ITS Update

Enhancing Transit Through Technology
Primary responsibility:
Manage software applications and supporting technology to improve and enhance RTA’s Operations division.

Summary:
• Nine person team within the Operations division
• Manage majority of technology onboard buses/trains
• Manage software to support our daily operation
## Current ITS Applications

<table>
<thead>
<tr>
<th>Current Applications</th>
<th>Function</th>
</tr>
</thead>
</table>
| MARCS Radio System   | • Voice communications for buses, trains and field supervision  
                      | • Voice communications for Transit Police  
                      | • RTA manages 895 radios to provide service to riders |
| Body Cameras         | • Body Worn Cameras for Transit Police |
| TransitMaster        | • GPS tracking and management of buses and trains  
                      | • Real-time information for riders |
| Mobile Routers       | • Passenger Wi-Fi  
                      | • Provides the data connection for buses, trains and Transit Police  
                      | • 2 SIM cards per vehicle: FirstNet for Operations and Commercial cellular for passengers |
| Ultramain            | • Vehicle and Facilities Maintenance  
                      | • Inventory and Supply Chain Management |
| Hastus               | • Operator Scheduling and work assignment  
                      | • Route scheduling and service frequency |
| NICE                 | • Radio and Phone recorder for dispatch offices and control center |
| GenFare              | • Fare collection and farebox monitoring |
| Paladin              | • Red Line public address system and visual display |
| Spillman             | • Transit Police dispatch and records systems |
| SenSource            | • In-station people counters (Red Line Stations) |
RTA is committed to improving the rider’s experience through continued technology enhancements.

Four Pillars:
1. Maintenance
2. Service Delivery
3. Customer Experience
4. Safety
## Technology in Transit 2021

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Technology Projects</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer Experience</strong></td>
<td>Improved Real-time Information&lt;br&gt;More than 10% of all riders utilize real-time applications to monitor vehicle departures.</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Passenger Wi-Fi&lt;br&gt;Riders utilize RTA vehicles for complimentary Wi-Fi. Riders average a total of 16 Terabytes of data per month.</td>
<td>Complete</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>Police Radios&lt;br&gt;Replaced 130 radios with Motorola APX4000s. Radios include extended coverage areas, warranties and new accessories.</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Police Consoles&lt;br&gt;Replaced dispatch consoles. Radios include extended coverage areas, warranties and new accessories.</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Police Body Worn Cameras&lt;br&gt;Issuing 130 body worn cameras for the first time at RTA. All video is stored in a cloud based system with unlimited storage.</td>
<td>In-Process</td>
</tr>
</tbody>
</table>
# Technology in Transit 2021

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Technology Projects</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maintenance</strong></td>
<td>Real-time Maintenance&lt;br&gt;All major components on fixed route vehicles are monitored in real-time. Alerts are sent to key team members prior to critical failures.</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Digital Pre-trip Inspections&lt;br&gt;Replaced paper pre-trip cards with digital format. This format allows for tracking and saves more than 240,000 pieces of paper annually.</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Maintenance Software Upgrade&lt;br&gt;Started the v9 Ultramain upgrade. A hosted, cloud based environment will provide disaster recovery and 24/7 support.</td>
<td>In-Process</td>
</tr>
<tr>
<td><strong>Service Delivery</strong></td>
<td>Improved Vehicle Location&lt;br&gt;On-time performance is at its highest level due to improved vehicle location data. More than 500 vehicles are tracked every 15 seconds.</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Headway Management&lt;br&gt;Improving the way the HealthLine vehicles are monitored. Transitioning from time to spacing based system.</td>
<td>In-Process</td>
</tr>
<tr>
<td></td>
<td>Scheduling Software Upgrade&lt;br&gt;Started the Hastus 2021 upgrade. A hosted, cloud based environment will provide disaster recovery and 24/7 support.</td>
<td>In-Process</td>
</tr>
</tbody>
</table>
## Technology in Transit 2022

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Technology Projects</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>Maintenance Software Upgrade</td>
<td>In-Process</td>
</tr>
<tr>
<td>Service Delivery</td>
<td>Mobile Routers for Service Quality and Electronic Repair</td>
<td>Not Started</td>
</tr>
<tr>
<td></td>
<td>Headway Management</td>
<td>In-Process</td>
</tr>
<tr>
<td></td>
<td>Scheduling Software Upgrade</td>
<td>In-Process</td>
</tr>
<tr>
<td></td>
<td>TransitMaster Upgrade</td>
<td>Not Started</td>
</tr>
<tr>
<td>Customer Experience</td>
<td>Contactless Payment/Trip Planning</td>
<td>Not Started</td>
</tr>
<tr>
<td>Safety</td>
<td>Police Cruiser Routers and Consoles</td>
<td>In-Process</td>
</tr>
<tr>
<td></td>
<td>Police Cruiser Dash Cams</td>
<td>Not Started</td>
</tr>
</tbody>
</table>
Fare Collection Vision

Short Term:
• Replace RTA’s current mobile payment app
• Purchase and Install ticket validators on vehicles
• Keep the current fareboxes
• Begin to incorporate fare capping and smart cards
• Create a connected, regional fare system

Long Term:
• While implementing the short term objections
  – Evaluate the replacement of TVMs, CSKs and fareboxes
# Current Trip Planning Methods

<table>
<thead>
<tr>
<th>Information Source</th>
<th>Scheduled Service</th>
<th>Real-time Service</th>
<th>Fare Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTA Website</td>
<td>✅</td>
<td>✅</td>
<td>✗</td>
</tr>
<tr>
<td>Trip Planner</td>
<td>✅</td>
<td>✅</td>
<td>✗</td>
</tr>
<tr>
<td>Transit App</td>
<td>✅</td>
<td>✅</td>
<td>✗</td>
</tr>
<tr>
<td>CLE App</td>
<td>✅</td>
<td>✗</td>
<td>✫</td>
</tr>
<tr>
<td>NextConnect</td>
<td>✅</td>
<td>✅</td>
<td>✗</td>
</tr>
</tbody>
</table>

*Customers can also use timetables and contact customer service*
Current Trip Planning Methods

Next 3 Vehicle Departures

10:32 am  Louis Stokes Station
10:44 am  Louis Stokes Station
10:52 am  Louis Stokes Station

Last Updated at 10:36 am
NEORide and EZFare

- Group of local transit agencies (most of Ohio) that have fixed pricing for a shared software licensing fee.
- Partnered with Masabi to incorporate a cashless, contactless payment method
- NEORide and Masabi launched Ezfare utilization
  - Provides riders with an ability to load a mobile wallet, purchase tickets and board vehicles through a contactless system
  - Real-time Apps utilize EZFare
- Creates a more regional fare collection system
  - LakeTran, SARTA, METRO
NEORide and EZFare

Information Source | Scheduled Service | Real-time Service | Fare Payment
---|---|---|---
NEORide/EZFare | + | + | +
## Tentative Timeline

<table>
<thead>
<tr>
<th>Task</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractual and Procurement Documents</td>
<td>December 2021</td>
</tr>
<tr>
<td>Receiving Initial Validators (HL vehicles)</td>
<td>December 2021</td>
</tr>
<tr>
<td>Training</td>
<td>January - February 2022</td>
</tr>
<tr>
<td>Marketing/Rider Outreach</td>
<td>December – May 2022</td>
</tr>
<tr>
<td>Installation of Validators</td>
<td>April 2022</td>
</tr>
<tr>
<td>Launch of Validators and Visual Inspection</td>
<td>May 2022</td>
</tr>
<tr>
<td>Sunset of Passport App</td>
<td>May 2022</td>
</tr>
</tbody>
</table>