

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-B

May 27, 2011

PAGE 1  
000 B000000 03/31/2011  
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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007 A000000 N  
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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  
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 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  
012 C030001 02109  
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  
013 B020001 MA  
013 B030001 02116  
013 B040001 5072  
015 A000001 BROWN BROTHERS HARRIMAN & CO.  
PAGE 3  
015 B000001 C  
015 C010001 BOSTON  
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020 C000008 0  
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 022 A000001 BLACKROCK LIQUIDITY FUNDS, MUNIFUND  
 022 C000001 544500  
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 022 A000002 FIRST TRYON SECURITIES LLC  
 022 B000002 56-1986792  
 022 C000002 4000  
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 022 A000003 JEFFERIES & COMPANY, INC.  
 022 B000003 95-2622900  
 022 C000003 13596  
 022 D000003 0  
 022 A000004 B.C. ZIEGLER AND COMPANY  
 022 B000004 39-0727640  
 022 C000004 11269  
 022 D000004 0  
 022 A000005 PIPER JAFFRAY & CO.  
 022 B000005 41-0953246  
 022 C000005 9192  
 022 D000005 924  
 022 A000006 FMSBONDS, INC.  
 022 B000006 59-1842344  
 022 C000006 7003  
 022 D000006 0  
 022 A000007 RAYMOND JAMES & ASSOCIATES, INC.  
 022 B000007 59-1237041  
 022 C000007 2849  
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 022 A000008 MESIROW FINANCIAL, INC.  
 022 C000008 1863  
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 022 A000009 BB&T INVESTMENT SERVICES, INC.  
 PAGE 4  
 022 B000009 05-0346412  
 022 C000009 0  
 022 D000009 1452  
 022 A000010 DOUGHERTY & COMPANY LLC  
 022 B000010 41-1883794  
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072 F000000 2607  
 072 G000000 421  
 072 H000000 0  
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PAGE 7

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PAGE 8

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080	C000000	45000
081	A000000	Y
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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	MARK E. BRADLEY	
TITLE	TREASURER	