



Parking in Europe

Generating income in a changing mobility system

A lot is changing in the world of transport, and much of this is because of innovation in the sector. The sharing economy is becoming increasingly prevalent in transport, public transit is becoming quicker and better connected, and autonomous cars are only a few years away from being on the market. With so many new developments in transport, it stands to reason that parking will be significantly affected as well. However, despite doomsayers prophesizing that these changes will bring death of parking, this is a long way away, and in the foreseeable future, multi-storey parking garages could – when in the right spot – remain a solid investment.

DEFINITIONS AND DISTINCTIONS

CAR-SHARING is a subscription based service that gives users access to cars when they need them, and charges them per minute of use. Service providers generally provide electric cars.

RIDE-SHARING services connect users with similar destinations with each other, allowing them to make use of empty spaces in their car and cut costs. It is also characterised by the driver and passenger sharing a destination.

AUTONOMOUS CARS are cars that can drive on the road using artificial intelligence, with little to no engagement from the driver

MULTI-STOREY PARKING facilities are off-street parking facilities with multiple floors; either underground or above.

Source: Catella Research 2018

Effects of innovations on parking

Car-sharing popularity is growing fast, and set to grow even faster in the foreseeable future. Car2go, a pioneer in car-sharing, reported over 3 million users worldwide in February 2018, up from 2 million in September 2016. 1.7 million of the 3 million users are in Europe. Users have also reported to using a car-sharing subscription as a substitute to owning a car.

Sharing cars results in a reduced demand for parking by reducing the number of cars on the road, since multiple people can share the same car by using it at different times. Particularly, it greatly reduces the demand for long-term parking, as cars are picked up by other users when not in use. However, it could increase the demand for short term parking, as the car must still be parked at the end of the journey, and the shared car will be making many more journeys a day than a private one.

Ride-sharing reduces demand for parking at the destination, since less cars would be used in arriving there. Ride-sharing is unlikely to have an immediate effect on car ownership as it is not completely reliable or flexible, as the passenger’s trip will be heavily reliant on the driver’s. It is used mostly for inter-city travel.

Ride-hailing services provide convenience, reliability, and low prices to the customer – especially compared to standard taxis. As such, they would normally have a significant effect on car ownership and parking, since users don’t have to worry about car maintenance

or insurance and drivers can simply drive away once the destination is reached rather than parking. However, Uber and other providers of these services are highly regulated (and even banned in some cities) in Europe, hence greatly diminishing this effect on parking.

Automated parking systems are improving, and if applied to parking garages, they can make them far more efficient and convenient. Currently, these systems suffer from technical issues and struggle to keep up during peak hours, but if the technology is improved, these systems could make parking garages far more space efficient. Since there would no longer be a driver in the car during parking, space doesn’t need to be allocated for open doors, and could save up to 25% more space.

Autonomous cars are a technological advancement that has been spoken about for years, and are anticipated to make huge differences in transportation. The way we would use autonomous taxis would likely be similar to the way we use non-autonomous ones today, but would be much cheaper, as there would be no driver to pay a wage to. They would, in fact, result in car-sharing and ride-hailing becoming the same thing, since the primary distinguishing factor between the two is the presence of a driver.

Despite autonomous cars’ functionality being mostly referred to in the context of autonomous taxis, we also discuss the potential effect of privately owned autonomous cars, because it is highly likely that people would also want to own these cars privately.

TABLE 1: PUSH AND PULL EFFECTS ON PARKING BY AUTONOMOUS CARS

PUSH	PULL
<ul style="list-style-type: none"> Private autonomous cars allow convenient travel to those unable to drive, increasing parking demand Private autonomous cars can park themselves and communicate with each other to form tight grids, increasing space efficiency of parking facilities 	<ul style="list-style-type: none"> Autonomous taxis reduce car ownership by providing a more convenient and cheap alternative, reducing parking demand Autonomous taxis essentially never need to be parked, unless charging reducing parking demand

Source: Catella Research 2018

While autonomous taxis show potential to reduce parking demand significantly, this will be at least partially offset by privately owned autonomous cars. Additionally, autonomous cars, even once entering the market, will still be a minority, with the majority of cars still being non-autonomous for a long time. This means that the demand for parking will stay strong for a long time.



