

“BIG BRAIN” FOR BOSTON’S BIG DIG

AN INNOVATIVE UNDERGROUND HIGHWAY SYSTEM

The Honeywell Operations Control Center maximizes Boston’s investment, improving the efficiency of transportation worldwide and paving the way for the future.

Case Study





Dubbed the world's most ambitious megaproject, Boston's Big Dig moved a large portion of the city's traffic underground to relieve congestion. Boston awarded Honeywell the contract to build and maintain Boston's Integrated Project Control System. The tunnel system relies on a Honeywell-designed "Big Brain," an advanced Operations Control Center that both monitors and responds to traffic conditions and emergencies.

The Needs

A control system as intelligent as Boston's innovative underground highway system.

Constant monitoring of traffic and environmental conditions on one of the world's most crowded highways.

Real-time incident detection to stabilize traffic flow.

Provide optimal accident-reaction technology with traffic-flow control and intervention coordination.

The Solution

Honeywell created a "Big Brain" that effectively controls the ambitious system without major glitches.

Boston installed hundreds of video cameras and 2.6 million feet of fiber optic cables that relay signals to the control center.

Overhead, 413 closed-circuit television cameras record accident alarms tripped by the loop detectors or by other devices.

To make sure trucks fit in the tunnels, light beams scan their size before they enter and warn them if they are too large.

Infrared detectors inside the tunnels analyze air quality and cue fans if the level of unhealthy gas rises.

Beneath the pavement, 35,000 magnetic-loop detectors gauge traffic flow and can determine if a car has slowed or stopped suddenly, which can indicate an accident.

Boston built a \$15 million Operations Control Center staffed by highway managers at all times—in an instant, managers can dispatch police, firefighters and ambulances to the Central Artery (the center that responds to emergencies).

All told, the "smart" highway system has more than 40,000 devices feeding telemetry to computers every three seconds.

The Benefits

- The "Big Brain" maximizes Boston's investment in this monumental project and assures the system is safe, reliable and efficient.
- Enhanced traffic flow saves money for residents and businesses.
- Drivers are constantly made aware of traffic patterns and alerts through electronic signs and emergency strobe-light panels.
- The one-of-a-kind system paves the way for future projects, improving the efficiency of transportation worldwide.

For more information

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