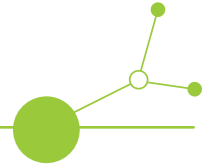


ARGUMENTS FOR PARKING MANAGEMENT

for politicians, authorities and
other stakeholders



Version 1
07 2023





WHY PARKING MANAGEMENT?

The benefits of parking management are not always immediately obvious. Very often, activities and measures that serve to better organise parking are rejected right from the start. In doing so, the benefits for the entire urban area are usually overlooked, and the non-acceptance is just a reaction based on perceived negative effects on convenience for drivers. Therefore, it is important to keep the big picture in mind. Politicians, authorities and planners, but also stakeholders such as residents, NGOs or interest groups and lobbyists as well as media representatives need arguments to recognise the benefits of fair and transparent parking management. Buying-in representatives of these important groups is a major task towards the formation of a working group.

Some of the following arguments of this compilation have been taken from publications by the authors Robert Pressl and Claus Köllinger, Vision5, of their own work from the projects Push&Pull and Park4SUMP. Both projects were funded by the European Commission.



What kind of traffic problems could be solved by parking management?

Parking management might solve several of your transport problems. **Direct obstructions** (among others by illegal parking), **congestion** resulting partially from parking space search traffic, general traffic volumes and **saturated parking** are only among the most frequently mentioned problems.

Setting time limits, limiting access to certain groups and other regulatory mechanisms, charging fees / pricing, marking areas where parking is prohibited / allowed or infrastructure measures (for example bollards to prevent footway parking) are only a few tools and instruments for on-street parking management. Of course, it is necessary to have effective enforcement to guarantee the success of these measures.



Photos: Robert Pressl



Setting objectives and goals to solve your parking problems

Consider if you only want to balance between demand and supply (a purely operational goal) or if you want to act strategically to reduce car use?

Consider for setting objectives which problems / aims you want to solve - e.g.

- do you want to fight congestion or reduce parking space occupancy rates or
- do you want to protect **residents** or
- do you want to support **local business / shops** or
- do you want to avoid **commuter's** day-long parking or
- do you want to **set free public space** from parked cars and nudge them to off-street parking
- do you want to **prioritise logistics** etc.

Of course, these are only some examples of goals. A combination of the above mentioned is also possible.



The distribution of public space is often biased towards parking

Using former on-street parking spaces for playgrounds, meeting places, seating, resting and active mobility facilities.

We want more from our streets than just space for traffic and free parking. We also want economic prosperity, safety, health, walkability, and an enjoyable environment. This means that the principle of providing “enough” parking has to be challenged, and the other priorities of sustainable urban mobility plans, such as quality of life, and space for other modes, must be reflected in parking policy.

It is not easy or cheap to increase amounts of public space in our cities, especially in times of austerity when public authorities have little money for buying more land. This situation puts the emphasis on the need to more fairly distribute that public space that already exists - a disproportionately large amount of which is currently given over to parking. In Berlin, for instance, 10 times more public space is devoted to parking spaces than to playgrounds.

In modern and smart cities it is quite unpopular to take the space from parks, playgrounds or areas where people like to meet and socialise. On the other hand, vehicles - both moving and stationary - benefit from more space than they should when taking into account relative modal shares. There are many examples of how a redistribution of space away from parked cars has been associated with improvements in the local economy - the City of Gent in Belgium is a case in point, as it leads its competitor cities in the region in spite or perhaps because of changes in its parking policy to cut amounts of on-street parking.

Other examples are the Spanish City of Vitoria Gasteiz which managed to reduce share of car use from 36% to 24% of trips by residents and where the re-allocation of public space was one of the main objectives of its parking policy. The photo also shows that Toulouse has pursued a similar approach.



Source: Geopizza / Internet



Making cities more liveable and strengthen the local economy

Introducing traffic-calming and controlled parking in city districts and local centres counteracts the trend of decaying city centres, help to create vibrant streets, and support the local economy.



