



European Cities' Experiences in Technology and Sustainability of Urban Mobility

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EURO CITIES



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Mobility, Environment, Social
Affairs, Economic Development,
Culture, Knowledge Society





Urban Transport Innovation Projects



TIDE

Transport
Innovation
Deployment
for Europe

OPTICITIES[!]
ENHANCING SMART MOBILITY

“Enhancing the broad take-up of **15 innovative urban transport and mobility measures** throughout Europe to establish them as mainstream measures”

Cluster 1: New pricing measures

Cluster 2: Non-motorised transport

Cluster 3: Advanced network & traffic management to support traveller information

Cluster 4: Electric vehicles

Cluster 5: Public transport organisation



ROAD USER CHARGING IN URBAN AREAS

- Charges can be differentiated by time, place and vehicle types.
- **Milan** introduced congestion charging in 2012: flows across the cordon have decreased by 34%.
- **Stockholm** introduced congestion charging in 2007: volumes across the cordon decreased by ca. 20% and speeds improved by ca. 30%.



PARKING CHARGE POLICIES

- Scarcity of parking spaces can be managed by demand responsive charging.
- Charges can ensure that even during peak demand free spaces would be available.
- Charges can be differentiated by vehicle types.
- **San Francisco** has introduced the SFPark system where pricing of parking spaces is updated periodically to match demand levels.



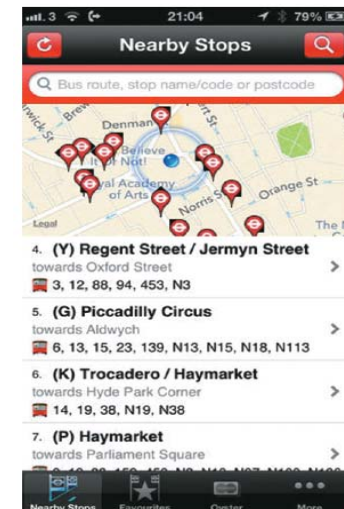
PRICING AND CHARGING FOR MULTIMODAL TRIPS

- Schemes that combine fare and one-point charging for multimodal trips
- In the Netherlands, ‘**Mobility Mixx**’ is a nationwide scheme comprising public transport, bicycle hire & park & ride in one card.
- **HANNOVERmobile**: integration of PT, car sharing and taxi



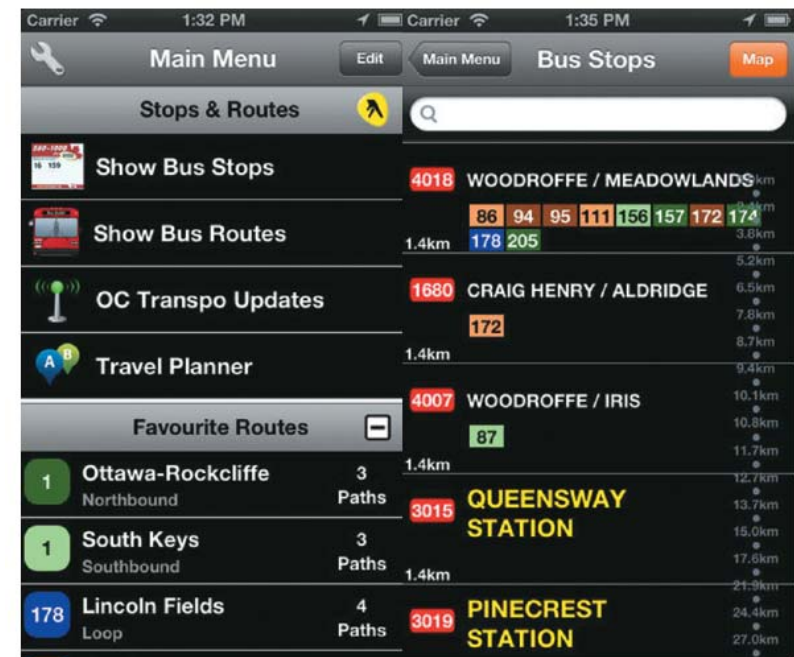
OPEN-ACCESS SERVER FOR APPLICATIONS-BASED TRAVELLER INFORMATION

- Using smartphone technologies to provide travel information
- Facilitate 3rd party to develop applications using open data
- Network information: congestion, incidents, car park occupancy, roadworks, CCTV images, VMS, ...
- Examples:
 - **UK: UTMC programme**
 - **Germany: Open Traffic system – OTS**
 - **Torino: 5T systems**
 - **Toronto: Open Data Portal**



