5 | Technology Improvements and Innovation

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YRT/Viva continues to implement new technology systems to enhance customer service, improve passenger and driver safety, optimize operational performance, and provide passengers with immediate real-time bus arrival information at stops and terminals.

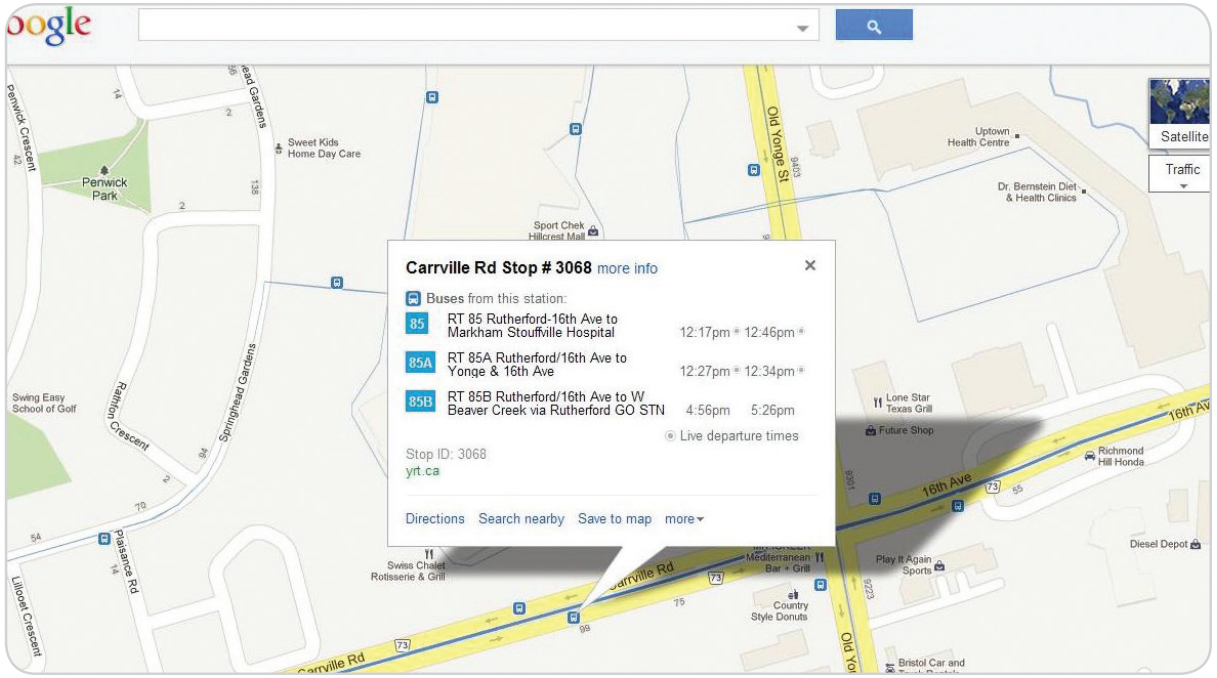
The following describes projects YRT/Viva initiated in 2012, and will continue to work on in 2013.

Google real-time information

In partnership with Google, YRT/Viva is providing real-time bus arrival/departure information on the Google transit website. Customers can use Google to plan YRT/Viva trips using real-time information. Updates will include service delays/alerts and detour information.

Mobile friendly website

The trip planning and schedule finder pages on yrt.ca were not designed specifically for small form-factor viewing (i.e. mobile devices and smart phones). YRT/Viva web pages were upgrated to enable customers to use the trip planning and schedule finder pages on their mobile devices.



Automatic vehicle location (AVL) system for Mobility Plus Taxis, Sedans

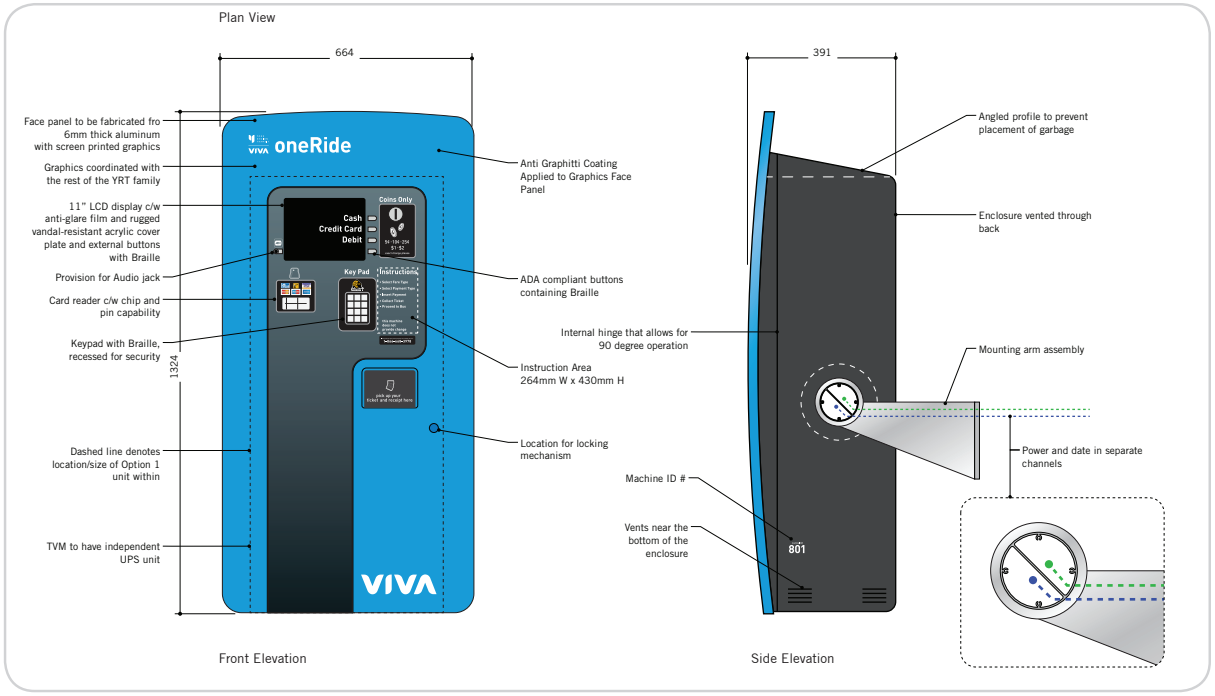
Automatic Vehicle Location (AVL) system were installed on Mobility Plus contractor taxis and sedans. The AVL system increases scheduling efficiencies, provides dispatchers with better monitoring abilities, increases passenger and driver safety, and helps with investigating passenger complaints. Mobility Plus staff can now track contractor vehicles in real time.