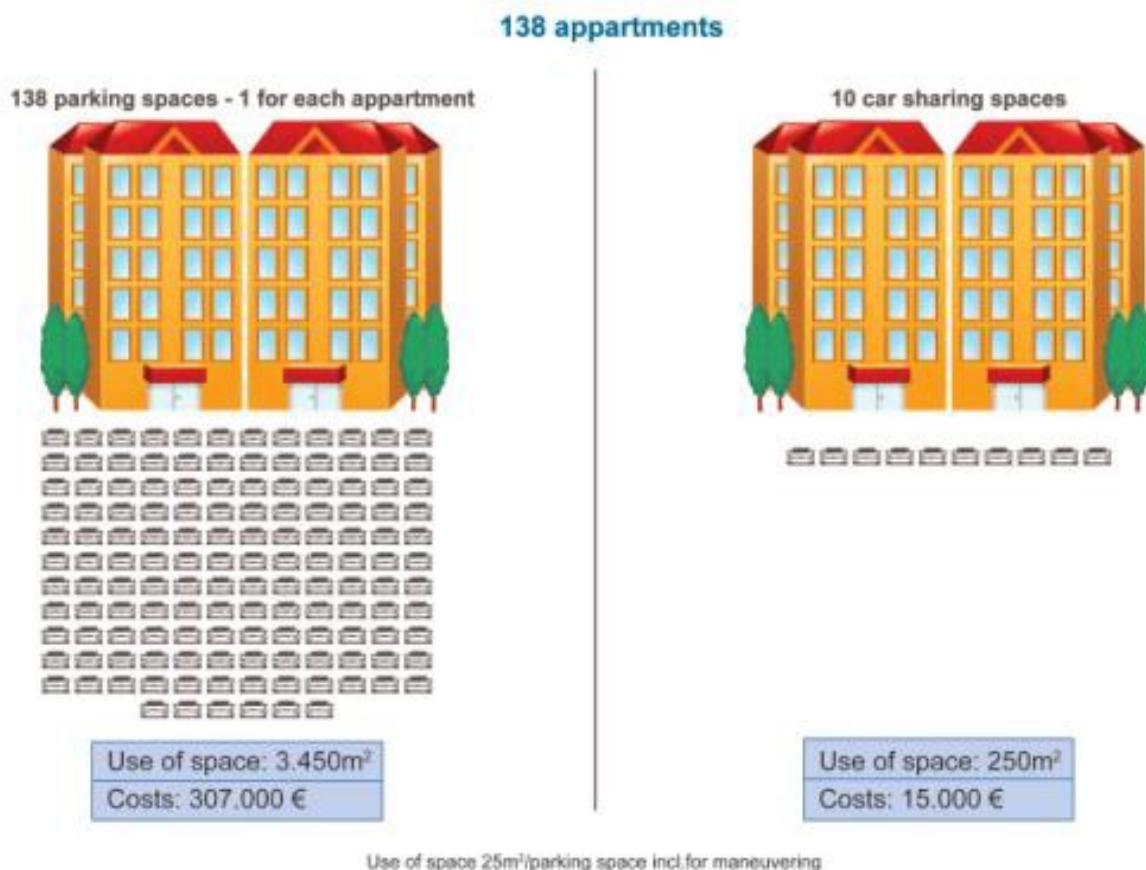
Photo: Harry Schiffer



Making housing more affordable

Don't require a minimum number of parking spaces to be provided - much better to require smart sustainable transport options. It helps to reduce sales prices for flats if individual parking spaces per apartment are replaced by car sharing spaces.

Many cities still require the same amount of parking to be provided for new apartments regardless of where they are or who will live in them. This drives up construction costs and land requirements and hence the price of the new dwellings. A flexible approach where parking provision is related to accessibility by public transport, cycling and walking, to on-street parking controls and to the income of the people who are the target market for the flats can lead to a more effective provision of parking spaces and more affordable housing. The graph below shows starkly the cost of providing individual parking in a development compared to providing only parking for car sharing cars. Alternatively, and/or as well, parking spaces can be sold separately from apartments, ensuring that only those who want one, pay for one. If not, car-free households end up subsidizing parking spaces for those with cars.



Source: Intelligent Wohnen im Wohnquartier, VCD 2018 (Graph adapted by FGM-AMOR)



Parking management helps to protect historical centres and other built-up assets of the city

Historic city centres are not only important to attract tourists, but are key to local identity and civic pride. Virtually none of the dense old European cities were constructed to deal with a high number of parked cars. In addition to access restrictions, clear regulations and management of where to park, who may park, for how long and how much are essential to protect historical cities from an overwhelming invasion of cars and to bring about a rational use of the scarce commodity of high quality urban public space.