Other relevant trends

Car ownership has been slowing down, due to the high cost of owning one. Paying for fuel, maintenance and insurance amounts to expensive long term costs – for a commodity that is parked 95% of the time. As of now, ownership is still rising – but at a considerably slower rate than before, and is expected to start falling soon, especially given the number of viable alternatives available.

Increased environmental conscientiousness has led to people using their cars less, preferring to walk or cycle. Less car usage results in less parking demand. It also means that demand for bicycle parking has increased. Environmental mindedness has also resulted in a higher prevalence of electric cars. While these are generally perceived to be more “green”, it is unclear what their net effect on the environment is when accounting for battery waste and emissions from producing the electricity.

Many cities in Europe are moving towards making their city centres car-free and disincentivising car usage. Oslo recently eliminated hundreds of on-street parking spaces in an attempt to make its city centre car-free, Paris recently pedestrianized some of its major routes, and London has pledged to fully pedestrianize its main shopping street. This kind of policy reduces the total supply of parking, and also increases the demand for parking at the edges of these car-free zones. Many on-street parking spaces that remain are becoming paid parking spaces rather than free ones.

People have become more open to the idea of using multiple modes of transport to reach their final destination. It is becoming increasingly common to park your car or bicycle near a transit stop and continue your journey with public transport. This increases demand for parking near prominent public transport stops.

How can parking adapt to these changes?

With so many new developments in transport, parking too, must change. In this regard, **multi-storey parking facilities (MPFs)** have the best chance of adaptation.

TAB 2: ADVANTAGES AND DISADVANTAGES OF MPFS

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Efficient usage of ground space • Barrier based payment system • Reduces congestion in street • Keeps cars safer from vandalism/accidents • Safe from on-street parking space elimination 	<ul style="list-style-type: none"> • Necessity for extensive physical testing (due to heavy shifting weights) • Generally unpleasant appearance • Slow adaptation of new payment methods • Slow implementation of yield management

Source: Catella Research 2018

MPFs have important advantages of use – particularly, they provide a solution to the current movement of on-street parking eradication. However, while some MPFs will stay strong during these changes, others will not – particularly the ones that are located in less strategic locations. Besides locational factors, MPFs can undergo many changes to take advantage of the new innovations and trends in transport. The key is to make a transformation from parking garages to transport hubs – places for multiple transport options that provide parking for multiple facilities.

MPFs could provide parking for bicycles, to take advantage of the rise in their use. While generally, people are unwilling to pay to park their bikes in garages, MPFs can still benefit from those that have more expensive bicycles and want to keep them safe. Additionally, this service would likely be more effective in MPFs near the inner city, where bike usage is higher.

MPFs could also take advantage of the increasing trend of “park-and-ride” by strategically placing themselves near prominent public transport stops, and offering discounted rates to those using public transit to continue their journey. This would also make MPFs an important part of the mobility chain.

Designated spaces for ride-hailing drivers to pick up passengers could also be provided. This would be particularly useful for MPFs that are near or connected to places like shopping malls.

Currently, most car-sharing companies ask their users to park on-street, or another public parking space, which are provided for free by many governments. However, this will become more difficult in the future as cities move away from on-street parking, and free parking from cities will end once car-sharing becomes more popular. MPFs can collaborate with car-sharing companies to reserve parking for their vehicles for a fee. This will allow MPFs to profit from car-sharing vehicles without having to worry about the short-term nature of shared cars’ parking.

To protect themselves from the diminishing ownership of cars, parking garages can be built in a manner that allows them to be put to other uses (such as office buildings or logistics centres) if parking is no longer needed in the area. Additionally, to “future-proof” themselves, parking garages can be built in phases, so that infrastructural changes can be made in future sections to accommodate new consumer needs.

