

Digital Signage Takes A Ride

Louis M. Brill



For passengers in the realm of bus, subway and light rail vehicle (LRV) commuting, waiting longer than necessary for your bus or train is always an exercise in frustration and anticipation. In the 21st century public transit, that anticipation has been addressed by digital signage and sophisticated predictive software.

In modernizing arrival and destination alert systems, transit's bag of tools include LCD and LED displays, the Internet, fiber optics, wireless, GPS triangulation and predictive arrival software, all designed to put your passengers commuting minds at ease.

Digital signage has evolved from a commuter luxury to a definitive necessity, and it is estimated that within the United States up to 95 percent of transit agencies now incorporate some kind of electronic sign system on their bus/rail fleets.

Every transit operator's concern is finding the quickest and easiest ways of communicating with passengers to keep them informed of their vehicle's real-time status. Agencies are resolving these concerns with elaborate electronic displays found in ticket booths, on and inside buses, on passenger waiting areas within bus shelters, overhead at rail platforms, and on board trains. And with computing connectivity, on home computers and smart phones, as well.

In reviewing current passenger transit communication systems, several companies involved in providing these systems discussed solutions and service integration with client agencies.

TWINVISION

TwinVision manufacturers what it refers to as "electronic information display systems" for transit agencies. Its use of LED transit displays for vehicle passenger information has significantly improved bus and rail signage operational efficiencies, maintainability and passenger communications.

In 2000, it introduced the all-LED sign display as a bus sign product. Color has always been an important component of TwinVision digital signage, used early on as a display indicator to expand transit route identification. "In 2003, we transferred from a monochromatic (amber) display to using full-color displays as vehicle route identifiers," Chief Technology Officer Larry Hagemann states. "We've also increased the sign size to allow for a multi-line display on the front of the bus to give better and more specific information about the bus's destination.

"As a digital bus sign supplier, we are constantly seeking out areas of digital sign development/enhancement and sustainability," says Hagemann. "In the last 24 months, we've seen continual LED improvements both in its technological efficiencies and as a customer service offering for improving the passenger's transit experience."

As for passenger information content, TwinVision's sister company Digital Recorders Inc. offers a host of transit information services, including a bus automatic vehicle tracking (AVL) system and a real-time vehicle arrival prediction information system. Passenger information is presented as signage alerts, as

NextBus passenger transit alert on San Francisco Municipal Transportation Agency LRV platform.

voice announcements and is also accessible through home computers and smart phone connectivity. "Ultimately it's about how much information we can practically give the passengers that helps make their travels easier and more efficient, and provides them with an excellent riding experience," Hagemann states.

TRANSITVUE TRANSIT COMMUNICATIONS SYSTEMS

In another effort to improve transit passenger commuting experiences, TransitVUE Communications Systems has created several passenger information communication formats. It has designed the TransitVUE Passenger Information System (TPIS) as an overhead platform and mezzanine-level digital display media system. "This system has the ability to display rail and bus real-time transit vehicle scheduling information," says TransitVUE President Ken Rivera, "and integrate that data onto TransitVUE displays throughout a transit client's bus/rail network.

"Currently, the TPIS combines data, text and graphics and uses scheduled and real-time GPS data to track a train's location and be able to distribute that within the TPIS network and also show it on a Google map," Rivera notes.

TPIS communications is represented by its Vantage Server Software (VSS), which operates in a client-server configuration. Here the content server is composed of various intelligent

system displays, redundant database servers and networking equipment all configured into the transit agency's rail or bus routes. The server software is platform independent and runs on virtually any operating system from Windows to Linux. Similarly, VSS can function with a variety of relational databases including Microsoft SQL, MySQL and Oracle. Each TPIS set up is interconnected depending on station locales with fiber optic, wireless, LAN, WAN or cellular networks.

As passengers pass through a typical transit station, there are two major locales for TPIS installations; the mezzanine where the platform entrance is located and the station platform. The mezzanine-based is represented by TPIS monitors which present general information, such as the location of the ticket booths and ticket prices.

A further extension of TPIS is TransitVUE's Interactive Passenger Information Kiosk. The IPIK is essentially a touch-screen display attached next to a ticket vending machine that provides passengers background information on transit ticket costs, how to purchase those tickets and vehicle transfer info, as well. The kiosk is also able to recommend travel routes if a passenger types in both their start point and their end point.

TransitVUE has also extended TPIS as an on-board LRV display setup as well. This component is composed of an LCD display presenting passengers with on-board information on station location,

arrival/departure, safety messages and places of interest for each station. Updates are added while the train is at the station and passed along from platform infrastructure to the train.

LA METRO GAINS DIGITAL INFORMATION SYSTEM

The first TPIS network was installed in 2007 within the Los Angeles County

Metropolitan Transportation Authority, in which 350 LCD ruggedized (with the 46-inch displays) indoor screens were placed throughout Metro's Red Line in all of its 14 stations. Overall TPIS is agnostic as to where it is installed and it works equally well on bus routes as Rivera notes. "On the Purple line, two rail stations are connecting points for buses and our passenger alerts at both stations



Photo courtesy of Daktronics.

In Washington, D.C.'s Union Station, the departure/arrival signage was modernized with a digital passenger information display.