

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-A

November 29, 2012

PAGE 1
000 A000000 09/30/2012
000 C000000 0001258943
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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010 A000002 BROWN BROTHERS HARRIMAN & CO.
010 C010002 BOSTON
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011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.
011 B000001 8-41256
PAGE 2
011 C010001 BOSTON
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011 C040001 1820
011 A000002 UBS INVESTMENT BANK
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011 C010002 STAMFORD
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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
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011 C040004 1201
011 A000005 JANNEY MONTGOMERY SCOTT, LLC
011 B000005 8-462
011 C010005 PHILADELPHIA
011 C020005 PA
011 C030005 19103
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011 A000006 WACHOVIA CAPITAL MARKETS, LLC
011 B000006 8-99999
011 C010006 RICHMOND
011 C020006 VA
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012 A000001 PIONEER INVEST. MGMT. SHAREHOLDER SERV. INC.
012 B000001 85-01359
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012 A000002 AMERICAN STOCK TRANSFER & TRUST CO. (COMMON)
012 B000002 85-00000
012 C010002 BROOKLYN
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012 A000003 DEUTSCHE BANK TRUST COMPANY AMERICAS (PREF.)
012 B000003 85-05212
012 C010003 NEW YORK
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013 A000001 ERNST & YOUNG, LLP
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PAGE 3
013 B040001 5072
015 A000001 BROWN BROTHERS HARRIMAN & CO.
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020 A000001 SANFORD C. BERNSTEIN & CO., INC.
020 B000001 13-4132953
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020 A000002 UBS SECURITIES
020 B000002 13-2638166

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020 C000002 1
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PAGE 4

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PAGE 7

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| SIGNATURE | MARK E. BRADLEY | |
| TITLE | TREASURER | |