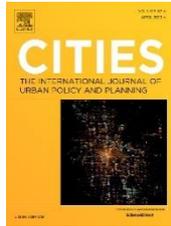# Call for Abstracts
"Autonomous mobility transitions: socio-spatial dimensions and the role of urban planning and policy"

Special Issue of *Cities, the International Journal of Urban Policy and Planning*

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Background

Advances in Artificial Intelligence (AI) and digital technologies are set to transform many facets of society, including the way we travel and interact in cities. Today, AI-driven and Information and Communication Technology (ICT)-enabled fully autonomous vehicles are being introduced into a number of cities around the world. However, the transition to autonomous mobility presents enormous uncertainties for cities. As automated driving becomes pervasive in cities, profound societal and spatial impacts will be inevitable. An important socio-spatial dimension of automated driving is the likely impact that this new form of mobility will have on the structure of cities and on the configuration of streets and public spaces. For nearly a century, the conventional car has essentially dictated the way cities have been designed and built. By extension, the likely improvements in accessibility and mobility freedom that driverless vehicles will provide could also have profound impacts on the emergent structure of future. Existing built-environments and transport infrastructures would require remodelling to enable self-driving cars navigate in cities and to ensure efficient communication among connected vehicles, infrastructure and other road users. Urban spaces are also likely to become more contested should automated driving technologies share roads, streets and other public spaces with conventional vehicles and vulnerable road users such as cyclists and pedestrians.

Introducing AVs into existing built-environments and transportation systems could cause major disruptions and worsen problems of unequal access to opportunities, especially if investments needed in providing public transit are diverted into building infrastructure for driverless cars. Potential conflicts of autonomous vehicles diffusion with the sustainability and liveability objectives of urban policies are likely, should automating driving lead to increased car use, energy consumption and CO_2 emissions.

The transition to autonomous mobility will also have implications for creating inclusive and age-friendly urban futures. It is expected that self-driving vehicles will remove existing capability constraints of using motorized transport and the associated problems of transport-related social exclusion that individuals with age-related impairments, physical and sensory disabilities face. However, the extent to which individuals and groups in society will actually benefit from any improvements in accessibility will depend on a number of factors, including the affordability of autonomous transport modes as well as the design, operation and the spatial coverage of autonomous transport systems. Thus, in order to implement inclusive urban transport futures, innovative urban development and transportation planning strategies that could leverage autonomous vehicles to respond to the mobility needs of different groups of people, will be critical.

Moreover, the logistics sector is one area that autonomous driving is expected to deeply transform. For example, freight platooning benefits associated with optimized utilization of electric connected autonomous vehicles could help to reduce energy consumption and emissions. This will offer cities the opportunity to reduce transport-induced negative impacts on the environment and public health. In addition, leveraging automated driving technologies to make localised deliveries could help address last mile goods delivery problems in cities. For all these changes to occur, however, urban planning and policy must respond to new challenges associated with the technology, including planning for the supporting infrastructure such as road and street systems, electric vehicle charging stations and warehousing and bulk-breaking facilities.

Furthermore, economic impacts, including potential job losses in the transportation sector are expected because of automation. Like many other ICT-enabled socio-technical innovations, autonomous mobility will leverage mass communication and surveillance technologies, thereby posing new challenges for protecting public safety, privacy and individual**.** Despite these safety and privacy concerns, fundamental questions regarding the ownership, management and access to data that users of autonomous transport services would generate, are yet to be explored.

As the foregoing discussions have shown, the urban fabric, as well as different groups of people in different parts of the city may be affected differently in the transition to autonomous mobility. How can urban planning and policy respond to the wider equity impacts associated with autonomous mobility? What forms of conflicts are likely to arise in the transition to autonomous mobility, and how can urban planning deal with the essential tensions among the varying interests of stakeholders, including urban citizens, businesses and the public sector? What new approaches and methodologies are needed to support policy formulation and implementation in order to effectively harness the benefits of autonomous mobility, and to deal with the associated challenges?

Focus of the special issue and themes

This special issue seeks to bring together a collection of **critical perspectives on the social and spatial implications of the diffusion of autonomous vehicles in cities**. In particular, the special issue will seek to publish contributions that stimulate debates and improve our understanding of how urban planning and policy can respond to this potentially disruptive technology as it intersects with cities. The contributions can be empirical, theoretical and methodological. Topics can include (but are not limited to):

- autonomous mobility and urban spatial structure
- affordability, equity and inclusivity implications of autonomous mobility
- accessibility implications of autonomous vehicles for motorized travel
- accessibility implications of autonomous driving for different age groups including children, young adults, people in old age, and for individuals with disabilities and the urban poor
- implications of autonomous driving for vulnerable road users, including cyclists and pedestrians
- implications of autonomous mobility for mass transit in cities
- possible travel behaviour changes around driverless vehicles
- governance of autonomous mobility transitions
- the nexus between autonomous mobility and public health
- gender dimensions of autonomous mobility
- infrastructure investment implications of autonomous vehicles
- implications of autonomous driving for existing built-environments and the design and development of new towns
- privacy and security concerns around autonomous vehicles
- the nexus among autonomous vehicles, emerging mobility concepts (e.g. shared-mobility, mobility-as-a-service) and urban sustainability
- autonomous mobility transitions and employment in the city
- urban planning implications of automation in freight movement in the logistics sector.

Abstract submissions

Interested authors are invited to submit an abstract **(maximum 400 words)**, describing the rationale, methods, data and expected results of their papers. Please include a short biography and full contact information for each author. Send your abstract and bios in a single document to **Ransford Acheampong (Ransfordantwi.acheampong@manchester.ac.uk)** by **July 31, 2019.**

Authors will be notified of the outcome by **September 13, 2019.** Full papers will be due on **February 29, 2020.**

Important dates

Abstract submission deadline:	July 31, 2019
Decision on abstract proposal:	September 13, 2019
Manuscript submission deadline (6,000 - 8,000 words):	February 29, 2020
Reviewers' Feedback:	May 31, 2020
Revised paper's submission deadline:	August 30, 2020
Reviewers' final feedback and editorial decisions:	September 30, 2020
Final manuscript due:	October 30, 2020
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For more information about the aims of the journal and submission guidelines please see
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