

CTA Control Center

Using the latest advances in communication and intelligent transportation technologies, the Chicago Transit Authority (CTA) Control Center coordinates the operations of CTA's extensive bus and rapid transit systems, along with the traction power system.

The Control Center is 15,000 square foot facility, which includes a 9,000 square foot "theater of operations". In the "theater" there are 25 controller workstations and a video-wall composed of 42 100" diagonal video projection screens. On the video-wall, 1/3 of the screens will generally be dedicated to bus, 1/3 of the screens will project train location and schedule condition, and 1/3 show rail traction power status.



Communication routing from the rail right-of-way and internally is accomplished using fiber optic technology. State-of-the-art computer based radio consoles use half-channel technology that allows controllers to communicate on more radio channels.

As part of the Bus Emergency Communication System and Bus Service Management System (BECS/BSMS), buses receive location information from 24 Global Positioning System (GPS) satellites. Periodic reporting of vehicle locations occurs, in addition to automatic tracking of vehicles in an emergency alarm condition.

The Rail Service Management System's (RSMS) purpose is schedule adherence and vehicle tracking. RSMS features the Automatic Train Dispatching and Monitoring System. This system displays to the controller the sequential train passage between adjacent train detection points. The sequential progression of track circuit occupancies also provides the controller with the knowledge of train availability at terminals. To permit train interval control, automatic visual signals at terminals and midpoints are provided, along with real-time train arrival signs.

To control and monitor the power to the third rail, subway and passenger station support systems, and the contact rail heater system, Supervisory Control and Data Acquisition (SCADA) is used. The field SCADA terminals collect information and report findings to the master terminal in the Control Center.

For more information, contact: John T. Flynn, Vice President – Technology Management Chicago Transit Authority, Merchandise Mart Plaza, P.O. Box 3555, Chicago, IL 60654, Telephone: 312-396-8456, e-mail: jfflynn@transitchicago.com.