

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
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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
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008 D020001 MA
008 D030001 02109
010 A000001 PIONEER INVESTMENT MANAGEMENT, INC.
010 B000001 801-8255
010 C010001 BOSTON
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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
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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
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PAGE 3
015 A000001 BROWN BROTHERS HARRIMAN & CO.
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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	A000006	WELLS FARGO ADVISORS, LLC
022	B000006	54-0796506
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022	A000007	B.C. ZIEGLER AND CO.
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022	B000008	13-5213180
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022	A000009	RAYMOND JAMES & ASSOCIATES, INC.
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022	A000010	CITIGROUP GLOBAL MARKETS, INC.
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072 E000000	0
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080	A000000	ICI MUTUAL INSURANCE CO.
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087	A010000	COMMON STOCK
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087	B010000	PREFERRED STOCK - SERIES A
087	B020000	723762209
087	C010000	PREFERRED STOCK - SERIES B
087	C020000	723762308
088	A000000	N
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088	C000000	N
088	D000000	Y

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SIGNATURE MARY KELLERMANN
TITLE ACCOUNTING MANAGER