

## POLIS RESPONSE TO THE STAKEHOLDER CONSULTATION ON POTENTIAL PRIORITIES FOR RESEARCH AND INNOVATION IN THE 2018-2020 WORK PROGRAMME OF HORIZON 2020 SOCIETAL CHALLENGE 4 'SMART, GREEN AND INTEGRATED TRANSPORT'

Polis is the leading European network of cities and regions focusing on urban transport innovation. Our response to this consultation therefore specifically targets the urban mobility priority within the Transport challenge of Horizon 2020.

1) What are the challenges in the field of Societal Challenge 4 ' Smart, Green and Integrated Transport' that require action under the Work Programme 2018-2020? Would they require an integrated approach across the societal challenges and leadership in enabling and industrial technologies?

The challenges that cities and regions are facing to reduce the adverse impacts of transport and enhance quality of life for their citizens are complex and multi-faceted. The following challenges require priority action for 2018-2020 in the field or urban mobility:

- Integration of sustainable modes (public transport, pedestrians and cyclists) in traffic/network management: new or adapted technologies are required for monitoring sustainable modes and new systems/processes/strategies for optimising people movement
- Effective integration of public transport and urban freight transport, including infrastructure, planning and service provision.
- New insights are needed into the impacts of wider technology developments, notably connected and automated road transport and big data, on urban transport:
  - Tools are required to support policy making in relation to such technology developments
- Transport demand management:
  - Enhancing take-up of the EC's non-binding guidelines on Urban Vehicle Access Regulation, and better assessing short-term and long-term impacts on the traffic system, on urban economic and spatial development.
  - Research into the use of parking policies as an effective demand management tool
- The connection between transport and health should be reinforced and studied further, not only
  from a road safety, air and noise pollution impact point of view, but also in terms of investigating the
  potential of behavioural change and shift in favour of active travel when linking into societal health
  challenges such as obesity and lack of physical activity.



- Research is needed to improve the public health economic values used in transport project appraisal

   exploring the value of impacts on chronic disease as well as mortality. Better data on the economic competitiveness of cities in relation to their levels of active travel is needed
- 2) What is the output / impact that could be foreseen? Which innovation aspects could reach market deployment within 5-7 years?
- Improved and integrated traffic and network management that takes proper and equal account of all transport modes which allows for a more balanced, safer and sustainable management of people and goods in cities and adequately responds to local policy priorities
- Understanding of the adaptations to organisational processes and infrastructure that new
  developments such as electrification, shared mobility systems, connected and automated transport,
  and big data, will bring
- Creation of a marketplace of European demand management solution providers with consistent and large-scale roll-out of these solutions across cities
- Roll-out of pilots in cities ready to implement radical, decisive change from car to active travel and public transport, and measure the changes in physical activity, air quality, climate emissions, social inclusion and road safety, plus the per capita economic product of the city over time.
- The output of projects geared at cycling and walking will be a higher share of active travel in the modal split, a lower air pollution, more human friendly neighbourhoods and healthier EU citizens. A larger deployment of (e-)bikes, better parking facilities for e-bikes, better walking and biking paths and areas and sharing best examples can have a major impact. The combination of active travel modes with e-cars and (semi)autonomous driving cars in trips will also increase the access and the liveability in our cities and regions.
- Many policy and technology solutions aimed at urban road safety are close to deployment, and would benefit from further scientific take-up and transfer support. This area has not been a topic for Horizon 2020 activity, and would benefit from more attention by means of Innovation Actions with measurable impacts on road fatalities and serious injuries.
- 3) Which gaps (science and technology, innovation, markets, policy) and potential game changers, including the role of the public sector in accelerating changes, need to be taken into account?
- Challenges in urban mobility solutions are not necessarily of a technical nature but equally relate to governance, integration, business models and regulation issues.
- There's a further need to shorten the innovation cycle for local and regional authorities and facilitate the deployment and roll-out of innovative solutions.
- Game changers for urban mobility in which local and regional authorities have a key role
  to play, also as accelerators for related solutions, are digitalisation, the sharing economy,
  automation, and electrification.
- Active transport (walking and cycling) should get much more attention, as these modes of transport make our cities and regions much more liveable and enjoyable. Cycling is the most



sustainable mode of transport for trips with a distance up to 5 to 7 km and with e-bikes even for trips up to 10 to 15 km. Walking and cycling also form the essential part of the first and last mile of trips and journeys.

- Projects to showcase European urban mobility testbeds and living labs as international
  examples for successful research and innovation in urban mobility and its sub-domains
  (PT, urban freight, etc.), as part of an active policy to enhance global competitiveness of the
  European industry and service providers in the field of urban mobility (vehicle manufacturers,
  ITS system providers, service providers and operators, energy utilities etc.).
- 4) Which areas could benefit from integration of horizontal aspects such as social sciences and humanities, responsible research and innovation, gender aspects, and climate and sustainable development?

The **connection between transport and health** should be reinforced and studied further, not only from an air and noise pollution impact point of view, but also in terms of investigating the potential of behavioural change and shift in favour of active travel when linking into societal health challenges such as obesity and lack of physical activity. Research is needed to improve the public health economic values used in transport project appraisal – exploring the value of impacts on chronic disease as well as mortality.

The connection between **transport and the Smart Cities and Communities aspect should be reinforced**. There is a growing perception that market uptake, upscaling and roll-out are the only issues that play in the introduction of Smart Cities concepts. In this view, fundamental research is considered to be accomplished and R&I budgets are decreased. Polis disagrees with this. Research is still needed to understand synergetic effects, choice of measures, behavioural aspects, evaluation and impact assessment etc. In this regard it is necessary that the SCC call topics for 2018 and 2019-2020 include fully integrated, multimodal smart mobility aspects.

- 5) Taking into account the current technological transformations (e.g. digitalisation), policy imperatives (e.g. decarbonisation) and socio-economic trends (e.g. on-demand economy), what areas of transport R&I should be prioritised in the short-medium term in order to reconcile economic efficiency, sustainability and user convenience?
- Transport demand management future scenarios in relation to sharing, connectivity, electrification and automation
- Urban transport is facing a 'procurement challenge' in the next decade: a variety of institutional stakeholders (with local authorities, but also Public and Metropolitan Transport Authorities) will be tendering for new vehicle types and new types of services (Mobility as a Service). This aspect requires a truly interdisciplinary approach, linking into Sustainable Urban Mobility Plans, a vision on the role of technology in that regard, and improved knowledge and implementation of (pre-commercial) procurement (of innovation) practices.
- Urban transport is also facing an 'investment challenge'. Processes that help to fully exploit projects
  that are funded through European investment and technical assistance instruments (EIB, EFSI,
  ELENA etc.) as objects of mutual learning, transfer and acceleration of innovation should be
  considered. This is current totally absent.



• It needs to be assessed how e-car and (semi)autonomous driving cars projects can be integrated with active travel projects and approaches to make neighbourhoods more liveable.

In this regard, Polis would like to emphasise that the CIVITAS 2020 is the best placed Horizon 2020 initiative to enhance economic efficiency, sustainability and user convenience. CIVITAS 2020 as an initiative by and for cities has been very productive in engaging cities in the research community, and directly addressing end users in R&I activities.