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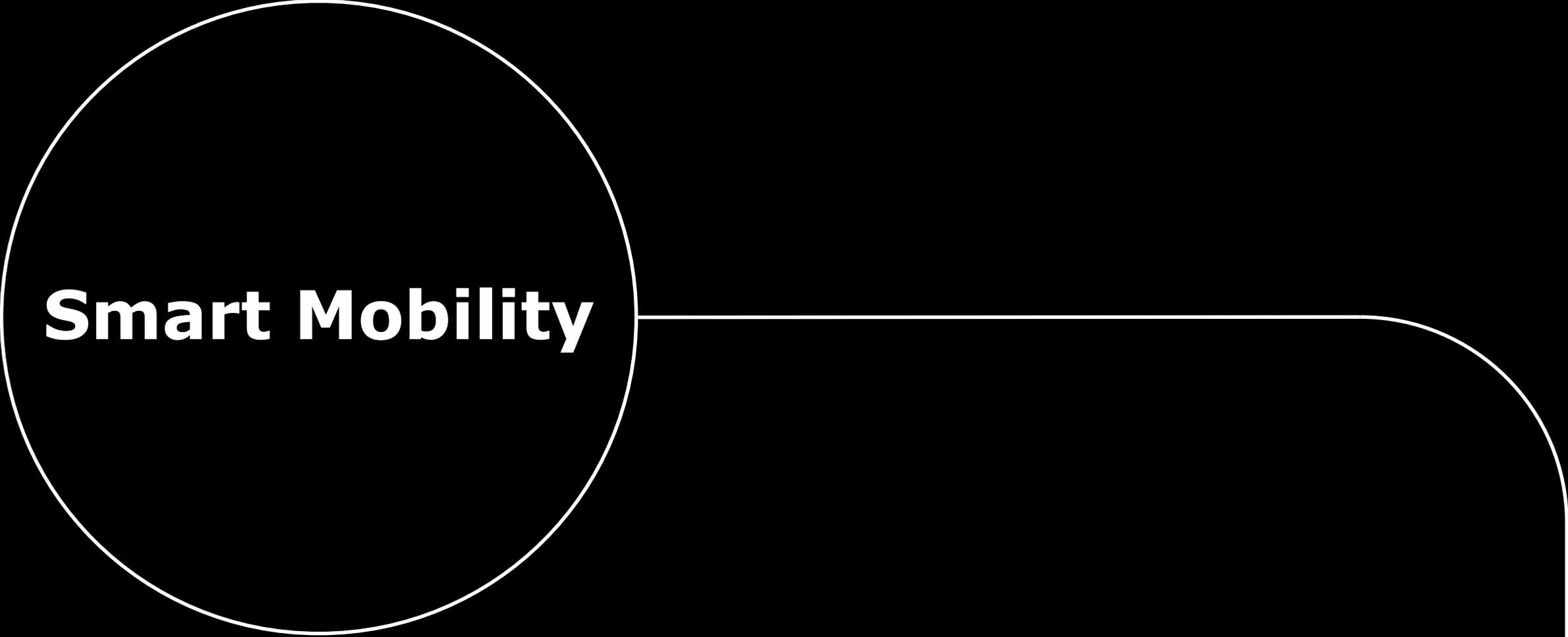

# Real estate predictions 2017
What changes lie ahead?

Smart Mobility

Smart Mobility
Shared and self-driving cars: a game changer in real estate and area development?

Shared and self-driving cars have moved from fantasy to reality. Car-sharing initiatives from the likes of Uber, Lyft, Snappcar and Blablacar are rapidly changing the perception of car ownership and car usage. Combined with the application of autonomous vehicles, which are already operating in some places, this might well be the next game-changer in real estate and area development. We expect 2017 to be the year of large-scale pilot projects in Europe aimed at getting a better understanding of the related challenges and opportunities that lay ahead.

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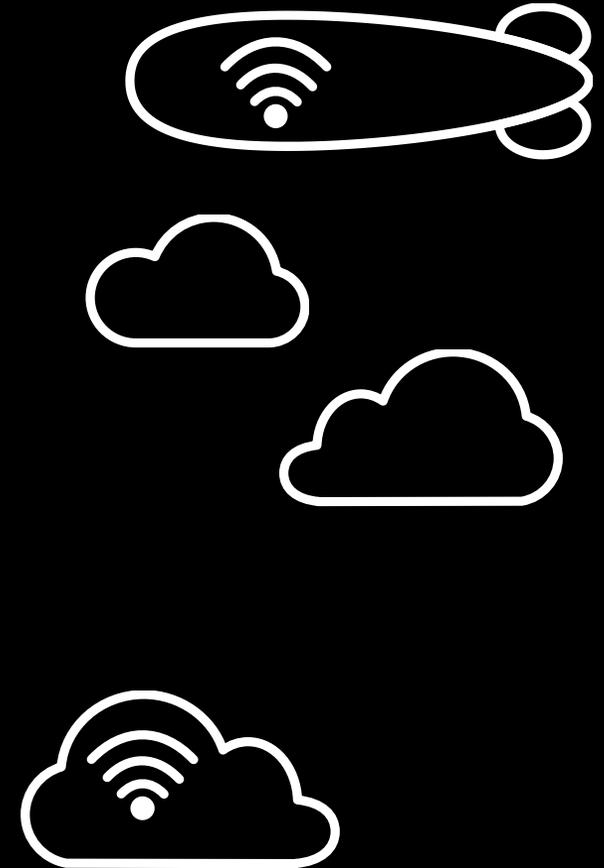
What can real estate developers, investors and government bodies expect from this potentially disruptive force and how can they prepare themselves? What do we already know and what can we expect in the short and longer term?
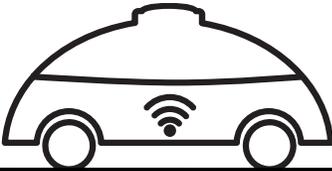
Transportation technology drives area development

