

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
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000 H000000 N
000 I000000 6.1
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001 A000000 PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST
001 B000000 811-21409
001 C000000 6177427825
002 A000000 60 STATE STREET
002 B000000 BOSTON
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003 000000 N
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007 C011000 10
008 A000001 PIONEER INVESTMENT MANAGEMENT, INC.
008 B000001 A
008 C000001 801-8255
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008 D020001 MA
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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
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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
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015 A000001 BROWN BROTHERS HARRIMAN & CO.
PAGE 3
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022	B000003	39-0727640
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022	B000005	41-0953246
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022	A000007	FMSBONDS, INC.
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075 B000000 289768
076 000000 14.08
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080 A000000 ICI MUTUAL INSURANCE CO.
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081 A000000 Y
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082 A000000 N
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087 C010000 PREFERRED STOCK - SERIES B
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088 A000000 N
088 B000000 N
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088 D000000 Y
SIGNATURE MARK E. BRADLEY
TITLE TREASURER