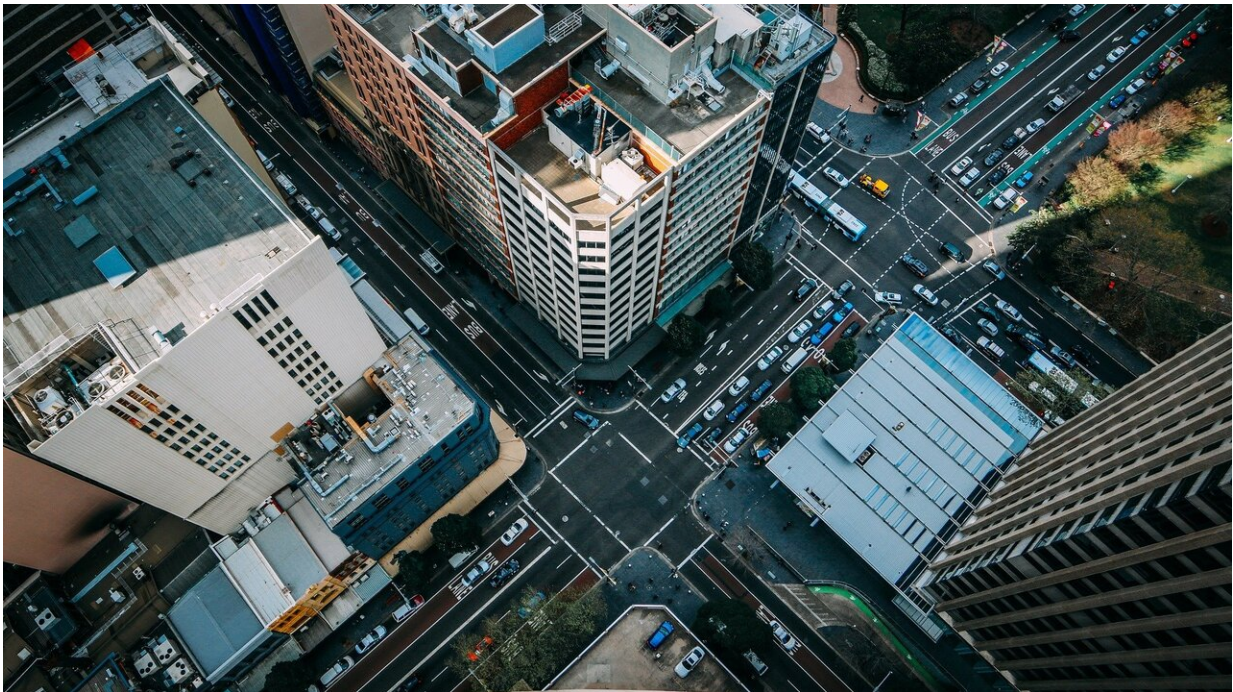


How pooling solutions can be strengthened in road transport

May 14 2024, by Ulrich von Lampe



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Less than a hundred kilos of human weight, more than two metric tons of steel: individual road transport is a huge climate killer, and switching to electric vehicles is only part of the solution because manufacturing the vehicles also causes emissions.

So how do you get more people into one car? Two studies involving the

Berlin-based climate research institute MCC (Mercator Research Institute on Global Commons and Climate Change) now show how [climate policy](#) can help achieve this without coercion, and how important this is for the major goal of climate neutrality.

The papers have been published in the journals [Environmental Research Letters](#) (*ERL*) and [Mitigation and Adaptation Strategies for Global Change](#).

The first study, published in *ERL*, examines the topic in an interdisciplinary manner from nine different perspectives, summarizing the findings of the respective research literature. The potential expansion of shared taxis, car-sharing and ridesharing depends on the political management of transport, but also on the local economic geography: settlement patterns, traffic flows, and the characteristics of local public transport as a starting point for additional travel services. Psychology also plays a role—for example the "user experience" of mobility apps on smartphones—as do energy policy and economic funding.

From the researchers' point of view, politicians can indeed exert influence to promote pooled mobility, for example through infrastructure (designated lanes and electric charging stations for cars with multiple passengers) or financial levers (annual fees on parking spaces and taxes on car purchase and ownership). They can prioritize pooled journeys in the design of toll systems, as in London or Stockholm, or in the taxation of taxis, as in Chicago. They can promote [technical innovations](#) and provide start-up support for new mobility providers.

Urban planning and [urban development](#) are also important: the study emphasizes the role of urban density and urban form for pooled mobility, and illustrates this point with New York and Beijing, which have great potential in this regard.

In the Global South, far fewer people can afford their own car, and shared transport services are widespread. According to the study, this offers an opportunity: governments could combine climate protection and prosperity if, for example, they help invest in upgrading the "matatus" in Kenya or the "colectivos" in Latin America towards clean and safe pooled mobility. They might flank this with effective political communication to influence social norms (i.e. weakening the connection between social status and vehicle ownership).

Currently, shared taxis cover 90% of total mobility needs in Ghana's capital Accra, for example, and 60% in Tanzania's capital Dar es Salaam. The researchers emphasize that, on closer inspection, there is a great deal of innovation in the Global South in this respect, and that the North can learn from it.

The second study, also co-authored by MCC, shows just how big the computed climate effect of pooled mobility can be. Using China—the largest greenhouse gas emitter—as an example, it calculates car traffic on a fine-grained basis at the provincial level under an ambitious scenario: that the proportion of electric cars among new registrations will rise to 100% by 2030. CO₂ emissions in transport in 2060 would then be 71% below the historical peak in the business-as-usual scenario.

The study compares this with an extreme scenario: in addition to switching to electric, all road transport would be switched to pooled mobility by 2060. This would result in an emissions reduction of 83%, rather than 70%.

"Overall, the aim is to recognize the increased pooling of car journeys as an innovation with both social and technical implications, and to scientifically explore it," explains Felix Creutzig, head of the MCC working group Land Use, Infrastructure and Transport, lead author of the first study and co-author of the second. Creutzig served as a

Coordinating Lead Author in the most recent Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

"The IPCC is also likely to focus more on this topic, because this is a relevant building block on the way to climate neutrality in [transport](#)."

More information: Felix Creutzig et al, Shared pooled mobility: expert review from nine disciplines and implications for an emerging transdisciplinary research agenda, *Environmental Research Letters* (2024). [DOI: 10.1088/1748-9326/ad3cf5](https://doi.org/10.1088/1748-9326/ad3cf5)

Jiawei Hu et al, Shared pooled mobility essential complement to decarbonize China's transport sector until 2060, *Mitigation and Adaptation Strategies for Global Change* (2024). [DOI: 10.1007/s11027-024-10135-3](https://doi.org/10.1007/s11027-024-10135-3)

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