Throughout history, the available modes of transportation have driven area development. In the colonial times cities clustered around ports as ships were the main means of delivering supplies and even residents. With the introduction of streetcars cities developed along radial streets that extended outward from the city-centre in a star-shaped layout. And when owning a car became the norm urban sprawl developments started to prevail.

Cities have thus been forced to adapt from a primarily pedestrian-oriented environment to an auto-centric lifestyle with a continuously growing demand for parking and road capacity. In order to provide for future-proofed real estate and area development both real estate developers and (government) urban planners have tried to predict these lifestyle changes resulting from progress in transportation technologies. Currently many of them point to the rapid expansion of shared and autonomous road vehicle initiatives as the new disruptive force. This raises the question: are we in the midst of a paradigm shift? In order to answer this question we have to look at how travel patterns have changed over the years.
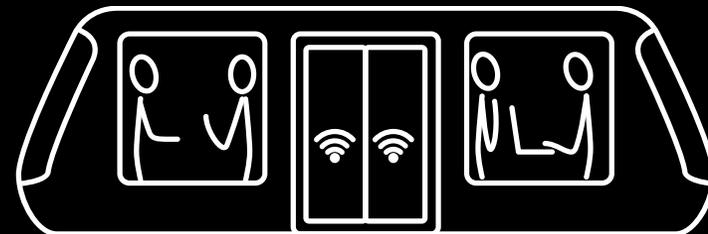
Commuting time has remained approximately constant over time

Over the years people have gradually adjusted their lives to their living conditions, including the location of their homes relative to their workplace, such that the average commuting time stays approximately constant at one hour. This constant is known as Marchetti's constant and is important for policymakers as it casts doubts on the contention that investment in infrastructure saves travel time. Instead of actually saving travel time, people seem to invest this time in travelling longer distances. This partly explains why expanding highways only relieves congestion in the short term. As people adjust to the new situation by using the newly availably highway capacity to travel further and more often, a new equilibrium of road congestion will be reached in the longer run. But to what extent will Marchetti's constant also hold if travelers could be completely productive during their travels?

Shared and self-driving cars will increase the number of vehicle movements

Nowadays car users generally drive their own cars and as a result have little else that they can do during this time. But if autonomous vehicles would pick up passengers at home, without any waiting time, and enable them to fully focus on other things than driving, this would change. Depending on the comfort level of the vehicle, the car could then become a place to work or even to sleep. Arguably this would reduce the perceived travel time to almost zero.

The latter is likely to encourage current car users to travel longer distances and more often. As some of the vehicles will also run empty, for example to pick up passengers, the total number of vehicle movements by current car users will significantly increase. Additionally, a large share of non-car users can be expected to switch to the use of shared and self-driving vehicles. This group consists of people that currently prefer other modes of transport and people unable to drive themselves, such as elderly, disabled, children as well as those who have consumed too much alcohol.

## It remains to be seen if additional road capacity is needed

The expected increase of car usage could partly be offset by the application of new technologies that will make traffic flow much more smoothly. An example of such a technology is 'platooning'. This allows a group of vehicles to travel together (in a platoon) at high speed and with short distances between the vehicles. Each vehicle communicates with the other vehicles in the platoon. There is a lead vehicle that controls the speed and direction, and all following vehicles (which have precisely matched braking and acceleration) respond to the lead vehicle's movement. As a result of platooning much less road capacity is needed to accommodate the same flow of vehicles. In addition, it also increases the safety resulting in fewer accidents, and thus, less congestion.

It is hard to predict to what extent such new technologies will offset the expected increase in car use. Therefore it remains to be seen if new road capacity will be required. However it is clear the layout of the road network will have to change. Developers and urban planners can already anticipate on the requirements of the future by looking at recent trends.
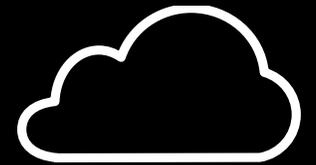
# Car ownership will progressively decrease, especially in Western cities

