

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST  
Form NSAR-A  
November 29, 2011

PAGE 1  
000 A000000 09/30/2011  
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  
004 000000 N  
005 000000 N  
006 000000 N  
007 A000000 N  
007 B000000 0  
007 C010100 1  
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 8-41256  
011 C010001 BOSTON  
011 C020001 MA  
011 C030001 02109  
011 C040001 1820  
011 A000002 UBS INVESTMENT BANK  
011 B000002 8-022651  
011 C010002 STAMFORD  
011 C020002 CT  
011 C030002 06901  
011 A000003 RBC CAPITAL MARKETS CORP.  
011 B000003 8-045411  
PAGE 2  
011 C010003 MINNEAPOLIS  
011 C020003 MN  
011 C030003 55402  
011 C040003 4422  
011 A000004 MERRILL LYNCH & CO.  
011 B000004 8-7221

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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.  
015 B000001 C  
015 C010001 BOSTON  
015 C020001 MA  
015 C030001 02109  
015 E010001 X  
018 000000 Y  
019 A000000 Y  
019 B000000 55  
019 C000000 PIONEERFDS  
PAGE 3  
021 000000 0  
022 A000001 FMSBONDS, INC.  
022 B000001 59-1842344  
022 C000001 3489  
022 D000001 7377  
022 A000002 JP MORGAN SECURITIES, INC.  
022 B000002 13-3379014  
022 C000002 6651  
022 D000002 2535  
022 A000003 RAYMOND JAMES & ASSOCIATES, INC.  
022 B000003 59-1237041  
022 C000003 1500  
022 D000003 4566  
022 A000004 B.C. ZIEGLER AND COMPANY  
022 B000004 39-0727640  
022 C000004 1971

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022	D000004	1553
022	A000005	PIPER JAFFRAY & CO.
022	B000005	41-0953246
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022	D000005	868
022	A000006	BANK OF AMERICA CORP
022	B000006	56-0906609
022	C000006	1589
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022	A000007	JEFFERIES & COMPANY, INC.
022	B000007	95-2622900
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022	A000008	CAIN BROTHERS & COMPANY, LLC
022	B000008	13-3960078
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022	A000009	FIRST TRYON SECURITIES LLC
022	B000009	56-1986792
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022	A000010	BARCLAYS CAPITAL, INC.
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054 E000000 N  
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054 G000000 N  
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070 C020000 N  
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070 E010000 Y  
070 E020000 N  
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070 G010000 Y

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070	G020000	N	
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072DD	010000		13088
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073	A010000	0.5700
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086	F020000	0
087	A010000	COMMON STOCK
087	A020000	723762100
087	A030000	MAV
087	B010000	PREFERRED STOCK - SERIES A
087	B020000	723762209

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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