

INTELLIGENT TRANSPORTATION SYSTEMS

- 1. Traffic Management**
 - 1.1 Traffic Control and Congestion Management
 - 1.2 Traffic Surveillance and Enforcement
 - 1.3 Intelligent Demand Management
 - 1.4 Traffic Incident and Work Zone Management
 - 1.5 Emission / Climate / Weather Related Traffic Management
 - 1.6 Parking Management and Access Control
 - 1.1.7 Modeling and Simulation
- 2. Payment Systems**
 - 2.1 Electronic Toll Collection
 - 2.2 Public Transportation Payment
 - 2.3 Road Pricing and Congestion Charging
- 3. Traveller Information**
 - 3.1 Traveller Information Services
 - 3.2 Trip Planning
 - 3.3 Route Guidance and Navigation
 - 3.4 Traffic Information Integration
 - 3.5 Personalized Information Services
 - 3.6 Radio-based Information Services
 - 3.7 Travel Time Forecasting
- 4. Public Transport**
 - 4.1 Public Transport Planning and Scheduling
 - 4.2 Inter-Urban Public Transport Operation
 - 4.3 Public Transport Information Services
 - 4.4 HOV Priority Services and Derivatives
 - 4.5 Light-rail & Taxi Operation
 - 4.6 Inter-modal Passenger Transfer Services
- 5. Freight and Commercial Transport**
 - 5.1 Hazardous Materials Transportation
 - 5.2 Fleet Management
 - 5.3 Electronic Cargo Information and Management
 - 5.4 Automated Clearance and Border Crossing Operations
 - 5.5 Freight and Terminal Security
 - 5.6 Inter-modal Freight Transport Services
- 6. Intelligent Vehicle Safety**
 - 6.1 Advanced Driver Assistance Systems
 - 6.2 In-vehicle Safety Technology
 - 6.3 Autonomous Vehicle Systems
 - 6.4 Human-Machine Interface
- 7. Vehicle-Infrastructure Cooperation**
 - 7.1 Cooperative Systems
 - 7.2 Vehicle-to-Vehicle Communication

7.3 Vehicle-to-Infra Communication

7.4 Applications: Smart Road Information, E-call, Infra-based Safety, etc.

8. **Intelligent Road Infrastructure**

8.1 Intelligent Road Safety Features

8.2 Infrastructure Maintenance

8.3 Integrated Highway Information Management

8.4 Road Hazard Detection, Reporting and Clearance

8.5 Emergency and Disaster Management

9. **Communications and Technology Emerging**

9.1 Interface Protocols and Applications

9.2 Privacy and Security in Communication

9.3 Advanced Positioning Systems

9.4 Geographic Information System. Transportation (GIS-T) and Digital Maps

9.5 Upcoming Technologies in Sensors and Detectors