**Concept**

The development of transport technology and policy lies at the heart of achieving sustainable urban economies. This project sets out to integrate, co-ordinate and exploit existing Research and Technology Development (RTD) programmes across five regions in Europe. The key focus will be on the areas of Traffic, Health and the Environment to achieve Intelligent Solutions for Sustaining Urban Economies (THE ISSUE) by fostering transnational co-operation and collaboration between innovative research-driven clusters.

THE ISSUE consortium comprises clusters in the East Midlands Region in the UK, the Midi-Pyrenees and Aquitaine Regions in France, the Molise Region in Italy and the Mazovia Region in Poland. Each cluster is a “Triple Helix” partnership between business, academia and local/regional authorities with expertise in innovation for traffic management for regional transport policies and practice and environmental impact planning.

**Policy Context**

An overriding principle of the EU is the promotion of free movement of goods, services, people and capital. Traffic congestion is a global urban problem with far reaching impacts on economic sustainability, mobility, citizens’ health and the environment. European policy directives demand carbon emission reduction and a modal change in attitudes towards the use of public transport. Improvements to air quality follow from reduced traffic congestion through reduced air pollution and less adverse impacts on citizens’ health.

Within this framework, THE ISSUE consortium will create and implement a Joint Action Plan in research areas related to:

- Transport impacts on urban mobility
- Transport greening
- Intermodal regional transport
- Safety and security of citizens.

The overarching aims of THE ISSUE are to achieve more efficient use of existing transport infrastructures and to promote innovation in the utilisation of transport infrastructures. Economic (EO) and Scientific/Technological (STO) Objectives for THE ISSUE are listed below.

**EO1: Utilise Intelligent Traffic Management to boost the competitiveness of transport-related economies at urban, regional and local levels.** THE ISSUE aims to promote uptake of new technologies from concurrent RTD programmes - especially space and broadband technologies and advanced computational techniques - to existing transport management systems in order to deliver better management of existing transport infrastructure across the EU.

**EO2: Identify market opportunities for mature RTD applications and develop action plans for commercial implementation.** Examples include: exploiting the use of mobile phone and Galileo/GPS technology linked to existing traffic management systems for personal real-time public transport journey planners and location and guidance information in real-time for emergency services.

**EO3: Deliver innovative solutions to traffic management operations.** Economic benefits will accrue to regional authorities through improved transport efficiency. Examples include optimising...
performance of existing traffic management systems to relieve traffic congestion and reduce journey times.

EO4: Deliver innovative solutions to reduce traffic emissions and improve air quality locally. Local and regional authorities are mandated to improve air quality locally within nationally defined targets. The UK Government's 2007 Air Quality Strategy estimates that up to 24,000 people in the UK die prematurely as a result of short term exposure to air pollution and many more people suffer often debilitating ill health. Economic benefits will be realized by reducing traffic induced contributions to air pollution so reducing these incidences of death and illness.

STO1: Coordinate RTD actions between regions. The generic scientific objective for THE ISSUE is the application of intelligent traffic management systems in regional transport, health and environmental matters. A prime example is the successful demonstration of a Diverse Active Traffic Control System for managing urban traffic congestion and its associated pollution in the Nissan SKY project in Kanagawa, Yokahama. The main findings from a year long trial demonstrated a 20% reduction in travel time and an estimated 17% reduction of CO₂ emissions from vehicles using the system.

STO2: Identify the development path for widespread uptake of Intelligent Traffic Management. Applications for urban traffic management are being developed in Leicester; applications for emergency services are underway in Midi Pyrénées. The objective is to stimulate the uptake of these technologies across more regions in Europe and worldwide.

STO3: Achieve modal shift towards public transport to reduce urban congestion and shorten journey times. The MOBIVILLE project in Toulouse is set up to encourage modal shift towards public transport and facilitate urban travel using a dynamic guidance system “door to door”. Involving innovation using satellite localisation integrated with public transport, this project is developing a service which will guide the user using GPS/EGNOS data integrated into mobile phone displays.

STO4: Study of applications of road charging in other European urban traffic systems. Studies are underway in Mazovia to investigate the economic, technical and social implications of introducing road charging in Warsaw, by drawing down on experiences in London and Stockholm.

STO5: To transfer Computer Intelligence technology to operational users. Application of computer intelligence techniques to road-based logistics offers routes to identify, model and forecast consumer movement in large transport hubs. This includes airports, train and bus stations.

STO6: To provide regional planners with comprehensive databases of transport infrastructures to support their regional strategic planning. In Regione Molise the cluster works within the framework of land management, transport planning and earth observation and monitoring to enable decision makers to optimize public transport services according to current and potential demand.

STO7: To introduce active air pollution monitoring and mitigation into regional transport and environmental strategies. Despite EU legislation to reduce emissions of key anthropogenic air pollutants (e.g. NECD, 2001), levels in many areas of Europe remain unacceptably high. Traffic induced pollution is a major factor. Research in this topic, that will stimulate coordination actions, is underway in the East Midlands and Midi Pyrénées.