Getting to Seamless Passenger Travel

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Transport on the mind – why stakeholders care

Sample of technology innovations

Integrated Multi-modal Intelligence

Discussion
Disruptive Trends in Transportation

**Increased Focus on Transportation**
Increased urbanization and congestion, underinvestment in systems and O&M, stove-piped projects, energy efficiency, sustainability and green, increased focus on efficient and visibility into transportation modes.

**Security & Safety**
Terrorism, security threats, and safety incidents driving increased priority and investment for security and safety systems for all modes of transportation.

**Need to Increase Revenues and Reduce Costs**
Tightening budget, pressure to operate profitably, and shift from Capex to Opex, changing business models & driving focus on new revenue sources.

**Technology Trends - “The Internet of Things”**
Internet of things, mobile computing and availability of high speed mobile broadband enabling industry transformation.
Running Transportation on Networked Information

Services Enabled by Technology

Customer Experience  Security  New Revenue Sources  Operational Efficiency
Network Enabled Services for Integrated Transportation

**Customer Experience**
- Internet access
- Real time asset visibility
- Vehicle location
- Virtual Station Agent
- Local area information
- Personalized service levels
- Notification of arrival
- Pre-trip and logistics planning

**New Revenue Sources**
- Data Services to clients
- Advertising integration in passenger modes
- Service provider leveraging network
- Access to demographic information
- Personalized, Premium services to customers and commuters

**Security**
- Live video surveillance
- Informed Incident Response
- IP based chemical sensing
- Real time messages
- Condition monitoring
- Asset management
- Pro-active security / Analytics
- Vehicle location
- Incident location

**Operational Efficiency**
- Asset tracking
- Passenger counter
- Real-time Route planning & scheduling
- Telemetry services for fleet management & maintenance
- Reduced stocking expenses

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**Transportation Network Architecture**

- Onboard
- Station or Terminal
- Response/Command Center
- Mobile Responders
- Data Center
Urban Transit: Smart Travel Station
Smart Travel: Virtual Station Agent

Provides interactive voice & video, in-person experience, between the customer and the virtual station agents. Improves customer experience, security, & operations.
Integrated Multi-modal Intelligence
Traffic Management: Integrated Awareness

Integrated Transport Management and Information Services

- Decision Support for Policy Making
- Public Transport Management
- Real-time Congestion Management
- Community for Information Sharing
- Separated Traffic Data Sources
- Change of Relevant Regulations
- Needs for Systematic Administration

Intelligent Transportation Management Center (ITMC)