



Where is all this going?

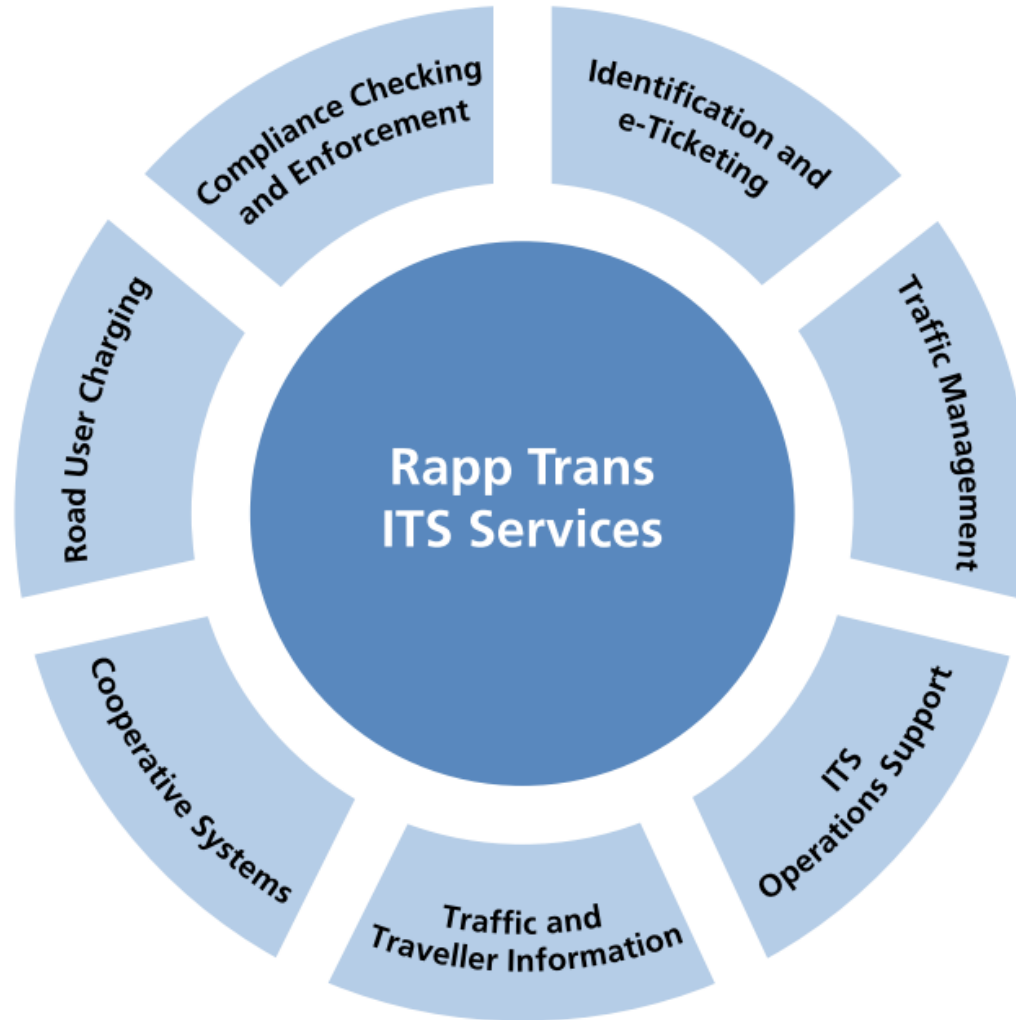
Master Class on Intelligent Transport Systems
Funding for Public Infrastructure
London, 22 June 2011

Session Overview



- Our Brief
 - “A master class on Intelligent Transport Systems”
 - “A participative workshop with a group that has gathered in order to share their common interest and extend knowledge”.
- Our Objectives
 - My objective is to introduce the subject and share some material to provoke discussion, during which I hope to understand a little more about our future as a small, knowledge based SME.
 - Your contributions, opinions and examples will develop and shape the content of the workshop this morning, fuelling the common interest and extend knowledge!
 - We will aim to complete this session by 11:45, and no later than 12:00 if the discussion is good!

