AUTONOMOUS CARS: 25 MEASURES FOR 2025

Report Workshop *25 great minds towards '25* – 11/03/'15 in Ghent

In January 2015 Taxistop and Autopia participated in a workshop in the German Wremen with as subject the autonomous car and the infrastructure of the future (report). On March 11, 2015 a sequel of the workshop took place in Flanders. Taxistop and Autopia piled up 25 *great minds* (representatives from politics, the academic world, the mobility field, …) who debated and reflected an entire day about the self-driving car and the future.

The day started with a short introduction on the status of autonomous cars and shared mobility. To provide the creative minds with the necessary input, Michel Bauwens, leading thinker and founder of the *P2P-foundation* gave his vision on the transition from the current economic environment to a peer-to-peer economy.

STARTING POINT OF THE DAY: THE AUTONOMOUS CAR: BUSINESS AS USUAL OR A GAME CHANGER?

The autonomous car appeared for the first time in movies and TV series from the 80's. Back in time, this seemed true science fiction. Today in 2015, millions of kilometers have been driven with automated vehicles and it is predicted that the first self-driving cars will make their entry into the daily traffic within the next decade.

"Autonomous cars can eliminate up to 90% of the cars in cities"

So the question is no longer whether it is possible to make an autonomous car available for customers, but rather how society will deal with it. At the workshop in Wremen, the participants concluded that enormous opportunities lie ahead with this new form of mobility. A recent study by the *International Transport Forum* argues that with the autonomous car, up to 90% of the

cars in cities can disappear[1] without comprising on mobility and if public transport becomes a central transportation system.

However, some caution is needed: autonomous vehicles can also make car use and ownership more attractive. Traffic jams can become more attractive, given that a car can also be a work or living place. In that case, bigger problems arise on the horizon in terms of congestion and land use. This is the *business-as-usual* scenario.

So, the autonomous car can be a blessing to the livability of cities or cause even more congestion and occupy urban space.

The ideal scenario of the future: the shared autonomous car

In the morning, 25 *great minds* searched the ideal future scenario for the autonomous car. The participants unanimously came to the conclusion that the self-driving car should be approached as a *game changer*. The impact may be even wider: There are possibilities to move towards more equal opportunities, basic accessibility and a more balanced society with the neighborhood as beating heart.

According to the 25 *great minds*, the following stages are a realistic and desirable scenario in the process of the emergence of the autonomous car:

- Stage 1: park autonomously
- Stage 2: driver determines destination and route to get there, car drives autonomously
- Stage 3: driver determines destination, car determines route and drives autonomously
- Stage 4: driver determines destination, local government/government determines route and car drives autonomously.

In order to eventually achieve the desired scenario 4, a certain degree of scale is necessary. At least 50% of the driving cars should be a self-driving vehicle for proper operation, 100% for perfect operation. Additionally, the link is made between **the autonomous car and the share economy**. It is expected/desired that these two will go hand in hand.

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[1] http://rt.com/news/253621-selfdriving-cars-uber-taxibots/

COMBI-MOBILITY

The autonomous car creates opportunities to decouple use of property. The problem of the excess of cars can be dammed and car and ride sharing will increase exponentially because mobility *à la carte* is possible. The autonomous vehicle must be used in combination (combi-mobility) with a high-quality collective transport and a smart and steering mobility policy. Quality, security, convenience, flexibility and security are key success factors.

THE IDEAL NEIGHBOURHOOD

Sharing can also be a trigger for the ideal neighborhood model: the neighborhood is a meeting place and a pleasant environment in which everyone can feel safe, where everyone takes each other into account. The street is no longer a transport axis, but a public space where people meet without the hassle that goes along with private car ownership.

Safety is the main reason to bet on the autonomous car

The cost of traffic accidents, fatalities and injuries is enormous. 96% of all accidents are due to human error. The autonomous car can reduce it to almost 0%. Governments can see this as the main factor for the accelerated introduction of the autonomous vehicle.

The government as director

(Local) governments hold the key to achieve the desired scenario. They can send *real time* traffic flows, and guide autonomous cars to destinations via an imposed path in function of the actual situation. Moreover, (local) governments can develop a smart, guiding pricing policy.

However, there is a big "but" to this story. When you leave the integration to the (local) government, it takes a long time to organize this because of too many reforms and contradictions. Therefore, the think tank is very inclined to the idea of a partner state. The government that provides a framework as a partner in bottom-up projects by citizens. *Partnerships* between government and citizen initiatives will be necessary. The (local) government will obviously have to fulfill a different role and become more of a facilitator instead of a steering government.

There is need for a government that adapts the infrastructure and establishes a legal framework for the benefit of consumers around the ownership of data, liability, etc...

