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# Rethinking mobility for a human city

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#### EDITORIAL

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## Rethinking mobility for a human city

We are living in amazing times. Doing research in the field of transport has never been that inspiring and challenging. This has changed, as several technological advancements have emerged that create new possibilities and will change our travel behaviour dramatically. At the same time mobility problems such as congestion and air pollution are on the rise due to urbanisation and other societal trends. The new technologies and mobility concepts, such as autonomous vehicles, ride-sourcing, mobility as a service or free-floating car sharing, all have a potentially considerable impact on how people and goods travel around in urban areas. While these new technologies provide new opportunities to tackle long-standing problems, they do not automatically lead to better liveability for everyone.

The question is: how can we rethink mobility to create a human city? A city that is liveable and healthy for everyone; where it is pleasant to stay or visit; where human activities are supported by a mobility system and not vice versa, i.e. it is not the mobility system that defines how people should live. In order to prioritise actions that bring us closer to a human city, we propose the concept of the 5Ps for a human city: *proximity, place for humans, prosperity for all, participation* and *finally passion*.

The supplementary question is to determine the role for us scholars in this? It is clear that if for us these are amazing times, for people working in the industry and those working at the city level, these times are quite scary. How can we support them in exploring the future and creating the right environment?

Let's have a look at the 5 Ps.

#### **Proximity**

The first P is for *proximity*. Urban and spatial planning is the basis for defining mobility patterns. Land use patterns are crucial in influencing travel demand at its origin. This means that our urban areas have to become denser avoiding urban sprawl and monofunctional areas, and we have to densify in a coordinated manner. Mixed-use areas where homes, employment, services and retail are in close proximity to each other can foster walking and cycling and the reduction of travel demand. Examples such as the one at King's Cross in London in the United Kingdom, one of the biggest mixed-use developments in Europe, with excellent links to public transport can help to steer travel demand onto a sustainable path (Imrie, Lees, & Raco, 2009).

The proliferation of internet and communication technologies has also made it possible to break the traditional habit of physical commuting. Working from home, from a satellite office or on the go on a train or a plane is an everyday practice for many nowadays with potential reductions in travel demand in the most congested periods and a decrease in the external cost of transport.

While the impact of land use on travel behaviour has been researched for decades, what we see in practice is that the implementation of the integration of land use and transport planning is difficult. It is a long-term process since land use decisions define settlement and movement patterns for decades. More support tools have to be developed to enhance this transition.

#### **Place for humans**

The second P stands for creating more space for humans in cities. After decades of planning that was based on the "predict and provide" principle, trying to satisfy the ever-increasing demand for road traffic, a paradigm change towards sustainable transport has gained momentum. At the same time, decades of car-centric urban development have created a great amount of transport infrastructure devoted to road traffic taking away place from other human activities. Globally, urban dwellers demand more space for social activities, leisure, and greenery. This can be achieved through civil disobedience, like in Brussels, where more than 2000 residents protested for more liveable streets in the city centre through the action "Picnic the Streets", and this action eventually led to the pedestrianisation of one of the major avenues of the city centre. Although the pedestrianisation project is still ongoing as the new urban space has not yet been created, we see a significant positive modal shift from car to public transport to access the city centre.

Besides traffic calming and pedestrianisation, promotion of car-free lifestyles and the reduction of car use there are other methods to create more space while reducing the need for road infrastructure and parking. An often cited figure is 96%, i.e. that is the percentage of time an average car stands parked (Bates & Leibling, 2012). Car- and ride-sharing have been shown to increase the efficiency of the vehicles while reducing the need to own a car. While these schemes have been around for decades, the wide proliferation of smartphones and wireless internet made the use and operation of such services more flexible and convenient. The new forms of car-sharing (e.g. free-floating or peer-to-peer) and ride-sharing offer such high degree of flexibility and ease of use that a new profile of users can be reached and car ownership can further be reduced. Mobility as a service, integrating both shared and public transport can even go further and make owning a car unnecessary for many who have otherwise access to a multitude of alternative mobility services at an affordable price.

If we look further (but not too far) into the future, autonomous vehicles may also have an impact on the use of space in cities. However, privately owned autonomous vehicles themselves may not reduce the need for roadspace per se. Firstly, by expanding the possibility of travelling without a driving licence or the physical ability to drive a vehicle, vehicle kilometres may increase by anything between 2 and 40% (Brown, Gonder, & Repac, 2014; Wadud, MacKenzie, & Leiby, 2016). Secondly, by using travel time for other useful or productive activities in autonomous vehicles may promote urban sprawl and longer commutes. Therefore, the crucial question whether we adopt a system that is based on ownership or one that is based on sharing of autonomous vehicles. More research is needed into the means by which cities can support this transition towards sharing.

