

# **APPENDIX B: INTELLIGENT TRANSPORTATION SYSTEMS**

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## **ITS User Services**

### **Travel and Traffic Management**

- Pre-trip Travel Information
- En-Route Driver Information
- Route Guidance
- Ride Matching and Reservation
- Traveler Services Information
- Traffic Control
- Incident Management
- Travel Demand Management

### **Public Transportation Management**

- En-route Transit Information
- Personalized Public Transit
- Public Travel Security

### **Electronic Payment Services**

### **Commercial Vehicle Operations**

- Commercial Vehicle Electronic Clearance
- Automated Roadside Safety Inspection
- On-board Safety and Security Monitoring
- Commercial Vehicle Administrative Processes
- Hazardous Materials Security and Incident Response
- Freight Mobility

### **Emergency Management**

- Emergency Notification and Personal Security
- Emergency Vehicle Management
- Disaster Response and Evacuation

### **Advanced Vehicle Safety Systems**

- Longitudinal Collision Avoidance
- Lateral Collision Avoidance
- Intersection Collision Avoidance
- Vision Enhancement for Crash Avoidance
- Safety Readiness
- Pre-crash Restraint Deployment
- Automated Vehicle Operation

### **Information Management**

- Archived Data

### **Maintenance and Construction Management**

- Maintenance and Construction Operations

Source: US DOT, url: <http://www.iteris.com/itsarch/html/urser/userserv.htm>, accessed February 21, 2007

## ITS Components

### **Fleet Management**

Advanced Communications For Operations  
Automatic Vehicle Location  
Fixed Route Computer Aided Dispatch (CAD)  
Paratransit Computer Aided Dispatch  
Vehicle Component Monitoring and Maintenance  
Automatic Passenger Counters (APC)  
Transit Signal Priority  
Archived ITS Data Management and Analysis  
Advanced Scheduling and Runcutting Software

### **Intelligent Vehicle Initiative**

Vehicle Collision Warning/Avoidance  
Pedestrian & Obstacle Detection/Avoidance  
Automated Speed and Headway Control  
Other Driver Aids (vision enhancement, alertness)

### **Transit Security and Safety**

On-vehicle Surveillance (CCTV, Covert Microphones, Hazardous Material Sensors, Silent Alarms)  
Station/Facility Surveillance  
Incident Response Systems  
Disaster Response & Management  
Transportation Worker Credentialing and Access Control  
High Occupancy Vehicle Facility Monitoring & Enforcement

### **Traveler Information**

Advanced Transit Call Center (Automated Telephone System, Itinerary Planning)  
511 Traveler Information  
Web Site with information on routes, schedules, fares, Itinerary planning, etc.  
Traveler Information Kiosks  
Next vehicle arrival at stations and stops  
Passenger requested itinerary planning (web, or kiosk)  
Real time vehicle location, next vehicle arrival (along route, at stations, at stops)  
In-vehicle variable message signs and audible enunciators (next stop, announcements)  
System status and incident alerts (e-mail, phone, fax)  
Mobile personal phone information systems

### **Electronic Payment**

Magnetic Swipe/Credit Cards  
Smart Cards/Chip Cards

### **Transportation Demand Management**

Dynamic Ridesharing  
Mobility Management & Automated Service Coordination  
Parking Management & Guidance

Source: U.S. DOT website url: [http://www.its.dot.gov/itsweb/transit/transit\\_training.htm](http://www.its.dot.gov/itsweb/transit/transit_training.htm), accessed February 22, 2007