SOLUTIONS Knowledge Sharing Kit Cluster 5: Network and mobility management

www.urban-mobility-solutions.eu

This project is funded by the Seventh Framework Programme (FP7) of the European Commission.

About SOLUTIONS

SOLUTIONS aims to foster knowledge exchange and boost the uptake of innovative sustainable urban mobility solutions through the further exploitation of existing knowledge. The main focus of the SOLUTIONS project is on the exchange between cities from Europe, Latin America and the Mediterranean.

The project looks at the following thematic areas:

- public transport
- transport infrastructure
- city logistics
- integrated planning / sustainable urban mobility plans
- network and mobility management
- clean vehicles

Introduction to Cluster 5: Network and mobility management

Network and mobility management: addresses applications in parking management, access management, traffic and mobility management and control, traffic information and journey planning systems, cooperative intelligent transport systems (C-ITS) & pricing policies

Issues: Keeping the right balance between different mobility options; speed and uncertainty of technological progress in this area

Main focus: Provide examples of successful deployment in European Cities and lessons learnt from them

SOLUTIONS for	Type of impact
Parking Management	Improve
Access Management	Avoid
Traffic Management	Improve
Multimodal Journey Planning	Improve (Shift)
Cooperative ITS Systems (C-ITS)	Improve
Car- and Bike-Sharing	Avoid (Shift)

Solution 5.1: Parking Management

Parking management in Palma

Solution 5.1: Parking Management

Objectives and implementation

- Policy and planning objectives vary among city and city regions
- Reduce shortage of parking space
- Make sure sufficient parking space is available in inner cities
- Primarily implemented by city governments
- Various implementation options: increase parking space (e.g. in buildings) vs. create car-free/parking-free districts
- Zoning and planning practices and organizational and institutional frameworks must be adapted

Solution 5.1: Parking Management

Drivers

- Densification of inner city districts
- Growing interest of inner cities for real estate investment
- Urban sprawl/growing numbers of commuters needing parking space in cities

Barriers

- Expensive/finance
- Lack of enforcement strategies
- Legal concerns

Solution 5.1: Parking Management

Examples

- A summary of strategies is available at: http://www.vtpi.org/tdm/tdm72.htm
- Examples of EU projects: MOBILIS (http://www.civitas.eu/content/mobilis), ELAN (http://www.civitas.eu/content/elan) and CARAVEL (http://www.civitas-caravel.org/)

Solution 5.2: Access Restriction

Solution 5.2: Access Restriction

Objectives and implementation

- Aims to “restrict and enable” access to city districts or network intersections
- **4 types**:
  - Point-based access systems
  - Cordon based access system
  - Area license or area charging
  - Distance or time based charging

Solution 5.2: Access Restriction

Drivers

- Allow congestion and parking stress to be reduced
- Improve traffic safety and network operation
- Transport-demand management

Barriers

- Institutional barriers at the European level
- Unintended side effects (e.g. social implications)
- Implementation is very dependent on appropriate windows of political opportunity

Solution 5.2: Access Restriction

Examples

- Norwegian cordon pricing schemes in Bergen, Oslo and Trondheim
- London (UK) congestion charging scheme
- Stockholm (SE) congestion charging scheme
- Milan (IT) area charging scheme

Solution 5.3: Traffic Management

Traffic management in Palma

Solution 5.3: Traffic Management

Objectives and implementation

- Maximizing the effectiveness of existing infrastructure
- Ensuring reliable and safe transport,
- Addressing environmental goals
- Ensuring fair allocation of infrastructure space to users
- Plan and prepare for expected traffic volumes,
- Continuous monitoring
- Corrective measures to directly influence traffic

Solution 5.3: Traffic Management

Barriers

- Existing planning and funding practices that favour capacity expansion over demand management
- Institutional and political opposition to change
- Resistance from special-interest groups

Solution 5.3: Traffic Management

Examples

- Examples of projects:
  - MIMOSA (http://www.civitas-mimosa.eu/main/)
  - Easyway (http://www.easyway-its.eu/)

Solution 5.4: Multimodal Journey Planning

SUPERHUB project

Solution 5.4: Multimodal Journey Planning

Objectives and implementation

- Provide personalised travel suggestions, offering a wide range of transport alternatives
- In case of delays or disruptions, provide alternative routes.
- Encourage the use of climate friendly modes, e.g. by informing users on their carbon footprint
- Two implementation approaches:
  - large systems approaches (big data)
  - open data

Solution 5.4: Multimodal Journey Planning

Drivers

- Innovation & investment in ICT
- Generation of location-based data

Barriers

- Privacy and surveillance aspects
- Cooperation between operators, developers, and the city

Solution 5.4: Multimodal Journey Planning

Examples

- France: Destineo journey planner (www.destineo.fr)
- Sweden (www.trafiken.nu)
- Austria (www.anachb.at)
- For open data: POSSE (http://www.posse-openits.eu/en/)

Solution 5.5: Cooperative Intelligent Transport Systems (C-ITS)

Solution 5.5: Cooperative Intelligent Transport Systems (C-ITS)

Objectives and implementation

- Improving the possibilities offered by intelligent or smart transport systems
- Allows constant tracking and tracing of freight, enhancing of GPS-based road user charging, and allow semi-automated autonomous driving
- Can be implemented at local, regional, national and international level

Solution 5.5: Cooperative Intelligent Transport Systems (C-ITS)

Barriers

- Institutional barriers
- Legislation & liability issues

Solution 5.5: Cooperative Intelligent Transport Systems (C-ITS)

Examples

- EasyWay (http://www.easyway-its.eu/)
- Conduits (http://www.conduits.eu/)
- SARTRE (www.sartre-project.eu)

Solution 5.6: car-sharing and bike-sharing

Cambio car-sharing

Solution 5.6: car-sharing and bike-sharing

Objectives and implementation

- Car-sharing: Ease congestion and reduce emissions
- Car-sharing: in the future –> Plug-In hybrid electric vehicles (PHEV)
- Bike-sharing: offer new mobility options for the first and the last mile, for spontaneous day-to-day travel, for multimodal commuters, peripheral areas, and leisure cycling
- Bike-sharing: provide the “missing link” in transport networks and ease the burden on public transport at peak times

Solution 5.6: car-sharing and bike-sharing

Drivers

- Rising levels of congestion and parking stress,
- Increasing cost of individual vehicle ownership,
- Convergence of business models to pool and share cars

Barriers

- No bicycle-sharing initiative has yet been able to operate on revenues from membership fees

Solution 5.6: car-sharing and bike-sharing

Examples

- Vélib', Paris (FR) - 20,600 bikes and 1,800 stations
- Barcelona (ES), London (UK), Hamburg (DE)
- Many cities in China

Thank you!

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