MPF operators can also connect their services to an app. This could allow users to more easily find and reserve parking spaces. Not only would this add convenience for the user, it would give MPFs the opportunity to change the basic pricing formula for parking. Currently, pricing is generally determined by a function of space used and time spent, along with an initial lump sum. However, by using an app, they could apply yield management effectively, and maximise the revenue they get from each customer.



FIGURE 1: PRICE FUNCTION FOR PARKING

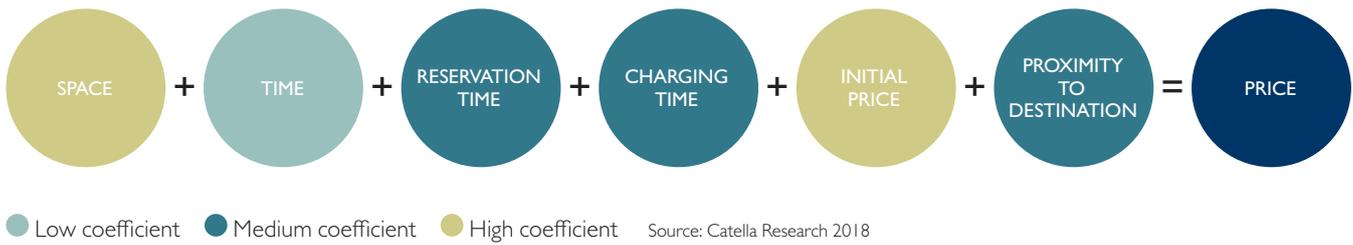


Figure 1 shows possible variables in a function to determine the pricing of use of a parking space, and identifies which factors will result in highest price increases.

MPFs could also place a higher emphasis on data collection – about duration of parking, availability, or monitoring of peak demand hours. This would allow them to identify trends or patterns to take advantage of. Data about parking is scarce and an increased presence would be incredibly useful for parking operators and planners.

Finally, MPFs could be built with more architectural and aesthetic value in mind.

Forecast

There is a lot of change in the transportation world, some of which can be attributed to the high level of innovation and changed consumer attitudes in this sector. The sharing economy is increasingly becoming part of mobility concepts, public transport is – admittedly in the overall view – expanded and better networked. Autonomous driving certainly has no market maturity, but the future is approaching here as well. With so many new developments it is only logical that the parking space management is also subject to a transformation process.

The advent of new innovations in transport do not mean the death of parking, but rather call for a transformation of certain parking facilities. The shift away from on-street parking greatly benefits MPFs, as it removes their main competitor at the right location. By adapting to the new changes, MPFs will not only survive the transformation in transport, but thrive in it, bringing significant yields to investors. A future where parking is no longer necessary, is a very long way away. From an investor's point of view, this transformation process offers significantly more opportunities than risks.

TAB 3: VARIABLES TO DETERMINE THE PRICE OF USE A PARKING SPACE

TIME	Low coefficient due to the probable shift from long-term to short-term parking
SPACE	High coefficient due to higher space efficiency, which will make larger parking spaces more expensive
RESERVATION	Medium coefficient as reservation will be highly demanded, due to increased time efficiency and convenience
CHARGING	Medium coefficient, as it is more like an additional service
INITIAL PRICE	High coefficient due to probable shift from long-term to short term parking
DESTINATION PROXIMITY	Medium coefficient due to convenience to consumer, but relative difficulty of judgment

Source: Catella Research 2018

TAB 4: CATELLA PARKING IN EUROPE FUND

FUND STRATEGY

- The fund invests in public parking assets in attractive areas / cities across Europe.
- The fund has a primary focus on Germany, Austria, Switzerland, United Kingdom, France, BeNeLux, the Nordics, Ireland, Spain and Italy and a secondary focus on Portugal and CEE.
- The cities centers where we would invest should have :
 - A high urban character
 - Sustainable and durable points of attraction
 - An established parking and enforcement policy
 - Acceptance to pay for parking

Source: Catella Real Estate AG, Orange Investment Managers

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