Annex 6
Key project 4

Smart Mobility Model Region: Testing the integration of sustainable transport systems with other 'smart' technologies

1. Project background / societal challenge

There is an ever-growing need to improve the transport of people into and around cities and to reduce the environmental impact of this travel. The public needs to be provided with integrated transport systems that take them to their destinations quickly, economically and with the minimum environmental impact. Such journeys will require travel on different modes of transport, for example: private cars, trains and buses, individual transit on buses, public bikes and e-cars. A range of technological innovations are being developed to address these needs but, to be fully effective, they must be integrated into end-to-end systems that meet the needs of all sectors of society. It is impossible for individual companies to create such an integrated transport environment alone whilst local authorities are not well-placed to design such systems in isolation. There is a need to create a collaborative development approach where a core infrastructure is provided and companies can develop components to connect into this, providing a developmental test bed and showcase for new transport systems.

2. Project goal

The goal is to establish a model region where the different elements of an integrated transport system can be developed and demonstrated by manufacturers within a centrally managed network. This model will promote the rapid development of new ways to deliver smart mobility and provide a showcase for new approaches to be used across Europe. As an example the project will motivate the installation of charging infrastructure for Electric Vehicles (EVs) and other smart solutions. Importantly this will provide a test bed to ensure the compatibility of individual sustainable mobility options and other mandated smart technologies, enabling an integrated system that is easily accessible by the consumer.

3. Project description

Three regions will be selected providing variety of societal and geographical conditions. Each region will include a city centre and surrounding urban areas. For these regions, common infrastructures will be created for:

- Open and common transport timetable, status and reservation data systems.
- Open charging and payment systems.
- Common methods for assessing the environmental, time and financial cost of end-to-end journeys.

Companies will be invited to supply individual elements of the transit system:

- Electric or Plug-in Hybrid Vehicles (similar to Paris's Autolib scheme).
- Electric vehicle recharging infrastructure.
- Electric vehicle domestic charging infrastructure and load management facilities (e.g. links to smart meter, home automation and time of use tariffs).
- Low emission, rapid transit systems or upgrading of existing systems.
- Applications for public access to end-to-end journey planning; optionally optimized for time or cost.
- Cycle network (similar to the Transport for London Barclays Cycle Hire).

It is likely that the chosen pilot locations will already have much of the aforementioned infrastructures, whether that is for cycle networks and/or Electric Vehicles, but the purpose of this project is to test the integration of the transport options, cycle hire, Electric Vehicle hire, train, tram, bus etc. This will include potential use of RFID cards applicable for all eMobility options as well as billing and reservation back office infrastructures that will support the whole system. Key to this is the development of suitable back office services that will ensure the ease of us for all transport options. It is commonly known that for the development of a network of Electric Vehicle recharging infrastructure a back office service will need to be provided. We will therefore need to ensure that this will not inhibit or conflict with other similar systems in place, and will allow for an integration of services. This is one example of the key issues in hand.

4. Role of the electrical engineering industry

The electrical engineering industry is a key enabler of this project. Specific inputs include:

- Infrastructure for public Electric Vehicle recharging.
- Infrastructure for the management of home recharging points.
- Information systems/back office services for integrated support of end to end travel.
- Supplying new and upgraded transport components such as electric rapid transit systems.

5. Project's partners

- Project management organisation
- City authorities
- Trade bodies, providing input from the respective elements of the transport sector
- ESOs
- Manufacturers providing the equipment (possibly as contractors).