A diversified offer by various operators

We notice that the car industry is transforming from car manufacturer to a provider of mobility. Every self-respecting brand is today experimenting with forms of shared mobility (fe. Mercedes: *Car2go*, BMW: *Drivenow*, Audi: *Audiunite*,...). Then, the profits of shared autonomous cars go

mostly to global multinationals. Moreover, the consumer and the local government have little control over the organization and the product. Just like for example with energy giants, or large IT companies. The think tank believes that the benefits of shared mobility must be returned to the consumer and the neighborhood.

The 25 *great minds* conclude that there is a need for various providers and operators of the self-driving car (e.g. car industry, public utilities, …). A special mention is made about users' cooperatives and their potential role in society in making mobility available for everyone by the participatory nature of such an organization.

Common ownership of data

Anno 2015 the access and ownership of data seem to be one of the major challenges. Currently, data is concentrated among major market players (Google, Facebook, Uber, …). Data are essential for the director of the ideal future scenario. Based on these data, the offer can be diversified in function of user, time and location. The government has to avoid the creation of a monopoly around data. We then risk to fall into the scenario of the utilities where one player has too much power and the free market cannot function optimally.

It is essential that data and information are available to anyone, across national borders. For example, *Transport for London* has released data with the idea that anyone who wants to make an app can use this data on the condition that they share the results. This proved to be very successful. Meanwhile, approximately 5,000 people work with an app that's created this way. Making data available is expected from governments, but it can also be expected from autonomous companies, particularly those offering public services like mobility.

If an operator makes certain standard data collective on a central platform, much more organizations will be able to build for example smart cars or app's. This gives you a healthy social and competitive model and the user can make necessary choices on his own. The data are part of the so-called *commons* (dixit Michel Bauwens) through which you generate much more decentralized initiatives.

25 MEASURES FOR 2025

The fascinating think tank ended with the formulation of 25 concrete policy measures to make the autonomous car a real *game changer* for a sustainable mobility with livable and pleasant neighborhoods in 2025.

Bet on a variable, guiding pricing policy. Make taxation steering in the direction of use instead of property:

The starting-point is: discourage car ownership and promote sustainable alternatives. Society must change the habit of individual ownership of private cars. A guiding price policy can give this shape. It should be aimed to make the most sustainable form of transport the most financially advantageous.

1. Replace the culture of company cars by a mobility budget: make it fiscally less advantageous to buy company vehicles;
2. Make it fiscally advantageous to buy a car together: e.g. if a car is shared, the consumer pays 6% sales taxes, if not, he pays a higher tax (>21%);
3. Give a subsidy for the purchase of electric (and CNG) cars if the vehicle is shared;
4. Make car ownership more expensive;
5. Introduce the smart mileage charge (e.g. based on passenger numbers, time and location of the displacement, etc…).
6. Make it fiscally more advantageous to live in the city;
7. Give tax incentives to people who move in function of their work location.

Establish a transparent and clear framework in which shared mobility takes place:

8. Set clear terms and definitions concerning shared autonomous vehicles (e.g. when can we talk about a shared car, how many kilometers do you have to share, …);
9. Organize a mobility database in which corporate collective data is managed (cfr. Crossroads Bank for Social Security or *black list* for insurances). As a government, you can impose a standard (preconditions to collect data in the same format). If you use this standard, you get access to data;
10. Clarify the rules concerning privacy and data and adjust the legal framework in function of autonomous cars and shared mobility (cfr. liability);
11. Bet on standardization (e.g.. standard plug for all electric vehicles);
12. Limit the number of cars in cities "*Low Ownership Zones*", or "*Zero Ownership Zones*";
13. Let the host city determine how a car enters the city;

14. Bet on a total shared economy: The growth model of the current economy has limits. We need a different way of value creation: a society that is not only driven by profit, but also by other values as happiness, participation, sustainability, …

Create a guiding policy on spatial planning:

For a financially viable, sustainable and shared mobility it is essential that people settle in places with sufficient capacity in terms of the offer of collective and autonomous transport, good walking and cycling infrastructure and facilities.

15. Organize highways with large self-driving buses. At exits, passengers can transfer into smaller self-driving vehicles for the last kilometers;
16. Make all footpaths two meters wide and provide safe cycle paths;
17. Organize neighborhood parking lots (instead of street parking), where shared vehicles are stationed at the most interesting places;
18. Let shared vehicles drive on bus lanes, however without interfering with the flow of buses;
19. Make use of existing parking areas e.g. supermarkets and companies.

Provide ease of use and awareness:

20. Set primarily in on a *modal shift* towards walking, cycling and public transport;
21. Make one "MOBIB-card", or MOBIB-pay-app for all modes of transport (train, tram, bus, car sharing, bike sharing, taxi, ...);
22. Encourage pilot projects with autonomous cars;
23. Provide collective promotion of sustainable, shared mobility (cfr. promotion of diversity in VRT programs);
24. Consider free public transportation for people without a driver's license;
25. Organize different business models and subscriptions to make the autonomous car available and attractive to the widest possible target audience (e.g. autonomous buses, autonomous luxury cars, etc…).