Metro

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Board Report

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SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE
JANUARY 19, 2017

SUBJECT: CUSTOMER EXPERIENCE TECHNOLOGY IMPROVEMENT

ACTION: RECEIVE AND FILE STATUS REPORT

RECOMMENDATION

Receive and file status report on efforts underway to use technology and innovation to transform the customer experience of Metro's Bus and Rail system, and mobility in the region in general.

RECEIVE AND FILE report of the **Customer Experience Technology Improvements**.

ISSUE

This report provides key accomplishments and technological activities since the last update in August 2016 to further the goal of improving the customer experience as well as a look-ahead to the next update in April 2017.

DISCUSSION

The following is a summary of progress on customer focused activities for the referenced period.

1. Union Station beacon-based wayfinding for the visually impaired - project initiated

A new project called Wayfindr was initiated by the Office of Civil Rights to create a beacon-based wayfinding system for the visually impaired. Nearly 700 low energy Bluetooth beacons will be installed throughout the Union Station complex creating a highly accurate navigational matrix similar to a miniaturized global positioning system (GPS). The navigational matrix will be accurate to within several inches. Working in concert with a mobile audio application for cellphones, the system will provide accurate directions to visually impaired customers for locating pedestrian crossings, transfer locations to bus and rail, boarding gates, retail venues, restrooms, customer service booths and other facilities.

Volunteers from the Braille Institute and other visual support organizations will assist in testing the system to ensure usability by persons with varying levels of navigational skill.

While the focus of the project is for the visually impaired, the beacon network will be designed in such a way as to allow for expansion to other rail stations and transit facilities and may prove beneficial for more generalized wayfinding in applications such as the Metro mobile app.

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2. Silver Line All-Door boarding pilot - on going

TAP and Operations have been piloting the installation of Bus Mobile Validators at the rear and front doors of the Silver Line buses to reduce station dwell time and speed up the route.

All passengers must have a TAP card similar to rail boarding. Passengers with sufficient fare for the trip may board on either the front or rear doors. Passengers with a valid TAP card but lacking sufficient fare may board at the front door and add cash to the fare box for boarding. Cash added greater than required is stored as unused value for the next trip.

3. Customer Relationship Management (CRM) system - pilot investigation project

Metro IT is working with other departments to investigate the potential expansion of CRM applications for the agency. Several departments have expressed interest in the technology. CRM systems were originally developed to support telephone centers as a means to track and maintain customer transactions but have evolved today into versatile general purpose business systems capable of managing most business functions. They offer shared data for departmental business units, are quick to deploy, reduce duplication, allow mobile access and enhance the customer experience.

Communications was the first department to use the technology for a small scale application. Recently, TAP replaced their aging CRM with the same cloud-based system and has already experienced productivity gains. Metro IT is working with the company to develop a simple application representative of many internal business systems to explore and assess the viability for enterprise-wide implementation.

Enterprise use of CRM technology will allow Metro to more quickly identify and respond to customer needs and thus more effectively target customer initiatives and programs.

4. New real-time initiatives - on going

The current Metro real-time deployment is based on aging technology and suffers from slow location polling rates of over three minutes. Modern systems are designed around location polling rates of 10 seconds or less and thus provide more accurate arrival prediction times.

The Transit Applications organization within Metro IT has been pursuing a near term solution to provide improved predictions. A demonstration project to test a much improved methodology using faster location polling rates is under review and is targeted for completion early in 2017. If successful, implementation could begin shortly thereafter providing funding and resources are available.

Over the longer term, Metro is looking to replace its aging Advanced Transportation Management System (ATMS). When completed, it will provide state-of-the-art real-time predictions. However, due to the size of the Metro fleet, this large scale project may take several years to implement.

5. Regional Open Trip Planner (OTP) - Initial Production Implementation

Work on the new Regional Open Trip Planner continues with the completion of new features required to support branding by other transit agencies.

The OTP development and support effort was setup up using a cloud-based subscription service built entirely on open source data and software to ensure usability by all transit carriers in the region at the lowest possible cost.