Within the overall framework of its urban regeneration, the City of Barcelona aimed to strengthen commercial, economic and leisure activities in the centre by implementing an integrated concept for public space. On-street parking was reduced by 24% and car reduced public space was increased. The reduction in the on-street parking supply had no influence on tourist activities, which in the period 2003 - 2007 increased (27% increase in demand for accommodation, 13% increase in tourist / leisure time activities like visiting restaurants, travel agencies etc.).

From the mid 1990s the City of Gent removed parking from streets and public spaces in its historic city centre, creating a 35 ha pedestrian zone instead. From 1999 to 2008, the city's previous population decline reversed, whilst investment per person was 20% above the regional average and growth in new firms was 25% above the regional average. This economic success cannot be attributed solely to the quality of life improvements flowing from conversion of on-street parking to public space, but these changes played a part in delivering these economic benefits.



Photos: Harry Schiffer



Reallocate and reduce parking space in public areas with the aim to support cyclists, pedestrians, pt-users etc.

It is not easy or cheap to increase amounts of public space in our cities, especially in times of austerity when public authorities have little money for buying more land. This situation puts the emphasis on the need to more fairly distribute that public space that already exists - a disproportionately large amount of which is currently given over to parking. In modern and smart cities it is quite unpopular to take the space from parks, playgrounds or areas where people like to meet and socialise. On the other hand, vehicles - both moving and stationary- benefit from more space than they should when taking into account relative modal shares.

Examples below from

- Munich, DE: One car lane has been transferred to a bike lane
- Paris, FR: One parking lane has been transferred to green area
- Krakow, PL: On car lane has been transferred to a pedestrian area at a tram stop due to safety reasons



Munich, DE (Photo Harry Schiffer)



Paris,FR (Photo Robert Pressl)



Krakow, PL (Photo Robert Pressl)



Reduce energy waste and related emissions to protect the climate and public health

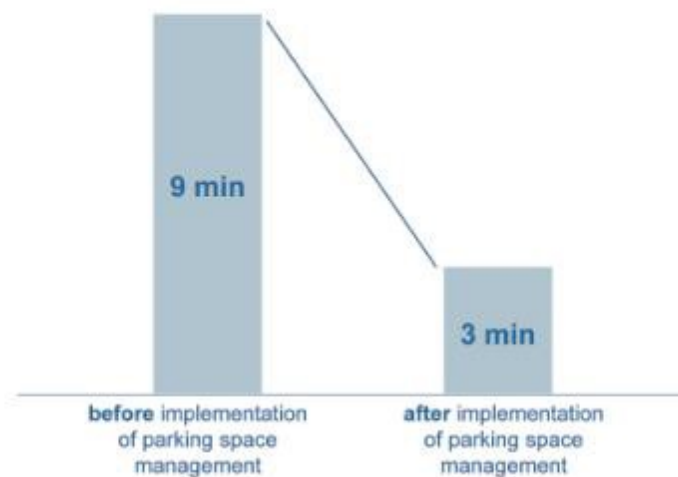
The reduction of parking search traffic is an important step towards a protection of the climate and reduction of greenhouse gases, local pollutants, and noise.

Cruising for parking (parking search traffic) not only leads to additional costs for drivers (extra time and fuel) - but it has also negative externalities for society such as extra pollution, noise and accidents. Kodransky and Hermann, ITDP, 2011 estimate that up to 50% of traffic congestion is caused by drivers cruising around in search of a cheap parking space. Evidence suggests that effective parking management with pricing structures that harmonize on-street and off-street parking fees can considerably reduce cruising for parking.

A before-after evaluation in Vienna's districts 6-9 shows a decrease in parking search traffic from 10 million passenger car km per year to 3.3 million km, that is, two thirds. While before the introduction of the management of parking places parking search accounted for 25 % of the total volume of traffic, it now accounts for only 10 %. It was ascertained in the districts 6 to 9 that the average time it takes to find a parking place has been reduced from about 9 minutes to barely 3 minutes after the implementation of parking space management (COST 342, 2005).