VivaNext technology support

New components of the intelligent transportation system are under development in preparation for vivaNext. Full integration with the existing YRT/Viva central system software and hardware is being investigated.

VivaNext ITS elements include:

- One double-sided and one single-sided Vehicle Messaging System (VMS) sign (similar to existing VMS signs located at terminals)
- One ticket vending machine (TVM)
- One ticket validator (TV)
- Two PRESTO fare transaction processors (FTP)
- One digital clock
- Panic alert button for customers to contact transit dispatch in case of an emergency
- Public address (PA) system
- Three security cameras



Security cameras at 18106 Yonge Street garage

Pan-tilt-zoom and fixed Close Circuit Television (CCTV) cameras were installed at the YRT/Viva North Operations and Maintenance facility, located at 18106 Yonge Street. The installation of the cameras provide a safe working environment and additional security for buses stored at the facility.

5.1 | 2013 Improvements

YRT/Viva continues to place importance on advancements in technology and utilizing tools to better serve customers through convenience, schedule adherence, vehicle reliability, safety and security. Building on 2012 initiatives, projects to be completed and/or to be started in 2013 include:

Elimination of 10 ride tickets

YRT/Viva will partially eliminate the use of 10 ride tickets in 2013. Tickets will be used on TTC and Mobility Plus vehicles only.

Monthly passes

YRT/Viva will introduce monthly passes with PRESTO in early 2013. Customers currently purchasing paper monthly passes will now be able to load monthly pass values onto their PRESTO card through the internet.

Terminal LCD screens for real-time Information

LCD screens were installed at three terminals to advise customers of next bus departure information from platforms. The screens provide real-time information. YRT/Viva will install screens at the remaining terminals in 2013.

Workforce management system

The YRT/Viva call center receives 15,000 to 20,000 calls and 500 to 1,000 emails per month. YRT/Viva will be working to deploy a Work Force Management system to forecast daily and weekly workloads, schedule staff to meet customer demand, and achieve Call Centre performance goals.

Mobility Plus operates over 300,000 door-to-door trips annually and many of these trips are made through reservations via the Call Centre. The Mobility Plus Call Center will also implement a Work Force Management system to improve efficiencies and Call Centre performance goals.

Customer eAlert system

eAlerts is a registration subscription based system that will allow customers to receive general and schedule alerts through email, SMS text or telephone. It will allow customers to configure a 'My Stop' display on their desktop or mobile device. The system can also be used to conduct customer surveys. The system will:

- Provide daily operational disruption alerts and planned service change information to customers
- Provide YRT/Viva with valuable feedback from the customer registration base, subscriptions, surveys and user preferences

Queued call display for call centres

A queued call display system will allow staff to monitor calls in queue, longest wait times, service levels, abandoned calls, and average speed of answer, on a LCD screen located in the call centre. The system will be integrated with the phone system and information will be available on a real-time basis.

Farebox and automatic vehicle location (AVL) interface

An interface between the Computer Aided Dispatch (CAD), Automatic Vehicle Location (AVL), and farebox systems on all YRT conventional vehicles will be investigated in 2013. Implementation of the interface will reduce the number of system log-ons required by bus operators. When bus operators log-on to the CAD/AVL system, they will be automatically logged on to the farebox system. It will help improve data accuracy and integrity for reporting purposes and increase bus operator efficiencies.

Automated route and destination announcement on external speakers

Accessibility for Ontarian with Disability Act (AODA) requires every conventional transportation provider to ensure there are electronic pre-boarding announcements of the route, direction, destination or next major stop on transportation vehicles.

Automatic Vehicle and Monitoring system

Automatic Vehicle Monitoring (AVM) will provide detailed diagnostic information to transit vehicle maintenance personnel allowing them to identify issues before a road call/service interruption occurs. These systems seamlessly integrate all on-vehicle systems providing a single, common source of diagnostic information. This will allow YRT/Viva contractors to institute maintenance programs based on actual failure rates, not mileage, reducing excessive inspections and vehicle downtime.

VivaNext technology support

In July 2013, the first portion of rapidways, from Bayview Avenue to Highway 404, is planned to be operational. Panic alarms, public address systems, and all security cameras will be activated as part of the commissioning process. The YRT/Viva Central Control Centre will monitor all security functions and dispatch assistance accordingly.

5.2 | On-going system support

System support of transit software will continue to be a priority. Improving existing processes and developing new programs to enhance staff resources will improve efficiency in data collection and validation.