

**Grand
challenge 4:
Smart, green
and integrated
transport**

Sustainable transport solutions that enable us to live where we choose

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing

C4. Smart, green and integrated transport

C6. Europe in a Changing World – inclusive, innovative and reflective societies



CHALLENGE

Definition of sustainable transport: Sustainable transport is not polluting, not detrimental to health, CO2 neutral, affordable, accessible, available (there when you need/want it), durable and resists to climate variations.

Life is nowadays mostly concentrated and centralised in big cities, due to better job opportunities, education, services etc. In reality, people do not have the free choice to live where they wish. Therefore, we need to rethink society's organisation into more distributed communities that (might) produce and consume locally, find themselves supported by more flexible, innovative and sustainable transport solutions, considering the future context of a reduced need to move people and things into bigger cities. Another challenge is to find out (using a holistic approach), what are the new infrastructures, the virtual tools and possible innovative business models in the area of transport, that can make local communities more attractive for living. Quality of people's lives should be improved by allowing distributed living aiming at a sustainable life style. The

overarching challenge is to determine the best balance between connectivity and self-sustainability of local communities, taking into account the requirements for sustainability of transport.

SCOPE

Research and innovation should investigate how to enable distributed living that is economically feasible and sustainable for the environment. In this context there is a need to define what is understood by "local" and what is meant by "communities that are organized locally" as this is not necessarily the same as "rural". However, research should look also to the needs of the rural (poorer?) areas, e.g. low cost, small impact, and efficient infrastructure. Current transport strategies solutions should be identified, as well as the current and future transport needs in an (interactive) collaborative process including all users and other target groups (the people).

One of the crucial questions is "What remains as transport needs - in and between - the local communities in the new societal contexts of life organization (change of lifestyle, change of behaviour, social trends). In a localized organization of life, what would be the transport needs (frequency, distance covered, and reason to move) and what transport services would be needed to satisfy those needs (are walking and biking enough?).

Furthermore there is a need for analysing which services have to remain in the city and which services can be provided on a local level (also in the "rural"), how to articulate and interlink them and how to guarantee access to everybody.

Research should look to the most appropriate equilibrium (relationship) between the connectivity of the "local" with the "urban" and the idea of "self-sustainability" of local communities. This should be done by developing infrastructures, new/innovative business models and virtual tools of all kinds (provided by "digitalisation") for the provision of public and private services in remote areas. Research should also look into the ways to anticipate, handle and manage the changing transport needs created by new technologies and social media, in an ever changing world, where technological development is very quick, and alike quick are the changes in communication behaviour and transportation needs as a response to those changes. The reduction of imbalance in transportation choices, and the promotion of a decrease of the isolation of people in distant rural areas are paramount in this context.

EXPECTED IMPACT

- Provide an overview of needs of the local citizens
- Increase the attractiveness of non-urban life
- Provide tools and models that can show the socio-economic benefits of distributed living
- Reduce number of cars in cities and in places where nowadays the use of cars seems to be inevitable
- Reduce time spent in commuting
- More effective choices for transport solutions
- More attractive public/collective transport solutions
- Reduced CO2 emissions
- Employment and work opportunities, services and goods are available locally
- Increased opportunities for rural inhabitants (job access, care access, public services, etc.)
- A changed mind set of policy makers
- Provide policy solutions to support sustainable development of local communities

Online
consultation
rating ★

10 Sustainable transport solutions that enable us to live where we choose

Research topic :

Sustainable transport solutions that enable us to live where we choose

“We want to live like “that”, how transport has to be organized to enable it”) #10.b

Grand Challenges :

1: Health, demographic change and wellbeing

4: Smart, green and integrated transport

6: Europe in a changing world - inclusive, innovative and reflective societies

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Therefore, we need to rethink society's organisation into more distributed communities that (might) produce and consume locally, find themselves supported by more flexible, innovative and sustainable transport solutions, considering the future context of a reduced need to move people and things into bigger cities.

Another challenge is to find out (using a holistic approach), what are the new infrastructures, the virtual tools and possible innovative business models in the area of transport, that can make local communities more attractive for living. Quality of people's lives should be improved by allowing distributed living aiming at a sustainable life style.

The overarching challenge is to determine the best balance between connectivity and self-sustainability of local communities, taking into account the requirements for sustainability of transport.

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Online consultation rating: avg. 3,68/5

Countries prioritizing this research area: Sweden

Citizens' visions

[DE] **Vision 1:** Sustainability implemented
"technology overcomes spatial distance problems"

[LAT] **Vision 4:** Ecologically independent
"More people live outside urban areas. Direct production and sale is characteristic in the future because people will be able to produce a lot of things for themselves, especially due to 3 d printers and there will be less need to buy something." [...]

[NOR] **Vision 4:** The environmental citizen in a "short travelled" and "mega local" city in 2040
"New ultra-flexible ways of working will dramatically reduce the need for commuting"

[MAL] **Vision 2:** Better quality of life towards sustainable approach to local and global issues
"Less traffic due to self-driving cars, Higher use of scooters and bicycles"

[DK] **Vision 4:** The nature city of the future
"The city is car-free: the transportation system should completely replace the use of private cars. The system could be electrical, magnetic highspeed trains."

[BGR] **Vision 1:** The smart city – this is me!
"Car sharing instead of urban transport".

[ITA] **Vision 4:** A school beyond times - a new education model
"Every hub is as integrated as possible with the urban context, meaning that it is easily reachable with public transportation, surrounded by a green area with cycling paths and zero impact on the environment (solar panels, recycling bins etc.)" [WP2]

Policy recommendations on transports

1. Policy makers or regional authorities should promote the **development of local economies and facilitate living and working in local environments**, including rural areas. This will require constructing sustainable, accessible, affordable and effective transport systems on a local level. Innovation is usually in the hand of traditional players (large corporation). The research would focus on other, small, local players. Good connections with central hubs will be developed.
2. **Research addressing issues of distributed living** should be performed by **interdisciplinary** teams. As the complexity of research questions, topics and

scope is increasing this has to be required explicitly in the topic/call. Ways to boost the political will to finance this kind of research and the research community should be promoted.