Rapp Trans (UK) Ltd



Intelligent Transport Systems



- What happens when ICT meets Transport
- Often described in terms of more visible applications, the downstream commodities arising from the initial innovations
- Core idea involves the ability to collect, process and share data, enabled through available technologies
 - “Combination of information technology and telecommunications, allowing the provision of on-line information in all areas of public and private administration” (ITS UK)
 - “Only once travellers, vehicles and infrastructure can freely exchange information will the performance of the transport network be fully optimised” (LSE, April 2009)

Intelligent Transport Systems



- But also recognises the complex eco-system of the transport sector, with authorities, operators, service providers and other interested parties, not to forget the traveller!
- Major shift occurring because of the technology available to the traveller, independent of transport

Digital Investment



- LSE Joint Paper “UK Digital Road to Recovery”, April 2009
- Proposed that a specific focus on three areas of digital investment would generate sustainable employment and stimulate further innovation.
 - Broadband Networks
 - Intelligent Transport Systems
 - Smart Power Grid
- Suggested a relationship between £15bn targeted investment and the creation of approximately 700,000 jobs (half related to small business)

Digital Investment



- *“Building out these networks leads to new jobs generated by upstream investments in industries that create new and innovative applications and services to take advantage of the more robust ICT network”.*

The 'I' in ITS



- Innovation occurs where current technology is applied to address problems or needs.
- As innovations become commoditised and useful, there's a need to adopt them and then to harmonise them with others (integration, evolution, interoperability)
- Each refresh creates an opportunity to rethink how the new status quo can be delivered, and efficiencies created through migration (functional requirements)
- Systems both reflect and enable cooperation between parties who are affected (governance, framework agreements, business models)



The 'I' in ITS



- Intelligence can be described as “the capacity to *acquire* and *apply* knowledge, especially toward a purposeful goal... The effectiveness of *adaptive* behaviour”.
- Growing closer to this kind of system implementation (acquiring, applying, adapting) as technology and operating platforms open up new possibilities
- Basic intelligence model still the same, but approach is now “capture all available data first, worry about analysis later”.