Average time to find a parking space

Vienna, districts 6-9



Source: COST 342, 2005

Similar changes were observed in San Francisco when they introduced flexible parking fees for different times of the day - cheaper at times with low demand, more expensive at times when the demand is high. For car drivers trying to find parking in Union Square at lunchtime, the search time before the pilot project was eleven and a half minutes, but after it was only six and a half minutes - a 43% decrease.



Reduction of urban heat

For greening of streets and therefore reduction of heat it is often necessary to plant trees - and a good place to plant them is in what used to be parking spaces.

Mitigating the effects of climate change in cities is becoming a hot topic - in particular, cities are looking for ways to reduce the impact of high temperatures on their residents. Converting on-street parking to green space with trees helps to mitigate climate change by changing a space that contributes to car use and therefore emissions to one which acts as a sink for CO₂. If an average car drives 35 km a day and by eliminating a parking space this reduces this daily mileage by 7 km, with an average emissions level of 180g CO₂/km then this cuts 1.26 kg of CO₂ per day. Meanwhile, assuming that the trees planted are additional and two can be planted in each former parking space, they will absorb up to 6400 kg of CO₂ per day (depending on the type of tree and taking into account photosynthesis). Additionally, each tree (20 m tall and with about 600.000 leaves) produces on average 4,6 tons of oxygen per year, enough to meet the needs of about 10 people.



Photo: Robert Pressl



Parking space management is low cost and even generates revenues to invest in your city (preferably in mobility and public space) and in local neighbourhoods

Very often cities are dependent on national governments for a large part of their budgets. In recent years cuts in these budgets have taken place almost everywhere. Parking management can contribute to raise municipal revenue without increasing - or even reducing - the fiscal pressure on residents and at the same time improve the quality of alternatives to car use. These revenues should be (at least partly) earmarked for funding sustainable mobility measures.

In Amsterdam, for example, the gross revenue from paid parking for 2012 was ca. 160 Million Euro. Some 38% of this money was spent on the management and maintenance of the parking system, 39% went to the mobility budget of the other districts than the central one and 23% was spent to fund mobility measures of the central district (31% for cycling, 18% for public transport, 13% for safety improvements etc.). This forms the Amsterdam Mobility Fund. Other cities like Gent, Barcelona, Graz or Nottingham (with the Workplace Parking Levy) are following a similar approach.

Use of parking fees in Amsterdam



Source: The Amsterdam Mobility Fund, 2014

If a part of the money raised from paid parking is given to a community council in a local area to decide how to spend, this can increase the acceptance of paid parking as a measure, since it becomes obvious how the money is spent, and local residents and businesses feel more in control. Of course, the money does not have to be spent on transport measures but could be spent on other things to improve the local environment, playgrounds and so on.



Parking management is a well-established “restrictive” tool in comparison to other restrictive options like access regulations (low emission zone, low traffic zones)

If the goal is to steer transport choices towards sustainability, then the push and pull approach is the most promising. On the one hand, sustainable transport is improved, while on the other hand, the use of the car loses its privileges and becomes less attractive.

There are different approaches to this, such as access restrictions for heavily emitting vehicles, as in many German city centres, or toll access, as London is doing with congestion charging, or Scandinavian cities or Milan. But the majority of European cities start with parking. Time limits and/or paid parking or preferential treatment of selected user groups have already been implemented in some part of almost all countries. There is little need to explain what it is, but at the same time it can take different forms depending on the specific measures chosen.