After a period of suburbanization, particularly in the United States, we are currently in a phase of (re)urbanization, with virtually everywhere in the world people migrating to big cities. In addition, especially in Europe an increasing share of the inhabitants of these cities does not own a car. Instead, they rely more and more on public transport, cycling and ride-sharing. As ride-sharing companies are still rapidly gaining market share, this trend is likely to continue. Furthermore, several ride-sharing companies are already testing autonomous taxis, like Uber in Pittsburgh and nuTonomy in Singapore, and are likely to do so in Europe as well in the coming year. Due to the elimination of driver costs autonomous bus and taxi services could be offered much cheaper. The introduction of such services is therefore likely to further reduce the incentives to own a car, especially in big Western cities. It is therefore expected that car ownership will progressively decrease in the longer term.
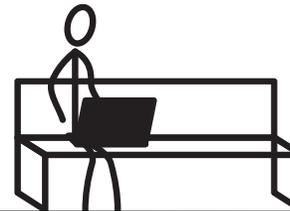
A different city layout and policy is required

Decreasing car ownership and increasing reliance on shared and/or autonomous vehicles has large implications for the requirement of city street layouts. Access roads to residential building blocks and offices will need to be redesigned to accommodate high volume pick-ups and drop-offs. In addition, parking lots and garages may well become redundant over time. This uncertainty forces developers and governments to apply an agile long-term development strategy. Scenario-think and building in flexibility are the key words here. As expanding parking capacity is still required in many urban areas, at least in the short term, the trick is to design the garages in such a way that they can easily be transformed to suit new purposes, such as retail, in the long run.

Furthermore, the decreasing demand for parking has interesting policy implication as well. After all, municipalities generally require real estate developers to provide for a certain level of parking capacity, depending on the size of the building that is being developed. This requirement can significantly diminish a developer's return on investment, especially when the parking capacity needs to be realized underground. As an increasing share of inhabitants of large cities relies on public transport, cycling and ride sharing, municipalities have started to rethink their policy.
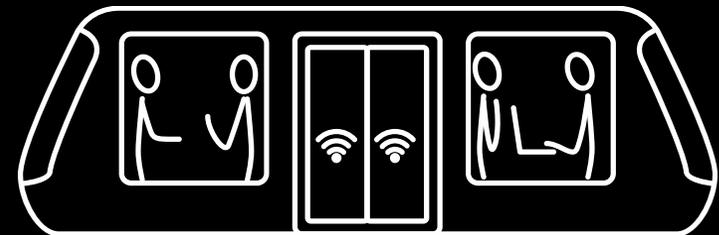
Municipalities are experimenting with new policy instruments and pilot projects

Take parking permits for example. In many cities these have become valuable assets due to the waiting lists that municipalities have set up to regulate the demand for parking. As a result most permit owners are unwilling to give up their permit even though they hardly use it. The Municipality of Amsterdam therefore started to provide incentives for them to do so. In addition, it is also looking at reducing the parking requirements areas that are being (re)developed. For example, in the Sluisbuurt, a residential area in Amsterdam, it is considered acceptable to reduce the parking requirement to 0.25 parking space per apartment. Although it is not easy to change these types of regulation in the short term, there is a clear need to assess whether 'old policy instruments' still make sense in today's rapidly changing environment. We therefore expect many local governments to start experimenting with regulation changes in 2017.

In addition, we expect many trials and pilot projects the coming year. In 2016 the Future Bus successfully ran between Schiphol and Haarlem, while other smaller autonomously driving vehicles have been tested elsewhere in the country. Continuation of these pilot projects have been announced. In the United Kingdom the first trials of driverless cars on the motorways will also take place in 2017, while London transport chiefs are said to initiate active discussions' with Google in an attempt to convince the company to trial its driverless cars in the city the coming year. These trials should provide insight on the potential impact of shared and autonomous vehicles and result in a next step towards the introduction of commercial services.

This brings us to the last and perhaps most difficult and interesting question: **What are the implications for real estate prices and the importance of location?**

What are the implications for real estate prices and the importance of location?

According to the famous rule there are three main factors that determine real estate prices: location, location and location. Will this still be the case if perceived travel time is reduced due to increased use of shared and autonomous cars? Will many people opt for a larger and cheaper house outside the city in these cases, thus reducing price differences between urban and rural areas?

Perhaps, but let's not forget that experts have underestimated the role of location before. Only 15 years ago leading economists and urban planners predicted that the Internet would revolutionize area development and real estate prices. As the internet drastically reduced the cost of communicating over distance, many of them argued that the importance of location would practically disappear. 'The Dead of Distance' (Cairncross, 1997) and 'The World is Flat' (Friedman, 2005) are illustrations of these theories.

Current insights show that the opposite has in fact happened. The low prices of connecting over long distances accelerated globalization. But instead of reducing the need to travel, the importance of location has only grown bigger because decision-making and innovation still largely takes place via face-to-face communication. In "Triumph of the City", Glaeser (2011) it was concluded that 'the declining cost of connecting over long distances has only increased the returns to clustering close together'. This largely explains the high real estate prices in, for example, the City of London or Silicon Valley.

As autonomous cars, unlike the internet, would enable people to attend meetings in person, while largely reducing the perceived travel costs, a flattening effect on real estate prices should not be strike out. However it may be too early to see an impact on real estate prices, 2017 is set to be an exciting year for the development of the technology itself.

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