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ICEUBI 2019

Research Roadmap for Transport Policy:
gaps from the past and challenges for the future

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Societal changes and Trends (I)

- Movements of both freight and people are a direct consequence of the way societies operate.

- We are on the verge of the 4th industrial revolution, with technology helping **a speed of change never observed before**.

- Looking to past decades, several **societal changes** can be observed. Their consequences have implications in the way transport can contribute to **Sustainable Development Goals (SDGs)** as defined by the United Nations (UN, 2016).

Societal changes and Trends (II)

- **Urbanization**

- by 2050, the **world urban population** is expected to represent **66 per cent** of the total global population, with Africa and Asia making up nearly 90 per cent of the expected increase of urban population

- **Megacities** increased from 29 in 2015 to 37 in 2017 and 41 are estimated by 2030, of which 10 will be in Asia and African to 2050. Cities evolve from a monocentric form of spatial organization towards a polycentric one, revealing gaps in mobility systems, usually bridged by informal innovative solutions

Societal changes and Trends (III)

- **An ageing society vs a young society**
  - Europe (average 40y); Asia (average 25y)
    - increasingly relevant to invest in understanding implications of **soft mobility (or active mobility)** and to create **models that evaluate and study** the 'physical activity' factor when related to health, both physical and mental, and the implications of a sedentary lifestyle, which often leads to the phenomenon of **social exclusion**.
  - The **object of preference status** has also changed from one generation to another.

Societal changes and Trends (IV)

- **Large scale migration flows**
- Transport operators and infrastructures are directly affected but the **accessibility impact is uneven across members** of the EU and UK. The most significant impacts can be detected in border management, increase of costs and enhancement of regional differences.
- **World growth is slowing and increasing uncertainty**
- Globalization seems to be in **retreat** in some sectors,
  - Severe implications for trade and transport
- Pressure on European **public budgets** remains severe. This situation tends to delay maintenance of infrastructure and mass transit services. But forces the emergence of **innovative funding and financing**

Societal changes and Trends (V)

- **The positive impact of the COP 21 Agreement, and its implementation**
  - the engagement of the private sector was a turning point in the process. COP 21 provided a clear obligation and agenda for the transport sector.
  - Emission scandals forced innovation in regulation

- **Oil price impacts many economic drivers and may hinder transport environmental target achievement**
  - When **oil prices rise**, **industry benefit reduces** and stimulates the search for other energy options and strengthens support for a carbon-free economy, but when increases in oil prices are not reflected in final consumer prices, **State revenues (taxes) are adversely affected** and consequently there is less funding availability for infrastructure investments.

Societal changes and Trends (VI)

- **Innovation and speed of technological evolution**
  - Spread of i**nformation** is a driver of innovation, and knowledge control the **speed of change**.
  - **Outreach and diffusion** of scientific achievements and knowledge are currently and EU weakness
- **Digitalization, information and communications technologies and their implications**
  - Efficiency of transport networks
  - Effectiveness of decision processes
- **Security Threats targeting Europe and its logistic and strategic centres**
- **Quality of governance and increasing political uncertainty**

The role of Transport

- **Accessibility and mobility concepts have taken specific roles and perspectives in the planning and policy universe**
  - > 15 % of household budgets is transport

- **Transport policy is path-dependent**
- In each moment of that path sustainability means **meeting the needs of people without jeopardizing the capacity to answer needs of future generations**. Path-dependency can indeed be a cause to miss opportunities to move to more sustainable transport futures

- ***For all vulnerable groups, as well as for migrant communities and people living in remote and low density rural areas, safe, accessible and reliable <u>transport services are a lifeline</u>.***

  (UN, 2016, p. 12)

Innovation Gaps and Drivers of Change

- **Transport policy is responsible** to create conditions to facilitate the development of innovation.
  - This requires a **long-term commitment**, as the life cycle of innovation is long
  - Stakeholders participation is very positive but can extend the life cycle of innovation, sometimes struggling for **vested interests**

- Transport policy must be **concerned with the outreach** and face the path that leads to it.
  - This path is by definition risky, long and expensive and **can only succeed if a system of innovation is in place**

- **The structural drivers that support applied innovation are: <u>information; education and entrepreneurship</u>**

Macro-objectives to pursue in Transport Policy

- **Inclusive Society**
  - New knowledge is required to assess trade-offs between social benefits (e.g., increased security) and social costs (e.g., privacy) and to incorporate non-financial aspects like accessibility, comfort, security, and value capture

- **A resilient transport system for sustainable cities and regions**
  - Implies: Climate change; impacts of demographic trends; ICT technologies; responsiveness of the mobility system; quantum improvements in safety; energy efficiency; modal balance

- **Transport has to make a very significant contribution to reducing emissions and this can only be achieved by both reducing mobility needs and adopting new sources of energy.**
  - Research is needed to identify the most effective transport policy pathways to combining such behavioural and technological contributions to lower emissions.

Must read

- The material presented is part of chapter 15 of the following book

- John Stanley and David Hensher (Eds), 2019, *A Research Agenda for Transport Policy*, Publisher Edward Elgar

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Obrigada pela vossa atenção !

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