#### **Prosperity for all**

This brings us the third P: prosperity for all. Would the new technologies and concepts outlined above be accessible for all? Or would they only improve the mobility of certain groups of people? A good example is free-floating car sharing, which has been shown to be used mostly by young or middle-aged, high-income, male urban dwellers (Kawgan-Kagan, 2015). In order to use such services as well as ridesourcing (such as Uber), one needs a credit card, an internet enabled smartphone and the necessary financial resources. In addition, one needs to be in the service area of these schemes, which are mostly confined to densely populated cities. While we often take these preconditions for granted, a large section the society does not have access to some or all of these tools or resources. What if ridesourcing services

replace infrequent bus services? How can we prevent new private monopolies and provide accessibility to essential services for low-income, low-educated or rural population groups? How can public transport services be maintained if the "new mobility services" cannibalise them and increase the need for subsidies. While there are already examples for cooperation between ridesourcing companies such as Uber and Lyft and public transport operators to provide a complementary last- or first mile solution for public transport passengers. We know little about the potential impacts of such replacements on public transport ridership & financing and social equity. Also, the availability of ridesourcing services are based on the demand, therefore densely built areas have more availability. How can we ensure that last-or first-mile solutions in peri-urban or rural areas provide a convenient and affordable alternative to public transport?

The role of public policy may be crucial here as a regulator and subsidiser of transport services. How can the state or a local government ensure social equity and accessibility for all social groups through the regulation of service provision and pricing? Certainly, they need to make sure that the new mobility services take the perspectives of the users into account.

#### **Participation**

This brings us to the fourth P: Participation. If we talk about a human city, we also have to ensure that the humans living in this city have a say about how it evolves. Participation makes it possible to use the knowledge and creativity of residents for policy making. Participation and co-creation make it possible to engage the public in decisions about their own environment which can increase their acceptance of measures or designs. In the mobility domain, decisions usually involve multiple actors with diverse objectives. Methods like the multi-actor multi-criteria analysis (MAMCA) can ensure that these groups can all voice their interests in the decision making process. MAMCA makes it possible to investigate support for or objections to several alternative solutions to a mobility problem. The stake-holders themselves participate in defining the alternatives, their own objectives and the importance of these objectives. Then these alternatives are evaluated on the stakeholders' criteria to show the synergies or conflicts between their preferences (Macharis, Turcksin, & Lebeau, 2012).

New technologies such as smartphones and Internet of Things devices have also opened up the possibilities for citizens to participate in data collection. So-called citizen observatories can contribute to the measurement of air pollution or noise caused by transport or provide qualitative input about the perceptions of people using transport infrastructure or services.

#### Passion

What do we still need besides *proximity*, *place for humans*, *prosperity for all* and *participation* to create a human city? We certainly need more research and especially research that crosses the boundaries of the different disciplines. We need investigations that focus on the users, the people as well as on sustainability as a framework condition for the survival of humans in cities. The fifth P is therefore *passion*: we need scholars with passion, who can look beyond the silo of technology and investigate the impact of technology on our society.

Finally, none of us is perfect. We are all perfect in our imperfections. Thus, the human city should also not be perfect. Possibly not even smart, but it should be warm and welcoming where it is nice to live and nice to visit.



#### References

- Bates, J., & Leibling, D. (2012). Spaced out perspectives on parking policy. London: RAC Foundation. Retrieved from http://www.racfoundation.org/assets/rac\_foundation/content/downloadables/spaced\_out-bates\_leiblingjul12.pdf
- Brown, A., Gonder, J., & Repac, B. (2014). An analysis of possible energy impacts of automated vehicle (pp. 137–153). Cham: Springer. https://doi.org/10.1007/978-3-319-05990-7\_13
- Imrie, R., Lees, L., & Raco, M. (2009). *Regenerating London: Governance, sustainability and community in a global city*. London: Routledge.
- Kawgan-Kagan, I. (2015). Early adopters of carsharing with and without BEVs with respect to gender preferences. *European Transport Research Review*, 7(4), 46. https://doi.org/10.1007/s12544-015-0183-3
- Macharis, C., Turcksin, L., & Lebeau, K. (2012). Multi actor multi criteria analysis (MAMCA) as a tool to support sustainable decisions: State of use. *Decision Support Systems*, *54*(1), 610–620. https://doi.org/10.1016/j.dss.2012.08. 008
- Wadud, Z., MacKenzie, D., & Leiby, P. (2016). Help or hindrance? The travel, energy and carbon impacts of highly automated vehicles. *Transportation Research Part A: Policy and Practice*. https://doi.org/10.1016/j.tra.2015.12.001

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