

Next Generation Communications

Summary

The program expands current communications infrastructure to provide an integrated one-stop communications hub for the region’s transit customers. Proposed improvements will capitalize on efforts already underway to improve the functionality of the rail control software. They include the next generation of the Passenger Information Display System (PIDS), new public address systems, improved station signage, and equipping station managers with mobile devices. Bus and train information will also be integrated, with real-time information displays to well-used bus stops.

Purpose and Need

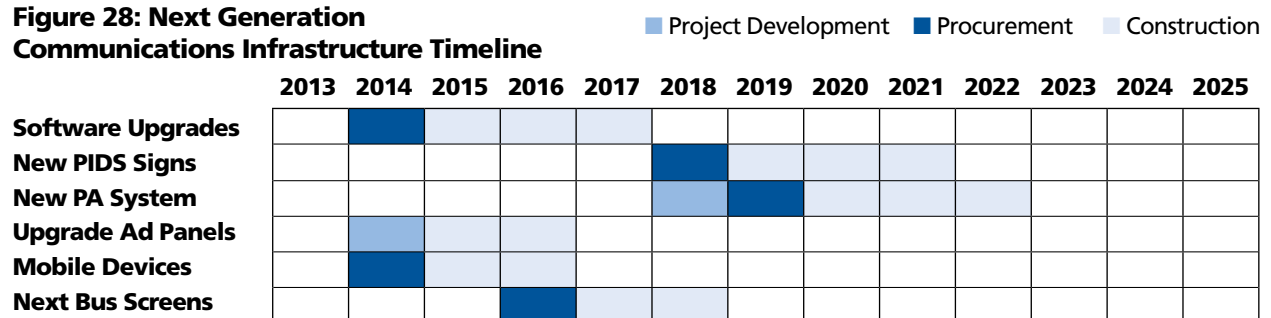
Much of Metro’s communication infrastructure dates to the rail system’s opening in the 1970s. Modifications to Metrorail and Metrobus communications equipment, already in progress, hold potential to provide better, more accurate information for Metro’s customers. Improvements to the PID System and public address system are necessary to get this information to Metro’s customers and to improve system accessibility for the visually impaired. For bus passengers, the installation of real-time information screens at the 800 busiest stops would improve the convenience and effectiveness of the bus network.



Benefits

- Increases information available to customers about actual bus and rail departures and improves communications content during special events and track work
- Provides better PIDS in all stations with more sign coverage, improved graphics and more flexibility in terms of information displayed
- Provides an audible public address system in stations and on vehicles for all riders
- Increases accessibility for customers with visual and auditory impairments
- Displays service information with customized sign content
- Provides bus information that allows passengers without smartphones to better utilize the bus network and aids passengers making connections between bus and rail

Figure 28: Next Generation Communications Infrastructure Timeline



Considerations

- Installing new PIDS signage would not occur until after rail control software upgrades. Upgrades to the public address system would use inputs from the new software package as well.
- Developing a new public address system would require acoustic testing at some underground stations, especially ones serving multiple train lines.
- Using LCD screens would maximize the flexibility of the advertising space, as the content could be changed by the time of day, day of week or for special events.
- Modification of advertising space to LCD screens requires additional study to determine power and size requirements of the new screens.
- Using mobile devices by station managers would allow them to better assist customers through increased access to information.
- Most bus stops are not on Metro property. Metro will have to work with the local jurisdictions to obtain permits to install real-time informational screens.
- Real-time bus information would need to include both Metrobus and local bus operators to benefit the greatest number of customers.

Status of Ongoing/Previous Projects

Projects underway related to this initiative include:

- Upgrades of train control software used by the Rail Operation Control Center will improve the quality of information available about train movements, especially during track work and special events. Procurement is expected to start in July of 2013 and the project should finish in 2017.
- 7000 series cars, currently in production, will have improved customer information displays (see graphic on opposite page).



- Radio system upgrades will enable interfacing with regional emergency management and first responders.
- Signs at bus stops will provide real time information at approximately 350 bus stops across the region. The project is funded by the TIGER program through 2016.

FY2014-2019 Investments

These investments are already included and funded in Metro's current six-year CIP:

- Upgrading the Advanced Information Management System
- Project planning and evaluation

Total - \$60 million

Order of Magnitude Cost Estimate

\$400 million (\$2012)

This initiative is still being refined though some cost elements could include:

- \$9 million new PIDS signage and \$64 million for a new public address system at all 86 stations
- \$TBD replacing in station advertising signs with Liquid Crystal Display (LCD) screens
- \$6 million Wi-Fi and other infrastructure to support mobile devices for station managers
- \$9 million real-time bus information at remaining 450 bus stops not yet funded
- \$250 million allowance for further advances as new technology emerges