

TransitVUE® Transportation Passenger Information System

TPIS for Local Establishments near Transit Stations



Transitvue Communication Systems

13941 Ramona Ave., Suite B

Chino, CA 91710

Phone: (909) 627-4100

Fax: (909) 628-1990

[Hwww.transitvue.com](http://www.transitvue.com)

info@transitvue.com

Table of Contents

Introduction 3

Principals of Work 3

TransitVUE® TPIS Components 4

 TransitVUE® Vantage Server Software (Management System) 4

 TransitVUE® TPIS Hardware Components 5

 TPIS System Overview 6

TransitVUE® TPIS Applications 7

TransitVUE® TPIS System Benefits 8

 1. Convenience in Use of Public Transportation 8

 2. Increase in Rideshare 8

 3. Environmental Benefits 8

 4. Revenue increase for the Local Establishments 9

Conclusion 9

Bibliography **Error! Bookmark not defined.**

Introduction

Today's passenger information systems are the key communication link between agency personnel and the traveling public. The ability to provide arrival/departure times for trains and buses, as well as helpful passenger destination information, is one of the main components to complete customer satisfaction. Transitvue Communication Systems, a manufacturer and systems integrator, has developed the TransitVUE® brand of integrated communication systems, specifically designed for the transportation industry. Our capabilities include complete integrated communication system design, manufacturing, and integration. The TransitVUE® Transportation Passenger Information System (TPIS) provides both passengers and internal staff of a transportation agency with up-to-date information, regarding anything from scheduled or real-time arrival and departure information to service alerts. This white paper further explains TPIS principals of work, components, applications, and benefits.

Principals of Work

TransitVUE® TPIS is a fully integrated real-time digital signage system composed of common communication infrastructures, such as wireless or LAN, and customized equipment. The system is based on TransitVUE® Vantage user-friendly software designed specifically for digital signage in the transportation industry. TransitVUE® TPIS provides users with automated and manual control of variable messaging to local and/or remote locations.

With TransitVUE® Vantage Software, transportation agencies are able to:

- Display scheduled or real-time arrival and departure, route, and final destination information on LCD/LED displays, information kiosks, or websites.
- Display the on-time or delayed status of a route using GPS/UHF tracking technology.
- Display messages, images, or videos, such as PSAs, safety alerts, RSS feeds, emergency evacuation procedures, or any custom content you wish to broadcast.
- Connect multiple displays at various locations and control them from a single point.
- Broadcast messages with or without high quality stereo audio.
- Overlay multiple messages at one time on the same display.
- Multi-cast messages.
- Allow third party commercial advertising.
- Display the date, time, temperature, and agency logo on all displays.

Designed by Transitvue Communication Systems to provide quality integration into a single system, the TransitVUE® Vantage Software is a client-server configuration in which the content server is composed of a network of intelligent displays and a control system made up of a redundant database server and multiple workstations. The optional features include a TransitVUE® Vantage brand of public address system, an intrusion detection system, and GPS/Web/PDA/Kiosk applications. All of these devices are connected using wireless, LAN, WAN, or cellular networks. In addition, the system is capable of operating from any remote location and can support unlimited users and signs.

TransitVUE® TPIS Components

TransitVUE® Vantage Server Software (Management System)

TransitVUE® Vantage Server Software (VSS) is a simple web-based software developed to provide users, including staff, passengers, and personnel with real-time and scheduled transportation information and announcements. This management system is designed to be platform independent allowing it to run on virtually any operating system, such as Windows or Linux. Similarly, VSS is capable of running diverse types of relational database management systems (RDBMS), such as Microsoft SQL Server 2005 and MySQL.

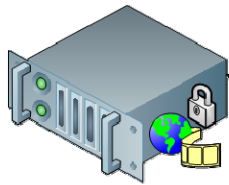
All the transactions between the operator and the content server will be accessible through a Graphical User Interface (GUI) loaded onto a commercially available web browser. The system, which is compatible with Mozilla Firefox, Internet Explorer, Opera, and other popular browsers, is predisposed for integration with other systems. Essentially, VSS feeds the information it obtains from other systems to the designated visual display units (VDUs) at each station. From the workstations, operators are able to automate all content management and distribution for the digital signage network. Rail and bus information can be sent to any TPIS screen regardless of the template being used or its location (whether it is inside the station, at a bus stop, a nearby coffee shop, retail store, bar or restaurant), as long as the sign is authorized by the agency.

TransitVUE® TPIS Hardware Components

- *TransitVUE® CMS-1000A Content Display Server* with embedded *Vantage Server Software*. It is a web-based server that centrally automates all content management and distribution for managing the variable message network. Play lists and schedules are programmed using a web browser and stored in a central database for distribution to a network of media players.
- *TransitVUE® MP Series station media players* are compact, highly reliable and feature extensive connectivity for linking to the content management system via a LAN, WAN or wireless connection. The station media players can run independently from the content management server in case network connection is lost.
- *TransitVUE® VGA Video Transmitter/Receiver Kits*, which are used to interconnect station media players to multiple LCD display units in a *loop configuration* via Cat5 copper cable. The transmitters and receivers precisely optimize image quality for various UTP cable lengths using adjustment controls on both the transmitter and receiver.
- *TransitVUE® LCD display monitors* are commercial grade for reliability and available in various sizes typically ranging from 30" to 57". The LCD & LED monitors are cost effective compared to LED boards while delivering stunning public display images and adapting to multiple applications with ease.
- *The TransitVUE® monitor display mounts* are custom made and designed to accommodate and support one or two monitors in a back-to-back, side-by-side or single unit configuration for transit station environments. A variation of ceiling, pendulum, and wall mounts are available as required by application.

