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A set of tools for making urban transport more sustainable

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Abstract

There are six possible tools for making urban mobility more environmental friendly: more strict rules of the new urban transport policy, using advantages of connected vehicles, improving urban structure, showing better alternative for a car use, new financial sources for changing drivers behavior and the Business Model for cities wanting to have a green image. The new urban transport policy should concentrate on promotion of environmental friendly vehicles, equal access to public transport modes, better telecommunication services and better goods transport management. The Autonomic Road Transport Support Systems can change the street view: fights congestion by ramp-metering and better traffic distribution on the road network; autonomous cars densely packed when moving; no traffic signals, traffic signs, signposts and road painting; narrower carriageway means more space for bicycle routes, sidewalks, greenery and coffee gardens. Multifunctional and Intensive Land Use should be promoted to reduce travel needs or to make travel distances smaller (acceptable for walking or cycling). MILU will help also with urban sprawl – higher density means people are not car dependent. My Smart Eco-travel Planner and its database can be used for implementing sustainable urban transport policy in more efficient way. The main financial source for promotion of eco-friendly travel modes could be a transport policy rule: fuel prices can never go down – probably more effective measure than all Climate Summit 2015 results. Only during last 3 years changes in fuel price could result in Poland in gathering ca. 10bn € on the eco-fund for financing e.g. the new metro lines. Business Model (showing the cities their potential gains in result of above measures implementation) will help the cities authorities to vote for the new way of mobility management. Financial Div. of the City Transport Dpt. will calculate gains of the lower car use: lower costs of road construction and maintenance, new work places, shorter travel times, better environment, better inhabitants health and the Green City image – minus costs of the new system implementation. Measures mentioned above shape the new paradigm of urban transport management.

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1. Introduction

The biggest challenge of sustainable transport policy in urban areas is to decrease car use in densely populated areas where the highest traffic flows are observed. Although the idea of sustainability is well known since 80., it will be useful for this paper to explain how it is understood here. Implementation of sustainable development for a smart city is to support economic growth with minimal harm for environment and high living standards. In case of sustainable transport it means less energy and land consuming investments – sustainable use of environment looks for profit not at present but in a long-term perspective.

In most of the European countries is full understanding that today’s investments in the physical environment, in particular in infrastructure and mobility, are the main driver for urban economic and environmental vitality of tomorrow. Achieving a smart green and integrated transport system is a key to sustaining and developing economic and social vitality of urban Europe. Within this context the challenge is to deliver the next generation of infrastructure governance, design, management and operation. This enables optimal accessibility, liveability, health, safety and security across the scales from the local daily urban system to the wide EU-regions that cluster metropolitan areas (MIEN, 2014).

The core idea of Smart Cities is to better connect human capital, social capital and ICT infrastructures in order to generate greater and more sustainable economic development and a better quality of life for citizens. The concept of Smart Cities calls for intelligent approaches to local economy, mobility and environment by focusing on people’s needs and interests. In the long-term, every city should provide improved and smarter public services that are more citizen-centered, economically viable and environmentally sustainable. There is a need for flexible partnership between public and private sectors as well as diverse industries such as telecommunication, energy providers, manufacturers and suppliers to ensure improvements in mobility, energy consumption, governance and social cohesion in European cities (PublicPolicyEx, 2014). At present the modal split of transport in Europe is dominated by passenger cars accounting for 73.4% of passenger traffic compared to just 1.4% for tram and metro combined. According to the World Health Organization, some 40 million people in the 115 largest cities in the EU are exposed to air exceeding WHO air quality guideline values for at least one pollutant (MyWay, 2015).

The author’s scheme below (Fig. 1.) illustrates the path of city management which makes sustainable urban growth possible.

TOWARDS SUSTAINABLE CITY

Indicators to monitor and evaluate land use and transport integrated policies

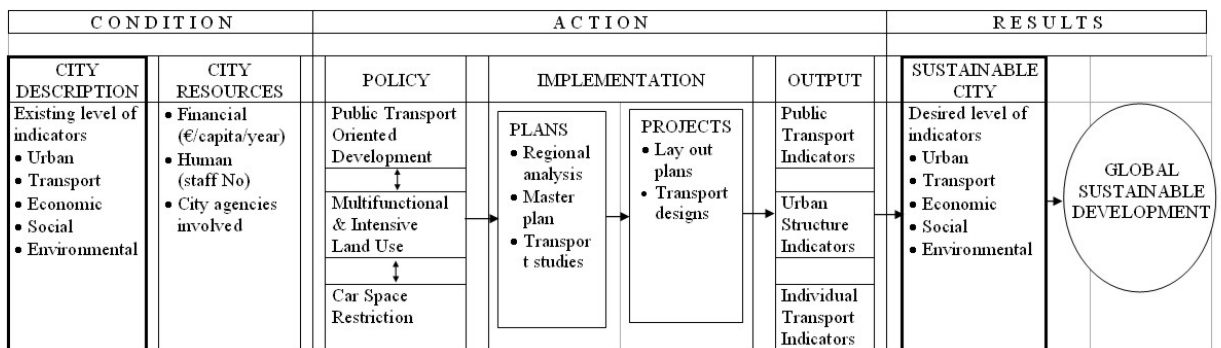


Fig. 1. Indicators to monitor and evaluate land use and transport integrated policies.

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