



Intelligent Transportation Systems With SEL Tough Computers and HMI

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INTRODUCTION

Intelligent transportation systems (ITS) with traffic monitoring and managing have become more important as traffic congestion increases on highways and bridges as well as in tunnels, parking lots, and cities. Transportation authorities make appropriate changes to traffic flow, notify public safety personnel, and make traffic condition reports available to the public through the media or direct communication to minimize traffic congestion and increase traffic safety.

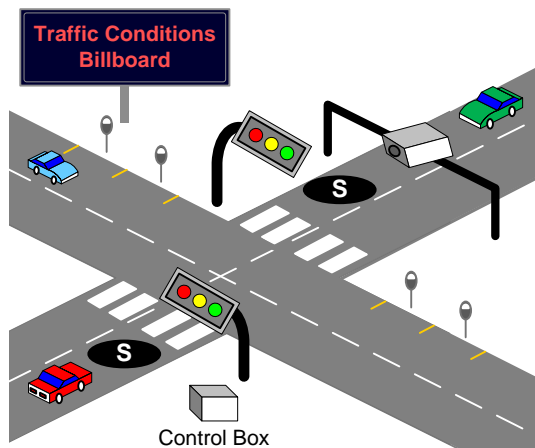


Figure 1 Intelligent Transportation System With Unattended Monitoring and Control



Figure 2 Operator at Local Traffic Center Monitoring Traffic Conditions

ITS WITH LOCAL HUMAN-MACHINE INTERFACE (HMI)

Use SEL tough computers and HMI software to quickly develop and deploy a local ITS HMI and deliver a robust and reliable solution with your traffic flow optimization software. Use SEL I/O for sensor data collection and SEL-3022 Wireless Encrypting Transceivers for secure wireless messages to traffic boards. For video collection, the SEL-3354 Embedded Automation Computing Platform with Windows® 7 accepts video capture cards or uses an Ethernet connection to Internet Protocol (IP) cameras and IP video servers.

Traffic operators quickly view and evaluate traffic conditions at local traffic centers, located at highways, bridges, and tunnels. HMI software packages, such as ReLab ClearView, are used to develop HMIs for local ITS. Local HMI screens include overview traffic flow and analysis, communications diagrams, sensor status, alarms, and camera views.

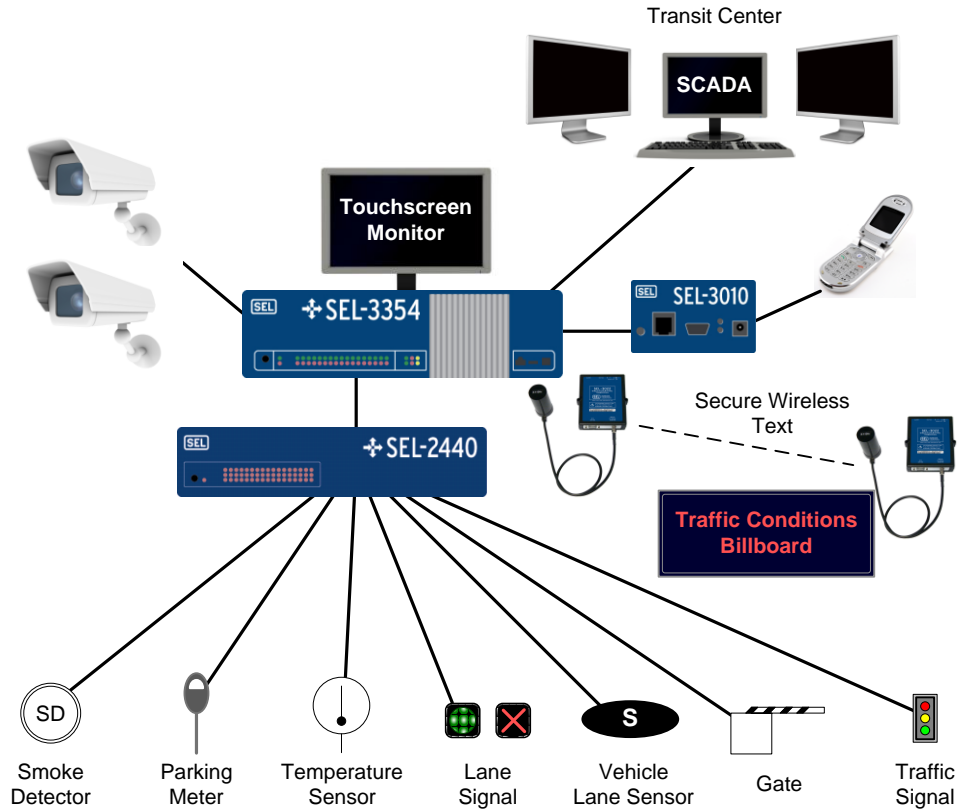


Figure 3 Local Traffic Center Monitor and Control System

SEL TOUGH COMPUTER HARDWARE PLATFORM

SEL tough computers are the hardware platform of choice for ITS in unattended control boxes or at local traffic centers. Designed for reliability in harsh environments, SEL tough computers make use of error-correcting memory and other technologies to achieve over ten times the mean time between failures (MTBF) of other typical industrial computers. This removes the need to constantly reboot and replace hardware platforms in the field.