

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST  
Form N-PX  
August 26, 2009

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, 2008 to June 30, 2009

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, 2009  
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===== PIONEER MUNI HIGH INCOME ADVANTAGE TRUST =====

DELTA AIR LINES, INC.

Ticker: DAL Security ID: 247361702  
Meeting Date: JUN 22, 2009 Meeting Type: Annual  
Record Date: APR 24, 2009

#	Proposal	Mgt Rec	Vote Cast	Sponsor
1	Elect Director Richard H. Anderson	For	For	Management
2	Elect Director Roy J. Bostock	For	For	Management

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3	Elect Director John S. Brinzo	For	For	Management
4	Elect Director Daniel A. Carp	For	For	Management
5	Elect Director John M. Engler	For	For	Management
6	Elect Director Mickey P. Foret	For	For	Management
7	Elect Director David R. Goode	For	For	Management
8	Elect Director Paula Rosput Reynolds	For	For	Management
9	Elect Director Kenneth C. Rogers	For	For	Management
10	Elect Director Rodney E. Slater	For	For	Management
11	Elect Director Douglas M. Steenland	For	For	Management
12	Elect Director Kenneth B. Woodrow	For	For	Management
13	Ratify Auditors	For	For	Management
14	Provide for Cumulative Voting	Against	For	Shareholder

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NORTHWEST AIRLINES CORP.

Ticker: NWA Security ID: 667280408  
 Meeting Date: SEP 25, 2008 Meeting Type: Annual  
 Record Date: JUL 31, 2008

#	Proposal	Mgt Rec	Vote Cast	Sponsor
1.1	Elect Director Roy J. Bostock	For	For	Management
1.2	Elect Director David A. Brandon	For	For	Management
1.3	Elect Director Michael J. Durham	For	For	Management
1.4	Elect Director John M. Engler	For	For	Management
1.5	Elect Director Mickey P. Foret	For	For	Management
1.6	Elect Director Robert L. Friedman	For	For	Management
1.7	Elect Director Doris Kearns Goodwin	For	For	Management
1.8	Elect Director Jeffrey G. Katz	For	For	Management
1.9	Elect Director James J. Postl	For	For	Management
1.10	Elect Director Rodney E. Slater	For	For	Management
1.11	Elect Director Douglas M. Steenland	For	For	Management
1.12	Elect Director William S. Zoller	For	For	Management
2	Approve Reorganization	For	For	Management
3	Ratify Auditors	For	For	Management
4	Amend Omnibus Stock Plan	For	For	Management
5	Adjourn Meeting	For	For	Management

===== END NPX REPORT