Integration of transport modes into urban mobility: the contribution of ITS to improving urban mobility

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Presentation overview

- ERTICO
- Challenges to urban mobility
- Benefits of ITS for urban mobility
- Examples of ITS services
- Cooperative mobility systems
  - Their working
  - Steps towards cooperative urban mobility
  - Key issues for deployment
  - Role for policy makers
ERTICO - ITS Europe: promoting Intelligent Mobility

- Working together for the safe, secure, clean, efficient and comfortable mobility of people and goods thanks to ITS
- Public-private, multi-sector partnership with over 100 Partners from industry, infrastructure & telecom operators, public authorities, research institutes and users.
- Bringing ‘Intelligence into mobility’ through cooperation with all stakeholders
ERTICO - vision

“Intelligent mobility”

- with zero accidents,
- with zero delays,
- with reduced impact on the environment,
- with fully informed people,

where services are affordable and seamless, privacy is respected and security is provided.
Last line: security is ensured.
Paul Kompfner; 11/11/2008
Challenges to urban mobility

- Congestion
- Emissions
- Safety
- Accessibility
- Smart management
Benefits of ITS for urban mobility

- Free-flowing
- More accessible
- Safer
- More efficient
- Cleaner

ITS

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Examples of ITS services
Digital maps and hazard warning extend driver perception and control even further
Examples of ITS services

Sensors and communication technology prevent intersection accidents
Examples of ITS services
Cooperative mobility systems - ubiquitous information exchange

- Sensing
- Computing/networking
- Transmitting/communicating
- Positioning
- Mapping
Elements of cooperative mobility systems

- Data collection
- Cooperative traffic control
- Traveller support
- Integrated network management
Data collection

The collection of traffic, road & environment data across the entire urban transport network helps travellers choose the best route, and helps network managers detect and manage problems.

- Data collection & integration from moving vehicles & travellers
- Incident & hazard detection
- Real-time traffic & fleet status
Cooperative traffic control

Vehicles communicate & interact directly with local traffic control systems and other roadside infrastructure, and with nearby vehicles.

- In-vehicle display (“virtual traffic signs”) of traffic light phase, turn restrictions etc.
- “Clusters” of vehicles have more green time travelling at recommended speed
Traveller support

Travellers receive real-time information about traffic conditions and transport service operations, and make the best-informed choices.

- Assisted route guidance, navigation
- Traffic information, hazard warnings
- Multimodal travel assistance
- Parking guidance & payment
Integrated network management

Network managers can select road network and transport system strategies to achieve optimum traffic distribution, respond to changing demand, avoid sensitive areas and react immediately to incidents.

- Incident response & event management
- Balanced management of demand
- Coordination and cooperation between all traffic modes
Steps towards cooperative urban mobility

1. Bring all cities up to “best practice” standards (e.g. Urban Traffic Control systems can reduce delay by 20%)

2. Establish multi-sector EU-level roadmaps for implementation of in-vehicle and roadside infrastructure for cooperative mobility systems

3. Provide frameworks for technical standards, financial instruments, public-private partnerships and legislation/regulation

4. Support R&D and large scale field testing of new cooperative systems, to provide evidence of costs, benefits, impacts and effectiveness

5. Create effective EU-level and local partnerships of key stakeholders for deployment initiatives
Key issues for deployment

- Technical harmonisation of cooperative mobility systems, for in-vehicle systems and for roadside equipment
- Availability of sufficient (protected?) radio spectrum for connected vehicle services
- Accessibility to public-sourced data
- Privacy data protection & security
- Develop business case for multiple services
- How to bring together “champions” from various stakeholders into a partnership for deployment
Role of policy makers

- Legal framework to facilitate deployment by urban authorities
- Framework to define liability of providers of cooperative urban mobility services
- Consensus on European policies for urban mobility (consistent with subsidiarity)
- (How to) extend TEN-T and other EU funding mechanisms to urban schemes
- Promote incentive and bonus schemes for cities to encourage deployment & take-up of cooperative urban mobility systems
Thank you for your kind attention!

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