TPIS System Overview

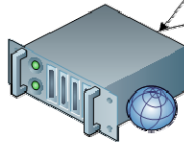
Centralized Datacenter



Recommended Server Requirements

- Windows/Linux
- Vantage Server Software
- Dual Pentium IV 3.0+ or Xeon Processors
- 2+ GB RAM
- 200+ GB Hard Disk

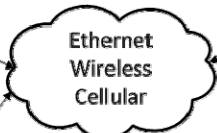
Media Player



Recommended Requirements

- Windows 2000/XP or Linux
- Pentium IV 3.0+ or Pentium M 1.5+
- 1 GB RAM
- 40 GB Hard Disk
- Vantage Host Software

Content Management Web Interface



TPIS integrates with any of the following:

- Networkable and Non-Networkable LCDs and LEDs
- Networkable PAs
- PDAs/Cell phones
- GPS systems
- Web Pages
- Intrusion Detection

TransitVUE Workstation



Recommended Requirements

- Windows 2000/XP or Linux
- Pentium Processor or Higher
- 256+ MB RAM
- 10 GB Hard Disk
- Web Browser (Firefox/Maxthon/etc.)
- Approved Vantage user account

TransitVUE® TPIS Applications

Besides train, subway or light rail stations and bus stops Passenger Information Displays can be installed at the local establishments near transit stops such as:



The system architecture is shown in the following figure:



TPIS STRUCTURAL OVERVIEW

TransitVUE® TPIS System Benefits

There are numerous benefits TransitVUE® TPIS can deliver to passengers, transportation service providers and local businesses situated near transit stations.

1. Convenience in Use of Public Transportation

By providing an adequate source of information for passengers inside and outside of transit stations, TransitVUE® TPIS eliminates the confusion regarding bus/train schedules, points of destination and connections. In addition, useful PA and safety announcements, news feeds and information regarding any changes in schedules in an easy-to-read, appealing format significantly improves customer service. The ability for transit riders to view this information in a nearby coffee shop, convenience store or other public gathering place can increase customer satisfaction and reduce the stress of using public transportation.

2. Increase in Rideshare

The convenience of use due to passenger information availability and customer satisfaction would yield to an increase in rideshare not only for repeat riders, but also through new users. The positive experience of regular riders would create “word-of-mouth” advertising for people not familiar with using a public transportation system. Local residents and tourists would be more willing to try public transportation knowing that information is readily available inside/outside of transit stations as well as at the local establishments near train, subway, light rail and bus stations. In addition, the greater number of locations for passengers to obtain the train/bus information can also help to increase rideshare.

3. Environmental Benefits

Implementation of TransitVUE® TPIS into mass transit systems contributes to the reduction of greenhouse gases and other toxic pollutants emitted by vehicle on the streets. According to *“New Fiber Optics Makes Subways Cleaner, Greener”* from Hispanic Business Magazine, May 2008, Los Angeles officials feel the critical importance of getting people to use public transportation. More subway riders equates to less drivers and less pollution on the congested streets of Los Angeles. By providing technologically advanced information systems like TransitVUE® TPIS for their customers, transit agencies nationwide attract more rides for convenient and easy way to commute.

4. Revenue increase for the Local Establishments

By installing TransitVUE® TPIS displays in coffee shops, convenience stores, fast food restaurants and other establishments near train stations and bus stops, customers and riders of public transportation can have transit information at their convenience without the need to rush. Various case studies found a connection between the passenger information availability and wait time at the restaurants or coffee shops near transit stations. If the arrival/departure time is displayed at the local establishments, transit riders will increase their waiting time and more likely to make an additional purchase. In the case study “NEC Display Solutions LCD monitors change the face of Reno/Tahoe International Airport”, the manager of information systems for the Airport Authority of Washoe County, confirmed, “With LCD3000s installed in the food court, passengers no longer need to remain in their gate area for important flight information. This placement also provides RTIA with more revenue-generating opportunities.” Therefore, providing passenger information for public transportation in the local establishments not only benefits riders, but also increases sales revenues. At the same time, TransitVUE® TPIS template allows the implementation of a ticker on the bottom of the screen, where store or restaurant can advertise their specials or provide RSS feed with news for customers.

Conclusion

TransitVUE® TPIS is a turnkey solution for transportation service providers to reach passengers inside and outside transit stops as well as at the public establishments located nearby. This flexible and cost effective system provides a wide variety of display sizes and technologies, coupled with the management software to create, schedule and manage dynamic content from a central or local environment. By utilizing an open architecture, the TransitVUE® TPIS will create efficiencies in network development and lower costs by integrating existing systems such as SCADA and PA and reducing system management time. The TransitVUE® TPIS solution can generate revenue for any transit agency and retail establishment by allowing third party advertising on a system. By providing passengers with efficient information system, transit agencies, thus promote the use of public transportation and participate in *Go Green Initiative* in an effort to reduce greenhouse gases and other toxic pollutants in our cities.

Bibliography

Introducing TransitVUE® TPIS, the newest and most powerful active intelligent passenger information & message system available for the transportation industry!. 2009. 21 December 2009 <www.transitvue.com>.

Kaplan, Richard. "New Fiber Optics Make Subways Cleaner, Greener." Hispanic Business May 2008.

NEC Display Solutions of America, Inc. NEC Display Solutions LCD monitors change the face of Reno/Tahoe International Airport. Case Study. Reno, Nevada: NEC Display Solutions of America, Inc., 2003.

NEC Display Solutions of America, Inc. Philadelphia International Airport completes facility-wide upgrade with NEC LCD displays. Case Study. Philadelphia: NEC Display Solutions, 2008.