

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-B

May 29, 2008

PAGE 1  
000 B000000 03/31/2008  
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  
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006 000000 N  
007 A000000 N  
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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 SVCS., 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  
015 C010001 BOSTON  
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015 C030001 02109  
015 E010001 X  
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020 C000007 0  
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 022 A000001 BLACKROCK INVESTMENTS, INC.  
 022 C000001 792188  
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 022 A000002 LEHMAN BROTHERS, INC.  
 022 B000002 13-2518466  
 022 C000002 38211  
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 022 A000003 CORBY CAPITAL MARKETS, INC.  
 022 B000003 52-1037969  
 022 C000003 5207  
 022 D000003 7873  
 022 A000004 FIRST TRYON SECURITIES, LLC  
 022 B000004 56-1986792  
 022 C000004 0  
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 022 A000005 CITIGROUP GLOBAL MARKETS, INC.  
 022 B000005 11-2418191  
 022 C000005 4635  
 022 D000005 1969  
 022 A000006 B.C. ZIEGLER & CO.  
 022 B000006 39-0727640  
 022 C000006 3395  
 022 D000006 1984  
 022 A000007 MORGAN KEEGAN & CO., INC.  
 022 B000007 64-0474907  
 022 C000007 3931  
 022 D000007 0  
 022 A000008 PIPER JAFFRAY & CO.  
 022 B000008 41-0953246  
 022 C000008 3000  
 PAGE 4  
 022 D000008 0  
 022 A000009 DOUGHERTY & CO., LLC  
 022 B000009 41-1883794  
 022 C000009 2640  
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 022 A000010 BB&T INVESTMENT SERVICES, INC.  
 022 C000010 2487  
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070 O020000 N  
070 P010000 Y  
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070 Q010000 N  
070 Q020000 N

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070 R010000 N  
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071 A000000 79416  
071 B000000 60249  
071 C000000 483413

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072 T000000 0  
072 U000000 0  
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072 Y000000 0  
072 Z000000 29331  
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072DD010000 20247  
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072EE000000 0

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074 M000000 40

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074 N000000 464474  
074 O000000 3175  
074 P000000 268  
074 Q000000 0

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074	R040000	2470
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080	A000000	ICI MUTUAL INSURANCE CO.
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086	E010000	0
086	E020000	0
086	F010000	0
086	F020000	0
087	A010000	COMMON STOCK

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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 MARY KELLERMANN  
TITLE ACCOUNTING MANAGER