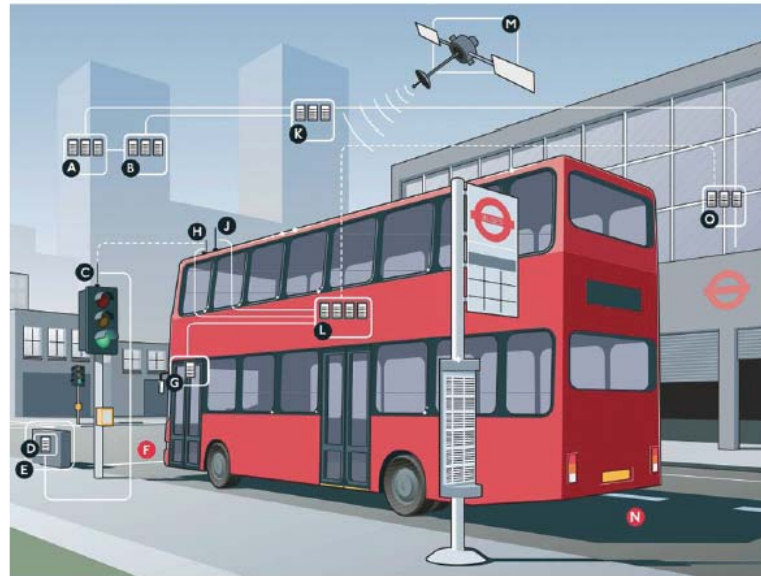
USER-FRIENDLY HMI FOR TRAVELLER INFORMATION

- Travel information based on smartphone technology & multi-modal data provision
- **Vienna:** multimodal journey planning and route guidance mobile phone application
- **Madrid:** web platform showing bus users position on a bus network for better door-to-door trip making.



IMPROVING BUS PUNCTUALITY USING BUS PRIORITY

- Real time bus locations using Automatic Vehicle Location
- Varying levels of priority given to late buses
- Improved reliability and regularity
- Examples in **London, Helsinki, Turin**



CLEAN CITY LOGISTICS

- Battery Electric Vehicle transporters for inner-city delivery fleets
- New sustainable logistics concepts
- Night delivery, access to restricted areas and pedestrianized areas
- Efficient bundling of deliveries



FINANCING SCHEMES FOR CHARGING STATIONS

- Installation of charging points are a necessary condition for the wider use of electric vehicles
- Revenue of electric power does not cover the investment and running costs
- Different models for charging stations: private, semi-public and public
- **Oslo, Amsterdam, London, Frankfurt, Lyon ...**



INDUCTIVE CHARGING FOR PUBLIC TRANSPORT

- Inductive charging infrastructure can be used for several types of vehicles simultaneously: buses, trams & future cars
- Decreased battery size and reduced charging times
- **Genoa, Turin, Gumi (South Korea)**