Deployment Directions

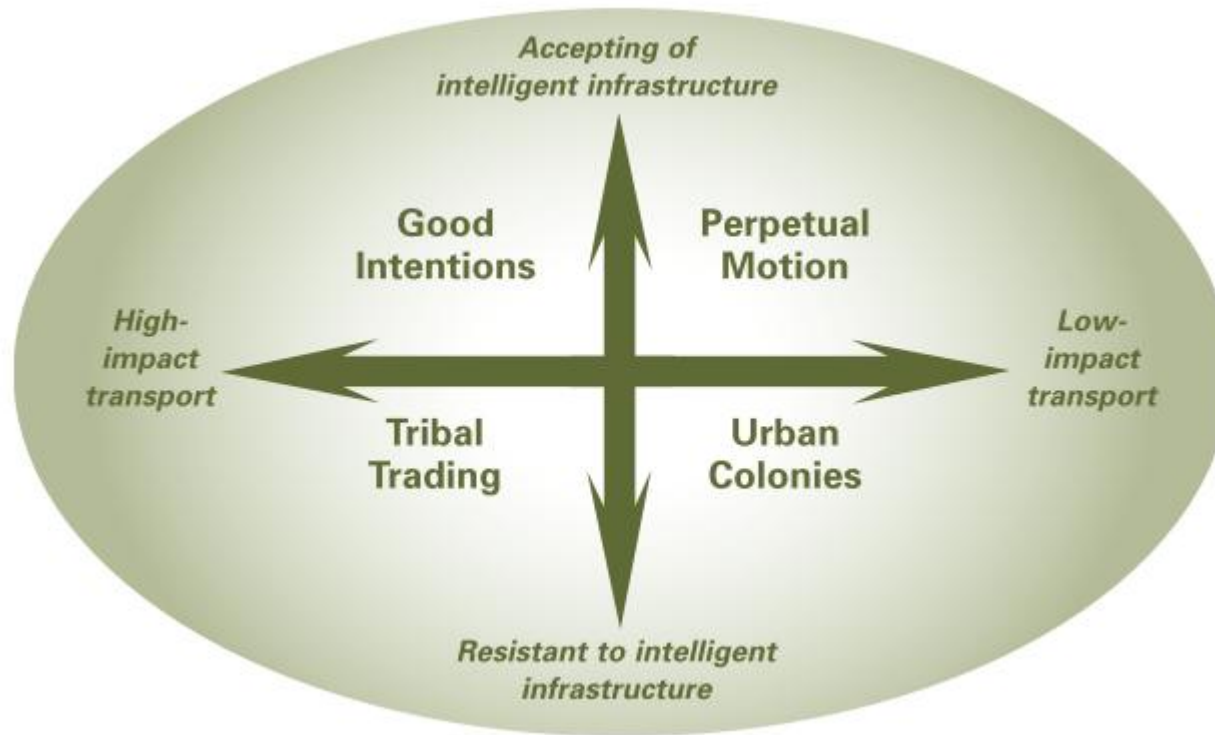


- Identifying the components of *de facto* intelligent transport systems today, and understanding how these can be provided more efficiently through shared services (do nothing scenario)
- Understanding likely demands and trends, ability to accommodate changes and expansions in the short term, including integration of emerging applications (do minimum)
- Scenario planning, strategic forecasting, preparing for bigger shifts (do amazing)

