

# Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) are the application of electronic technologies and communications to improve the operation of roadway and transit systems. Some examples of ITS benefits are provided below.

## **Traffic Management Center**

The TDOT Region I Traffic Management Center (TMC) operates the SmartWay system in the Knoxville area. The center will manage future ITS equipment in the Bristol and Kingsport Regions and the rest of Region I. Incident information from the TMC as well as video feeds can be shared with local traffic and emergency management agencies.

## **Dynamic Message Signs**

Posted traveler information messages provide motorists with details about incidents, evacuations, and construction.

## **Flood Detection**

Equipment detects and notifies emergency and transportation officials of flooded roadways. In areas prone to flooding, closure equipment prevents cars from driving on flooded roadways.

## **Closed Circuit Television Cameras**

Transportation operators use video surveillance to detect and verify incidents, monitor congestion, and check road conditions in inclement weather. During emergencies, video images can be shared with emergency management operations and dispatchers.

## **Work Zone Management**

Portable dynamic message signs and closed circuit television cameras facilitate detour and lane closure implementation and traffic management in work zones.

## **Emergency Management**

Traffic signal preemption improves emergency vehicle response times and safety. Sharing of video feeds and camera control from traffic management agencies also improves incident response.

## **Traffic Signal Systems**

Closed loop traffic signal systems allow transportation operators to monitor and change signal timing plans from a traffic management center and facilitate corridor signal synchronization.

## **Transit Management**

Automated vehicle location systems integrated with computer aided dispatch systems facilitate transit management. Transit security technologies, trip routing, and reservation systems provide added safety and convenience for transit patrons.