The planner can easily be rebranded by other agencies to reflect the look and feel of their respective websites and mobile apps. The new Go Verdugo website designed as a centralized resource for personalized travel planning will be the first to feature the new multi-modal planner. The project area includes the cities of Glendale, Burbank and Pasadena and is funded through an LA Metro grant.

6. Connected Buses - Pilot

Staff is developing plans for the installation of wireless cellular technology on Metro's revenue service fleet. These plans will include projected costs and proposed schedule for implementation. The addition of cellular wireless on our fleet would allow Metro to offer much improved capabilities in the areas of vehicle diagnostics, real-time security surveillance, customer communications, and potentially fare collection.

As of the end of October 2016, the last order of 145 new buses with wireless router hardware have been received. The vehicles will be used to pilot many of the capabilities described above as well as provide Wi-Fi service to customers. Upcoming procurement of 1000 new buses scheduled for delivery between 2018 and 2022 will also have the wireless routers.

Metro IT has implemented new communications technology to receive vehicle location data every 10 seconds from the new buses which will be used for the completion of an active landing page for public Wi-Fi/cellular service. Customers that choose to access the new service, after first agreeing to terms and conditions, will land on a starting page which consists of a real-time map of their current location displaying their route with associated predicted arrival times at the remaining stops. As the vehicle continues along its route, the landing page map will refresh every 10 seconds to reflect the new location and any changes in arrival time predictions along with nearby retail locations within the first and last mile zone of each stop.

7. Subway Metro Rail System Cellular project, *Phase One - operational for Verizon, Sprint devices. T-Mobile completed for the Purple Line.

Additional milestones were reached this period in Metro's effort to provide wireless cellular coverage in our subway system. In addition to Verizon and Sprint continuing to provide cellular service on Phase One, T-Mobile completed installation of cellular equipment and network connection required for service activation. T-Mobile cellular service has now been activated between Union Station and Wilshire/Western.

Negotiations with AT&T are on-going.

*Phase One stations include Union Station, Civic Center, Pershing Square and 7th Metro.

8. Happy or Not Survey Pedestal - Pilot

A new real-time survey device is being tested at Union Station. The free standing pedestal provides a simple question to be rated along with 4 emoji buttons with smiley faces from happy to sad.

The user simply responds with a push of the button that most appropriately mirrors their feelings about the survey question and move on. Using cellular technology, the responses are sent via the web to the host site where basic analytics are performed. For the pilot, survey results will be received daily via email. Should additional units be required for a production implementation, an Application Programming Interface (API) will be provided for data access.

The pilot unit will be tested for approximately 30 days. Questions will be changed weekly and added to the analytics database for analysis. The unit is not permanently mounted so it can be moved to various locations.

NEXT STEPS

Staff will develop and implement customer experience related initiatives as well as continue to evaluate other technology applications that will benefit Metro's customers.
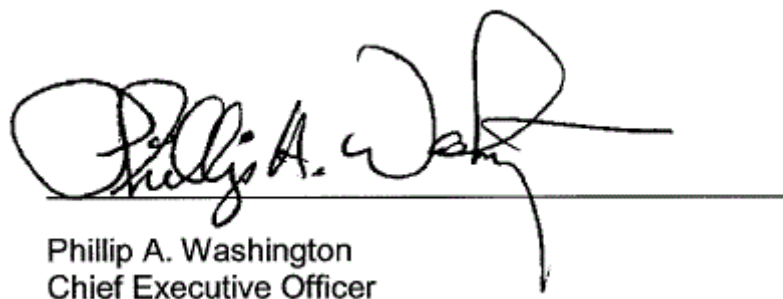
Look-Ahead for Next Period

Staff will report back in April 2017 with a progress update on a variety of customer related technology initiatives, including:

    A. Wilshire / Grand Hotel Information Cube

    B. Connected Buses - Wi-Fi / Cellular service 'pilot'

    C. Digital Signage Update

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