THEME 01

How to get people out of their cars?

MOBILITY SUSTAINABILITY INNOVATION

We are addicted to the automobile and it seems there's little we can do about this. Our reliance on privately-owned cars relates to the shape of our cities and a (perceived) lack of alternatives, but also to the great symbolic value the car holds for us. Nevertheless, with increasing societal concern over car use and as its negative consequences intensify, the momentum for technological solutions and radical regulatory measures is building up.

Our observations

- In OECD countries, more than 80% of passenger transport takes place by car. In non-OECD countries this is only 41%, but this percentage will increase to more than 50% towards 2040 (at the expense of public transport and two-wheelers).
- Even though a recent study suggests a positive effect, the relation between ride hailing services (e.g. Uber and Lyft) and car ownership and use is still unclear. It is clear, however, that ride hailing mostly substitutes public transport (and buses especially) and increases overall car use. Nevertheless, under specific circumstances (i.e. mid-sized cities with relatively poor public transport), ride hailing may complement public transport, as it can help consumers get to transit stations and hence promote multimodal travel.
- London's aggressive congestion charge system, in which drivers pay £11.50 to enter the city center by car, has resulted in 25% less traffic and a reduction of almost 40% in private car use. Similar results are found in Singapore and other cities with road pricing schemes. Other cities have announced zones for low or even zero emission vehicles only.
- Worldwide, about 7 million people make use of car sharing schemes and this number is projected to grow to 36 million by 2025. As the total number of cars is almost 1 billion, and expected to grow to 2 billion, car sharing as-we-know-it is unlikely to have significant impact. Shared self-driving cars could prove much more popular, but they are unlikely to lead to lower car use overall (although they will be less polluting and require far less parking space).
- We have written before about the cycling revolution. Bike sharing schemes have grown rapidly in, for instance, China, Europe and the U.S. and these may actually lead to reduced car use, in part because they complement public transport. Electric bicycles also appear to substitute car use to some extent.
- While the Segway failed, new small-vehicle types are on the rise and they may reduce car use as well. Electric scooters (i.e. *step* in Dutch) and other electric two-wheelers (e.g. Felyx in the Netherlands) have become hugely popular in major cities. In fact, the two main scooter rental companies, Bird and Lime, hold multi-billion valuations. Beyond these scooters, other small vehicles are being developed as well (e.g. Lime's "transit pods", Toyota's iRoad concept).
- Spatial planning has a profound impact on people's transportation needs and favored modes. Suburbanization clearly stimulates car use, although developments around transit routes may reduce this effect. Higher density cities allow for more efficient public transport and reduce travel demand. Local governments are also seeking to reduce parking space to discourage inhabitants from travelling by car and thus develop cycling-friendly cities.

>> see next page

Connecting the dots

The car is by far the most dominant mode of transportation in developed economies. This is largely related to structural factors such as suburbanization and the growing distance between the places where we live and work and the decline of public transport infrastructures. However, this is only one part of the story. Despite the suggestion that millennials care less about cars, the automobile still holds enormous symbolic value for its users as it offers freedom-to-travel and a means to express one's identity. It may even be seen as an irrational antidote to the "iron cage" of modernity and the primacy of rationality. Despite the unquestionable value of the car to society, the economy and our everyday lives, there are also many reasons for society to diminish our dependency on it. Cars directly contribute to local air pollution and climate change and take up vast amounts of scarce urban space (both for parking and driving). Cars are also responsible for, by far, the most traffic fatalities, make for less livable cities and they don't offer the health benefits that walking and cycling do.

So far, however, little has been achieved in terms of reducing car ownership or use. By contrast, public transport is under pressure in most developed economies and emerging middle classes in developing economies tend to buy a car as soon as they can afford it. And, what's more, relatively new possibilities such as car sharing and ride hailing seem to add car-based trips and, in the future, self-driving cars are likely to increase private car-based transport even more. Even free public transport (e.g. in Talinn) hardly manages to get people out of their cars. Nevertheless, other technological and digital solutions are on the rise that may have the desired effect after all, and momentum for radical policy measures seems to be growing as well.

Cycling, for instance, is gaining popularity in hitherto car-dominated cities and local governments are providing more (and safer) space for cyclists, often at the expense of cars. To illustrate, London's congestion charge system has reduced inner-city traffic and the freed-up space is now reserved for bicycles. Novel vehicle-types are on the rise as well and these are often part of as-a-service models enabled by digital technology. Electric bicycles, small electric scooters and mini-bicycles are gaining ground and they are typically used in combination with public transport. And, in American suburbia, so-called neighborhood electric vehicles (i.e. advanced golf carts) sometimes form parallel mobility systems (e.g. the fascinating case of Peachtree, where ten thousand golf carts use 100 miles of dedicated paths).

On the regulatory side, awareness is growing (although the idea itself is far from new) that denser urban development contributes structurally to reducing travel demand and, hence, car dependence. However, it is difficult to turn back the clock on suburbanization and many consumers simply long for a detached home with a garden and a car port. Thus, in the end, other, more aggressive regulatory measures may be necessary. These are often stick-like measures that mildly force consumers to abandon their cars: increasing the cost of car-use (fuel taxes, road or congestion charging) or reducing the number of parking spaces in an area or barring (polluting) private vehicles from entering designated zones. Generally, these are unpopular measures that require a lot of political will to introduce. At the same time, growing awareness over air pollution, the (societal) costs of congestion and a longing for the good life (e.g. through cycling) could empower decision-makers and clear the path for such radical interventions.

Implications

- When consumers abandon their privately-owned cars in significant numbers, value will shift from car manufacturers and the entire automotive ecosystem to manufacturers and operators of alternative modes of transportation, including tech-enabled platforms for sharing, renting and Mobility-as-a-Service models. This could also imply a shift from globally operating companies (e.g. oil companies) to local businesses (e.g. local energy producers or local shops that profit from people travelling less far).
- From a global perspective, the challenge to reduce car ownership in developed economies tends to overshadow the need to prevent consumers in developing economies from becoming as car-dependent as we are. Sound investments in public transport could help them to leapfrog the automobile as the dominant mode of transportation.

>> see next page