

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST  
Form N-PX  
August 25, 2008

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

FORM N-PX  
ANNUAL REPORT OF PROXY VOTING RECORD OF REGISTERED  
MANAGEMENT INVESTMENT COMPANIES

Investment Company Act file number 811-21409  
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Pioneer Municipal High Income Advantage Trust  
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(Exact name of registrant as specified in charter)

60 State Street Boston, MA 02109  
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(Address of principal executive offices)

Dorothy Bourassa  
60 State Street  
Boston, MA 02109  
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(Name and address of agent for service)

Registrant's telephone number, including area code: (617) 742-7825

Date of fiscal year end: March 31

Date of reporting period: July 1, 2007 to June 30, 2008

SIGNATURES

Pursuant to the requirements of the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

(Registrant) Pioneer Municipal High Income Advantage Trust

By (Signature and Title) /s/ John F. Cogan, Jr.  
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John F. Cogan, Jr., Chairman and President

Date August 19, 2008  
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===== PIONEER MUNI HIGH INCOME ADVANTAGE TRUST =====

The Fund held no securities during the period covered by this report in which there was a securityholder vote. Accordingly, there are no proxy votes to report.

===== END NPX REPORT