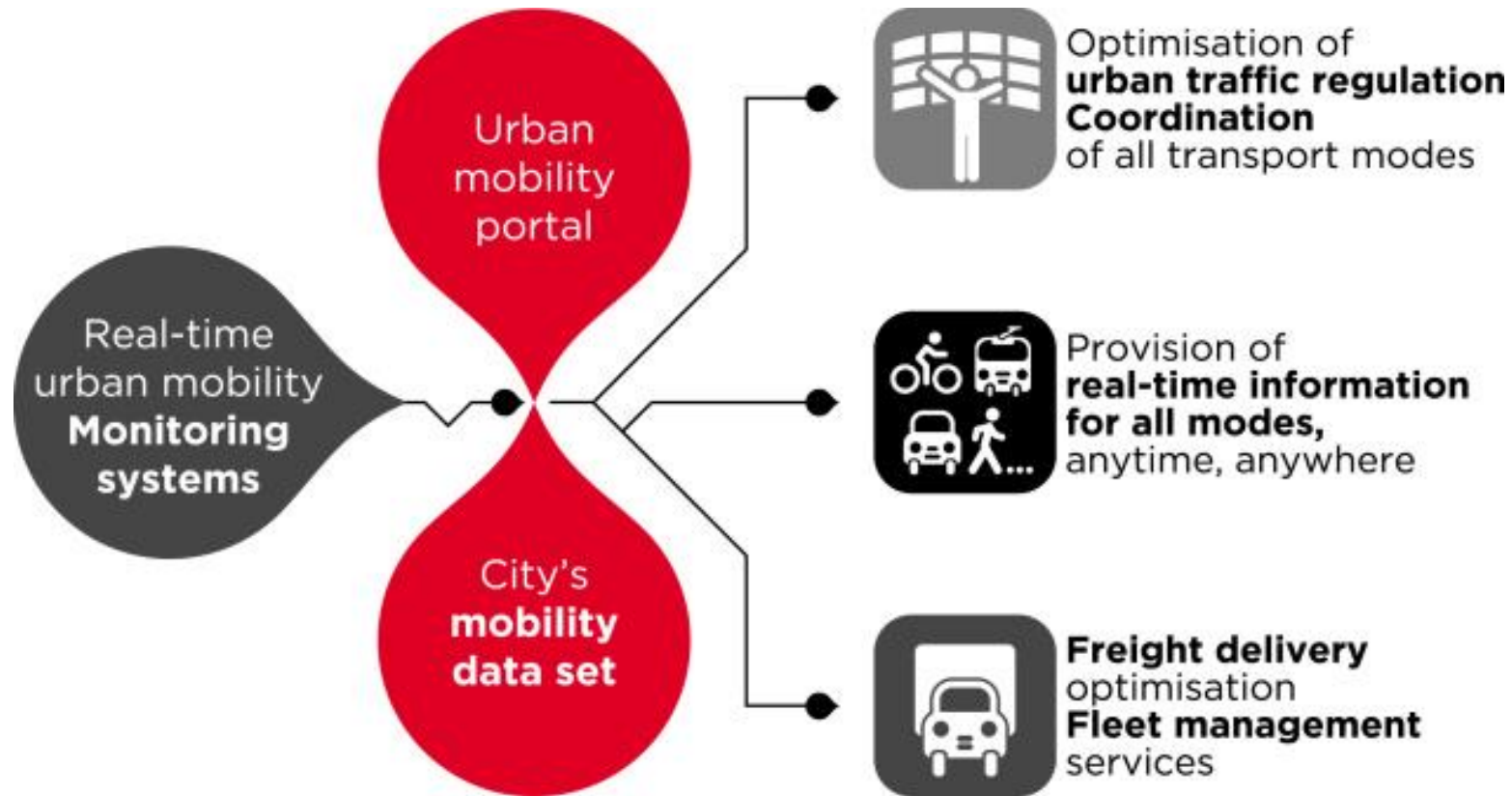


OPTICITIES[!]

ENHANCING SMART MOBILITY

- Innovation project coordinated by Grand Lyon with 6 european cities: **Lyon, Madrid, Birmingham, Göteborg, Turin, Wroclaw** + involvement of major ITS stakeholders and European Networks
- Optimise citizen mobility and freight management in urban environments through the experimentation of innovative **ITS services**
- Support mobility policy and an open market for business development around urban ITS through a **contractual framework** between public – private actors
- Define **European standards** and **common architecture** to foster interoperability among cities and among travel modes





- **New monitoring systems** for urban freight, multimodal data in large cities, road works
- **Interoperability of traveller information apps with various urban data sets:** different apps working in different environment
- **Continuity of services between traveller mobility apps and in car GPS**
- **Development of urban multimodal GPS**
- Development of **real time multimodal management** and **dynamic car pooling**
- Integration into traffic management systems of **1h traffic prediction**
- Development of high level **freight information services**





Thank you!

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