Infrastructure for Urban Mobility

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• European cities of more than 10,000 inhabitants concentrate 60% of the population of Europe
• Cities are currently growing at a rate of over 5% every ten years
• Achieving better mobility is one of the great challenges of our society
• A necessity for a competitive Europe and for the quality of life of European citizens
**Sustainable urban transport**

- Provides efficient access to goods and services to all city residents
- Protects the environment, cultural heritage and ecosystems for present and future generations
- Does not compromise opportunities for future generations to achieve at least the same level of welfare and quality of urban transportation services that we enjoy today, including the enjoyment of cultural heritage and the environment.
Upgrading and retrofitting infrastructures in urban context

- **Objective**: Address the increasing need of upgrading and retrofitting with regards to new regulations and requirements: larger dimensions, higher traffic volume and new ways of life.
• **Research items**
  
  • New construction methods: to keep traffic disruption during the works to a minimum while ensuring a maximum level of safety for users, neighbours and construction personnel
  
  • Development of maintenance concepts that enable demand-oriented needs, while minimizing construction costs as well as numbers and duration of maintenance and repair interventions
  
  • ...

• **Impacts**
  
  • Safest and more cost efficient urban infrastructures adapted to societal requirements
  
  • Enable infrastructure upgrading and retrofitting with zero impact on urban mobility
  
  • Create inherently safe operating environments when upgrading and retrofitting urban infrastructures
Adaptability of urban infrastructure to future mobility trends

**Objective:** make current and future infrastructure compatible with electric mobility. Infrastructure able to support cost effective and innovative electric transport solutions

**Research items**

- To develop innovative solutions and services to support private electric vehicles operations and to fully integrate them into current transport infrastructures
- To facilitate dedicated road capacity to enable the optimal integration of fully electric transport modes within the urban road network
- ...
• **Impacts**
  
  • Optimized development of safe transport infrastructures for all users, and adapted to new user's mobility trends
  
  • Integration of innovative fully electric public transport modes and infrastructures in urban areas
  
  • Integration of new infrastructures within current ones considering the need for co-existence with other services.
Advanced solutions to improve urban mobility

• **Objective**: better interfaces linking different transport modes available in the cities in a seamless and convenient way. Developing intermodal hubs in order to prevent inter-urban traffic from entering the city and congesting urban mobility and traffic flow.
• **Research items**
  - To develop innovative and open Service Oriented Architectures that would enable the smooth integration of information from infrastructure maintenance operators and the rest of the urban transport and traffic operators network
  - To develop new construction and maintenance systems to reduce duration of works and risks, and to minimize impact on mobility, specially on railway/tram/underground infrastructure
  - ...

• **Impacts**
  - To increase the mobility experience of urban road users in terms of efficiency, comfort and safety.
  - To contribute to develop greener and healthier cities for the citizen through more sustainable transport infrastructure
  - To increase the robustness and accuracy of the traffic information and signalling provided by the infrastructure
• **Objective**: new technologies to raise underground construction to have the same level of productivity, risk, cost, safety as other construction activities
• Research items
  • New technology and process improvements in order to increase productivity and reduce environmental impact
  • New developments to create safe underground working and operating environments
  • …

Impacts
  • Increase the productivity of underground construction activities by at least 20%
  • Enable underground operations with zero impact on existing surrounding urban areas
  • Create inherently safe underground working and operating environments
  • Strengthen the global competitiveness of the European construction industries
• **Objective:** Intelligent systems for better definition of existing transportation infrastructure and optimal planning of the new, according to city growth. Reduction of energy consumption in transport and emissions of greenhouse gases. Increase the quality of life of citizens.
• **Research items**
  
  • Tools to aid the improvement, correction and planning of infrastructures to empower urban mobility based on compiled information
  • Combine information with the already existing partial management systems to develop global applications
  • ...

**Impacts**

• Decision-making tools to avoid uncontrolled urban sprawl will be envisaged
• Urban sprawl considered as part of a balanced development, minimizing environmental damage
• Support the definition of territorial planning policies, fully integrating environmental and social considerations from the needs assessment phase, through to implementation and subsequent evaluation