Scenario Planning



'Intelligent Infrastructure Futures' study by Foresight



Scenario Planning

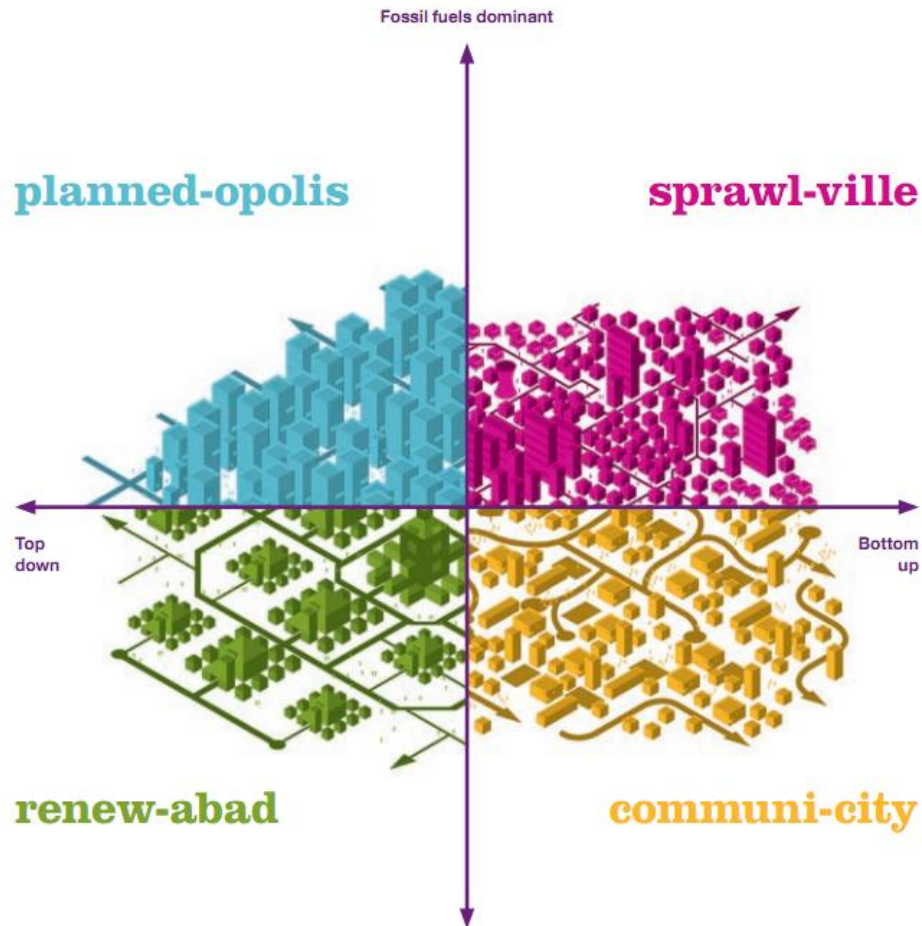


'Intelligent Infrastructure Futures' study by Foresight

So, to deliver intelligent infrastructure which is sustainable, robust and safe, we need to invest in intelligence on four levels. We need:

- **intelligent design**, minimising the need to move, through urban design, efficient integration and management of public transport and local production
- a system that can **provide intelligence**, with sensors and data mining providing information to support the decisions of individuals and service providers
- **infrastructure that is intelligent**, processing the mass of information we collect and adapting in real time to provide the most effective services
- **intelligent use** of the system where people modify their behaviours to use infrastructure in a sustainable way.

Scenario Planning



Discussion Pointers



- Anything to add on description on ITS, especially 'intelligent'?
- Do we believe the next generation of digital infrastructure can offer a step change in how we understand our transport networks?
- Does the 'network effect' imply investment only in the communication backbone, or could this be extended further?
- Is there any benefit in trying to define a set of minimum transport requirements, wherever digital infrastructure is implemented? Or is the managed service model sufficient?

ITS Action Plan and Directive



- Widespread enthusiasm in the European Council for the social and economic impacts of better ITS deployment (across 27 Member States)
- European Commission adopted an ITS Action Plan in December 2008, (COM (2008) 886) for road transport and its interfaces with other modes.
- An accompanying Directive (2010/40/EU) came into force in August 2010, due to be transposed by February 2012?
- Must adopt any relevant specifications within seven years,
- Early priorities are traffic and travel information, the eCall emergency system and intelligent truck parking.

ITS Action Plan and Directive



Optimal Use of Road,
Traffic and Travel Data

Continuity of Traffic and
Freight Management

Road Safety and Security

Integration of Vehicle and
Transport Infrastructure

Initiatives Parallel to ITS Action Plan



- eSafety, part of the Intelligent Car Initiative, includes ADAS
- EasyWay, deployment for trans-European road corridors
- Galileo, developing the European space navigation system
- Freight Transport Logistics Action Plan, includes eFreight
- Action Plan on Urban Transport, includes integrated information and ticketing
- Electronic Tolling and Payment (Directive 2004/52/EC interoperability for electronic toll collection, requiring all new systems to use one or more of satellite (GNSS), mobile (GSM-GPRS) or microwave (DSRC)
- European Electronic Toll Service (EETS), the outcome of decision (2009/750/EC) defining technical and contractual aspects for operators and service providers.

ITS Deployment – Some Thoughts



- Primary aim is to accelerate and coordinate the deployment of ITS applications.
- Intended to manifest a more 'single market' approach rather than the current fragmented 'islands of development'
- Strong emphasis on improvements in data collection, data storage and data availability for further application (opening up these markets)
- Encourages decentralised infrastructure, satellite based technologies, and cooperation between vehicle and infrastructure
- Converging with road operator priorities, but seeking better interfaces with other modes

Discussion Pointers



- Infrastructure requirements that support the rapid deployment of ITS?
- Opening up the data market, what the public sector makes available without compromising key services and what the private sector makes available without compromising value. Examples of successful data sharing?
- Royal Academy of Engineering suggested that UK was too dependent on satellite signals, raising the question of resilience. Another example of dependence building might be the use of applications by a company like Google? How do we address the question of resilience and service continuity?
- Where will the lead come from now? National, local or regional?

Thank you for participating today



Rapp | Trans

Nabil Abou-Rahme
md@rapp-trans.co.uk
+44 7966 310 964