



Boston Central Artery/Tunnel Surveillance & AC/IDS System

Client: Massachusetts Highway Department & Massachusetts Turnpike Authority

Location: Boston, MA



System Features

- DYNAC® Software •
- Intelligent Video Surveillance •
- Video Analytics •
- Decision Support Management •
- Access Control •
- Automatic Incident Detection •
- 64-bit RISC Servers •
- Display Wall •
- Local Field Controllers •
- Dynamic Message Signs •
- CCTV •
- Vehicle Detection •
- Overheight Vehicle Detection •
- Highway Advisory Radio •
- AM/FM Rebroadcast •
- Environmental Monitors •
- Fire Detection •
- Fiber Optic Video Network •
- Wireless Video •
- SONET Network •
- Spread Spectrum Radio •
- Data Warehousing •



Boston's Central Artery/Tunnel, owned by the Massachusetts Highway Department, is the largest and most complex highway project ever undertaken in an American city. The project will transform downtown Boston as the aging and overly congested elevated expressway is replaced with a new underground system and a third harbor tunnel. Opened in 1995, the new Ted Williams tunnel extends the Massachusetts Turnpike under Boston Harbor to provide improved access to Logan International Airport.

Transdyn is delivering the Integrated Project Control System (IPCS) that monitors and controls all aspects of over 150 lane-miles of highway and twenty major operations, emergency response, ventilation, and electrical distribution facilities.

In addition to the IPCS, Transdyn also provided the DYNAC® managed Surveillance and Access Control/Intrusion Detection System (AC/IDS) for the tunnel. The system uses smart video analytics to provide facility monitoring and incident detection. Cameras are automatically controlled using pre-shots and tours to cover areas where incident and intrusion alarms are detected.

The AC/IDS furnished for the project is a network-wide system designed to monitor and control access to the entire facility and infrastructure complex including secure areas, buildings and vehicle parking facilities. The system also controls dispensing of vehicle fuel and detects unauthorized opening of building doors, windows, system control panels, etc., as well as unauthorized persons in the protected areas.

The surveillance system consists of over 400 cameras and more than 200 monitors. The video is delivered to the control centers through a completely redundant and diversely routed fiber optic communication network. Two video switches at each facility switch video from the cameras to display wall or desktop monitors.

The design and development of the surveillance system includes several unique features including 1) integrated surveillance and facility management through a common graphical user interface, 2) video management with automatic video switching and integrated camera control functions, 3) intelligent alarm management and routing which matches alarm characteristics to operator responsibilities and skill levels, 4) real-time decision support tools provide computer-assisted response to critical events and emergency situations, and 5) integrated audio management to streamline communications with outside agencies and emergency responders.