

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-B

May 28, 2010

PAGE 1
000 B000000 03/31/2010
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
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007 C010100 1
007 C010200 2
007 C010300 3
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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 PRINCETON ADMINISTRATORS, LLC
010 C010002 PRINCETON
010 C020002 NJ
010 C030002 08543
010 C040002 9095
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.
011 B000001 8-12345678
011 C010001 BOSTON
PAGE 2
011 C020001 MA
011 C030001 02109
011 C040001 1820
011 A000002 UBS INVESTMENT BANK
011 B000002 8-022651
011 C010002 STAMFORD

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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 SER. INC.
 012 B000001 85-01359
 012 C010001 BOSTON
 012 C020001 MA
 012 C030001 02109
 012 A000002 AMERICAN STOCK TRANSFER & TRUST CO.
 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
 PAGE 3
 015 A000001 BROWN BROTHERS HARRIMAN & CO.
 015 B000001 C
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 015 C030001 02109
 015 E010001 X
 018 000000 Y
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022	B000003	06-1229141
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022	A000004	JEFFERIES & CO., INC.
022	B000004	95-2622900
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022	A000005	PIPER JAFFRAY & CO.
022	B000005	41-0983246
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022	B000007	39-0727640
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022	B000008	13-5213180
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022	A000009	RAYMOND JAMES & ASSOCIATES, INC.
022	B000009	59-1237041
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072 E000000	0
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087	A010000	COMMON STOCK
087	A020000	723762100
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087	B010000	PREFERRED STOCK - SERIES A
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087	C010000	PREFERRED STOCK - SERIES B
087	C020000	723762308
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088	C000000	N
088	D000000	Y

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SIGNATURE MARY KELLERMANN
TITLE ACCOUNTING MANAGER