Date: March 3, 2009

Memorandum

MIAMI-DADE COUNTY

To: Honorable Chairman Dennis C. Moss and Members
Board of County Commissioners

Agenda Item No. 12B8

From: George M. Burgess
County Manager

Subject: Report: Feasibility of Installing Time Boards at Certain Bus Shelters in Miami-Dade County

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This report responds to Resolution (R-1061-08) sponsored by Commissioner Martinez, requesting that Miami-Dade Transit (MDT) conduct a report regarding the feasibility of installing time boards at certain bus shelters in Miami-Dade County. The Resolution was passed at the October 7, 2008 Board of County Commission meeting.

Time boards provide real-time bus information at a particular location, i.e. next bus arrival or a delayed bus notification. However, technological improvements are leading to rapidly changing methods of relaying real-time passenger information. Time Boards are an example of a more traditional application; recently the industry has shifted to using handheld devices as a more effective method of relaying real time information to passengers. Transmission of real-time bus data to handheld devices, though, requires that the transit agency have a radio network with sufficient resolution for the determination of bus positions. Several transit agencies have deployed time board and web-based passenger information technology in the last couple of years as part of their implementation of a Computer Aided Dispatch/Automatic Vehicle Locator (CAD/AVL) system. A CAD/AVL system reports the position of MDT buses to our Central Dispatch Center through a radio network. MDT's current radio network determines bus location every two minutes, however, this polling frequency is insufficient to accurately transmit bus locations to Time Boards. In order to provide system-wide real-time information, polling would have to occur at a minimum of every 30 seconds.

MDT's CAD/AVL system was installed in the early 1990's based on a 1989 technical specification; real-time functions and features were not available at that time. The current MDT system has been in production for 13 years and has reached its end-of-life cycle. An upgrade/replacement of this system has been programmed for MDT's Infrastructure Renewal Program during Fiscal Year 2009/10 (subject to adoption of unification and market conditions for obtaining a bond). It is estimated to cost approximately $14.4 million in capital costs and $1 million in recurring operations and maintenance. Such an upgrade would enable transmission of real-time information at the requisite frequencies.

MDT is also planning deploying a real-time Bus Tracker System as part of the Kendall BRT pilot. The Kendall BRT implementation is scheduled for May 2012 and will include the testing of this real-time functionality. The project will extend 9.5 miles from Dadeland North Metrorail Station to SW 167th Avenue along SW 88 Street, Kendall Drive. The BRT system will utilize Global Positioning System (GPS) onboard the vehicle, communicate this information to a central location which would, after processing, transmit information to specially equipped bus stops around the county. The alignment will have a total of twenty-seven stations. The service will feature nine distinctly branded environmentally friendly BRT sixty foot hybrid diesel-electric buses. The vehicles will also have the added Intelligent Transportation System (ITS) feature of Transit Signal Priority (TSP) onboard which will communicate with each of the thirty-three traffic signal controllers along the Corridor. TSP is a system which detects the presence of a bus approaching a signal and, if appropriate, grants a green extension to allow the bus to travel through the intersection; allowing buses to save time at the intersections. The BRT project will also feature solar powered real-time passenger information monitors at major stations along the corridor. The cost of the real-time Bus Tracker System for the Kendal BRT Pilot project is approximately $459,000. This cost is included in the total project cost for the Kendall BRT.

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At present, there is no funding available to expand the Time Board pilot beyond the planned Kendall BRT implementation, however, the future upgrade of MDT's CAD/AVL would enable MDT to provide real-time bus location information throughout the system via handheld devices.

Assistant County Manager