | 1383 |
| 072 | G000000 | 154 |
| 072 | H000000 | 0 |

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

072 I000000 6
 072 J000000 8
 072 K000000 0
 072 L000000 19
 072 M000000 7

PAGE 7

072 N000000 11
 072 O000000 0
 072 P000000 0
 072 Q000000 0
 072 R000000 29
 072 S000000 30
 072 T000000 0
 072 U000000 0
 072 V000000 0
 072 W000000 235
 072 X000000 1882
 072 Y000000 0
 072 Z000000 13430
 072AA000000 1048
 072BB000000 0
 072CC010000 0
 072CC020000 15616
 072DD010000 11972
 072DD020000 0
 072EE000000 0
 073 A010000 0.5200
 073 A020000 0.0000
 073 B000000 0.0000
 073 C000000 0.0000
 074 A000000 131
 074 B000000 0
 074 C000000 0
 074 D000000 438413
 074 E000000 0
 074 F000000 1279
 074 G000000 0
 074 H000000 0
 074 I000000 0
 074 J000000 3245
 074 K000000 0
 074 L000000 9323
 074 M000000 48
 074 N000000 452439
 074 O000000 0
 074 P000000 258
 074 Q000000 0
 074 R010000 0
 074 R020000 0
 074 R030000 0
 074 R040000 2165
 074 S000000 150007
 074 T000000 300009
 074 U010000 23050
 074 U020000 0
 074 V010000 13.02
 074 V020000 0.00

PAGE 8

074 W000000 0.0000
 074 X000000 8957
 074 Y000000 0
 075 A000000 0

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

075 B000000 289768
076 000000 14.08
077 A000000 N
078 000000 N
080 A000000 ICI MUTUAL INSURANCE CO.
080 C000000 45000
081 A000000 Y
081 B000000 57
082 A000000 N
082 B000000 0
083 A000000 N
083 B000000 0
084 A000000 N
084 B000000 0
085 A000000 Y
085 B000000 N
086 A010000 55
086 A020000 704
086 B010000 0
086 B020000 0
086 C010000 0
086 C020000 0
086 D010000 0
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