

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST
 Form 4
 September 24, 2010

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

OMB APPROVAL

OMB Number: 3235-0287
 Expires: January 31, 2005
 Estimated average burden hours per response... 0.5

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 PIONEER FUNDS DISTRIBUTOR
 INC

2. Issuer Name and Ticker or Trading Symbol
 PIONEER MUNICIPAL HIGH
 INCOME ADVANTAGE TRUST
 [MAV]

5. Relationship of Reporting Person(s) to Issuer
 (Check all applicable)

___ Director ___X___ 10% Owner
 ___ Officer (give title below) ___ Other (specify below)

(Last) (First) (Middle)

3. Date of Earliest Transaction
 (Month/Day/Year)
 09/13/2010

60 STATE STREET
 (Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 ___X___ Form filed by One Reporting Person
 ___ Form filed by More than One Reporting Person

BOSTON, MA 02109
 (City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Ownership (Instr. 4)
			Code	V	Amount	(D)	Price
Pioneer Municipal High Income Advantage Trust	09/13/2010	09/13/2010	S		6,981	D	\$ 14.16
					0		

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control

SEC 1474 (9-02)

