

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-A

November 28, 2008

PAGE 1  
000 A000000 09/30/2008  
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  
004 000000 N  
005 000000 N  
006 000000 N  
007 A000000 N  
007 B000000 0  
007 C010100 1  
007 C010200 2  
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 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

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

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 SERVICES  
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  
015 C020001 MA  
015 C030001 02109  
015 E010001 X  
018 000000 Y  
019 A000000 Y  
019 B000000 77  
019 C000000 PIONEERFDS  
020 C000001 0  
020 C000002 0  
020 C000003 0  
020 C000004 0  
020 C000005 0  
020 C000006 0

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

020 C000007 0  
 020 C000008 0  
 020 C000009 0  
 020 C000010 0  
 021 000000 0  
 022 A000001 BLACKROCK INVESTMENTS, INC.  
 022 C000001 529422  
 022 D000001 0  
 022 A000002 LEHMAN BROTHERS, INC.  
 022 B000002 13-2518466  
 022 C000002 21346  
 022 D000002 0  
 022 A000003 FIRST TRYON SECURITIES, LLC  
 022 B000003 56-1986792  
 022 C000003 0  
 022 D000003 13597  
 022 A000004 B.C. ZIEGLER AND CO.  
 022 B000004 39-0727640  
 022 C000004 8500  
 022 D000004 2909  
 022 A000005 PIPER JAFFRAY & CO.  
 022 B000005 41-0953246  
 022 C000005 0  
 022 D000005 11163  
 022 A000006 CITIGROUP GLOBAL MARKETS, INC.  
 022 B000006 11-2418191  
 022 C000006 5741  
 022 D000006 4219  
 022 A000007 BB&T INVESTMENTS SERVICES, INC.  
 022 C000007 3262  
 022 D000007 0  
 022 A000008 RAYMOND JAMES & ASSOCIATES, INC.  
 022 B000008 59-1237041  
 022 C000008 0  
 022 D000008 1489  
 PAGE 4  
 022 A000009 RBC CAPITAL MARKETS CORP.  
 022 B000009 13-5033225  
 022 C000009 0  
 022 D000009 870  
 022 A000010 FIFTH THIRD SECURITIES, INC.  
 022 B000010 31-0961761  
 022 C000010 745  
 022 D000010 0  
 023 C000000 569388  
 023 D000000 34246  
 024 000000 N  
 026 A000000 N  
 026 B000000 Y  
 026 C000000 N  
 026 D000000 Y  
 026 E000000 N  
 026 F000000 N  
 026 G010000 N  
 026 G020000 N  
 026 H000000 N  
 027 000000 N  
 045 000000 Y  
 046 000000 N  
 047 000000 Y  
 048 000000 0.600  
 048 A010000 0

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

048 A020000 0.000  
048 B010000 0  
048 B020000 0.000  
048 C010000 0  
048 C020000 0.000  
048 D010000 0  
048 D020000 0.000  
048 E010000 0  
048 E020000 0.000  
048 F010000 0  
048 F020000 0.000  
048 G010000 0  
048 G020000 0.000  
048 H010000 0  
048 H020000 0.000  
048 I010000 0  
048 I020000 0.000  
048 J010000 0  
048 J020000 0.000  
048 K010000 0  
048 K020000 0.000  
049 000000 N  
050 000000 N  
051 000000 N  
052 000000 N  
PAGE 5  
053 A000000 N  
054 A000000 Y  
054 B000000 Y  
054 C000000 Y  
054 D000000 N  
054 E000000 N  
054 F000000 N  
054 G000000 N  
054 H000000 Y  
054 I000000 N  
054 J000000 Y  
054 K000000 N  
054 L000000 N  
054 M000000 Y  
054 N000000 N  
054 O000000 N  
055 A000000 Y  
055 B000000 N  
056 000000 Y  
057 000000 N  
058 A000000 N  
059 000000 Y  
060 A000000 Y  
060 B000000 Y  
061 000000 0  
062 A000000 Y  
062 B000000 0.0  
062 C000000 0.0  
062 D000000 0.0  
062 E000000 0.0  
062 F000000 0.0  
062 G000000 0.0  
062 H000000 0.0  
062 I000000 0.0  
062 J000000 0.0  
062 K000000 0.0

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

062	L000000	0.0
062	M000000	0.0
062	N000000	0.0
062	O000000	151.3
062	P000000	0.0
062	Q000000	0.0
062	R000000	2.6
063	A000000	0
063	B000000	19.8
064	A000000	Y
064	B000000	Y
065	000000	N
066	A000000	N
067	000000	N
068	A000000	N
	PAGE	6
068	B000000	N
069	000000	N
070	A010000	Y
070	A020000	N
070	B010000	N
070	B020000	N
070	C010000	Y
070	C020000	N
070	D010000	N
070	D020000	N
070	E010000	Y
070	E020000	N
070	F010000	N
070	F020000	N
070	G010000	Y
070	G020000	N
070	H010000	N
070	H020000	N
070	I010000	N
070	I020000	N
070	J010000	Y
070	J020000	Y
070	K010000	Y
070	K020000	Y
070	L010000	N
070	L020000	N
070	M010000	N
070	M020000	N
070	N010000	N
070	N020000	N
070	O010000	Y
070	O020000	N
070	P010000	Y
070	P020000	Y
070	Q010000	N
070	Q020000	N
070	R010000	N
070	R020000	N
071	A000000	39966
071	B000000	45574
071	C000000	438093
071	D000000	9
072	A000000	6
072	B000000	16088
072	C000000	0
072	D000000	0

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

072 E000000	0
072 F000000	1362
072 G000000	199
072 H000000	0
072 I000000	213

PAGE 7

072 J000000	16
072 K000000	0
072 L000000	14
072 M000000	7
072 N000000	10
072 O000000	0
072 P000000	0
072 Q000000	0
072 R000000	27
072 S000000	7
072 T000000	0
072 U000000	0
072 V000000	0
072 W000000	24
072 X000000	1879
072 Y000000	0
072 Z000000	14209
072AA000000	0
072BB000000	6283
072CC010000	0
072CC020000	41375
072DD010000	10267
072DD020000	0
072EE000000	0

073 A010000	0.4500
073 A020000	0.0000
073 B000000	0.0000
073 C000000	0.0000
074 A000000	0
074 B000000	0
074 C000000	0
074 D000000	397744
074 E000000	0
074 F000000	776
074 G000000	0
074 H000000	0
074 I000000	6000
074 J000000	0
074 K000000	0
074 L000000	9361
074 M000000	553
074 N000000	414434
074 O000000	0
074 P000000	249
074 Q000000	0
074 R010000	0
074 R020000	0
074 R030000	0
074 R040000	1347
074 S000000	150068
074 T000000	262770

PAGE 8

074 U010000	22844
074 U020000	0
074 V010000	11.50
074 V020000	0.00

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form NSAR-A

074	W000000	0.0000
074	X000000	8881
074	Y000000	0
075	A000000	0
075	B000000	302798
076	000000	10.34
077	A000000	N
078	000000	N
080	A000000	ICI MUTUAL INSURANCE CO.
080	C000000	45000
081	A000000	Y
081	B000000	77
082	A000000	N
082	B000000	0
083	A000000	N
083	B000000	0
084	A000000	N
084	B000000	0
085	A000000	Y
085	B000000	N
086	A010000	57
086	A020000	762
086	B010000	0
086	B020000	0
086	C010000	0
086	C020000	0
086	D010000	0
086	D020000	0
086	E010000	0
086	E020000	0
086	F010000	0
086	F020000	0
087	A010000	COMMON STOCK
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	