VS



VS



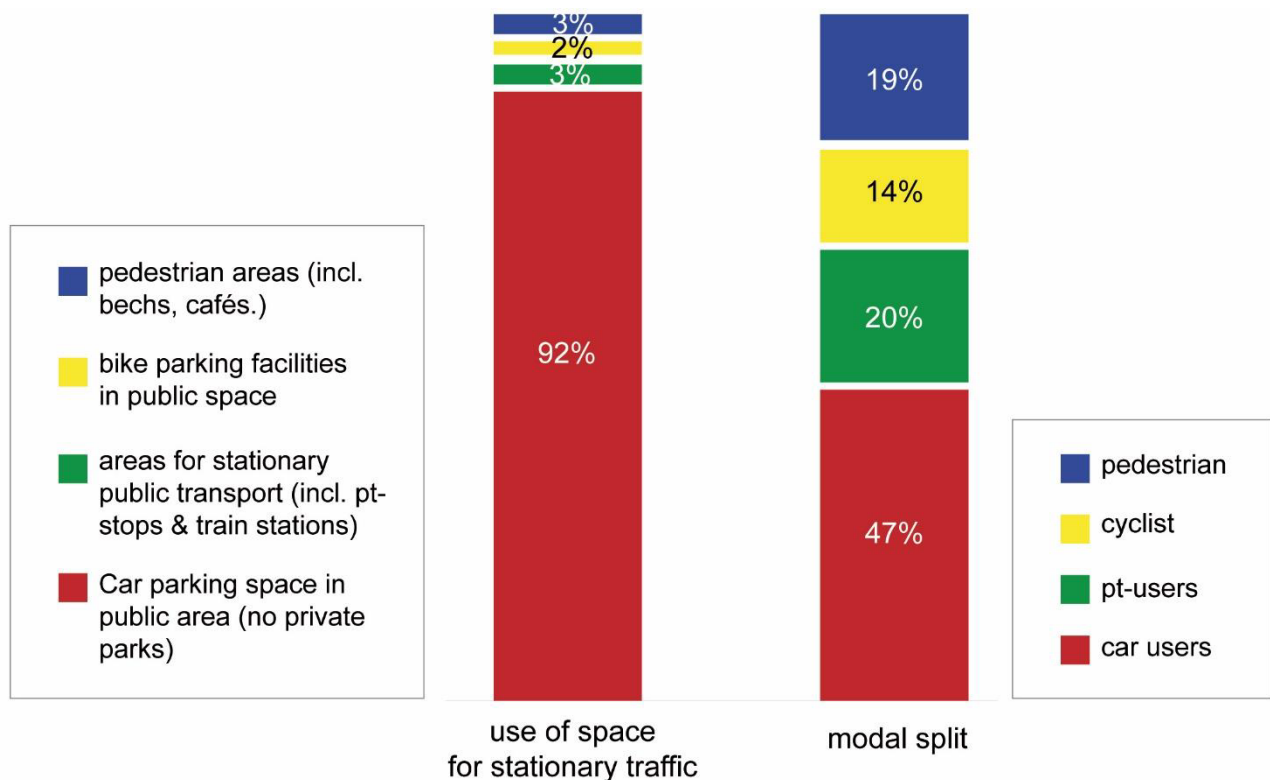
Photos: Harry Schiffer



Parking management improves the accessibility levels for all population groups

Access to the city to carry out different activities such as employment, education, healthcare, recreation, etc. and related transport resources must be guaranteed to all citizens and social groups, no matter of age, gender and diversity, income, ethnicity, mobility impairment or disabilities etc. Unfortunately, transport planning often favours the car (especially keeping vehicle traffic flowing). This is especially true when it comes to making public space available for stationary traffic.

A survey in Graz, Austria, on the use of public space by stationary traffic showed that 92% is used for parking cars (private parking and garages are not included in this!). Only 2% is for bicycle parking, 3% are areas that could be summarized as being for pedestrian use (included are benches, street cafes etc.) and 3% is dedicated to public transport (incl. PT stops and train stations). This survey shows the incredible privilege of the use of public space for parking cars in relation to the actual modal share.

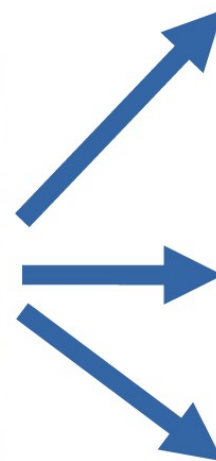




Parking Management manages traffic demand and nudges less necessary car trips towards sustainable modes

Parking management leads to different behavioural responses:

- Choosing a different on-street parking location
- Switching from on-street to off-street parking
- Modifying the duration of parking
- Adjusting the time of the visit
- Car pooling / ride sharing
- **Switching to another mode like walking, cycling or using public transport**
- **(In a small number of cases)**
- Avoiding the area completely



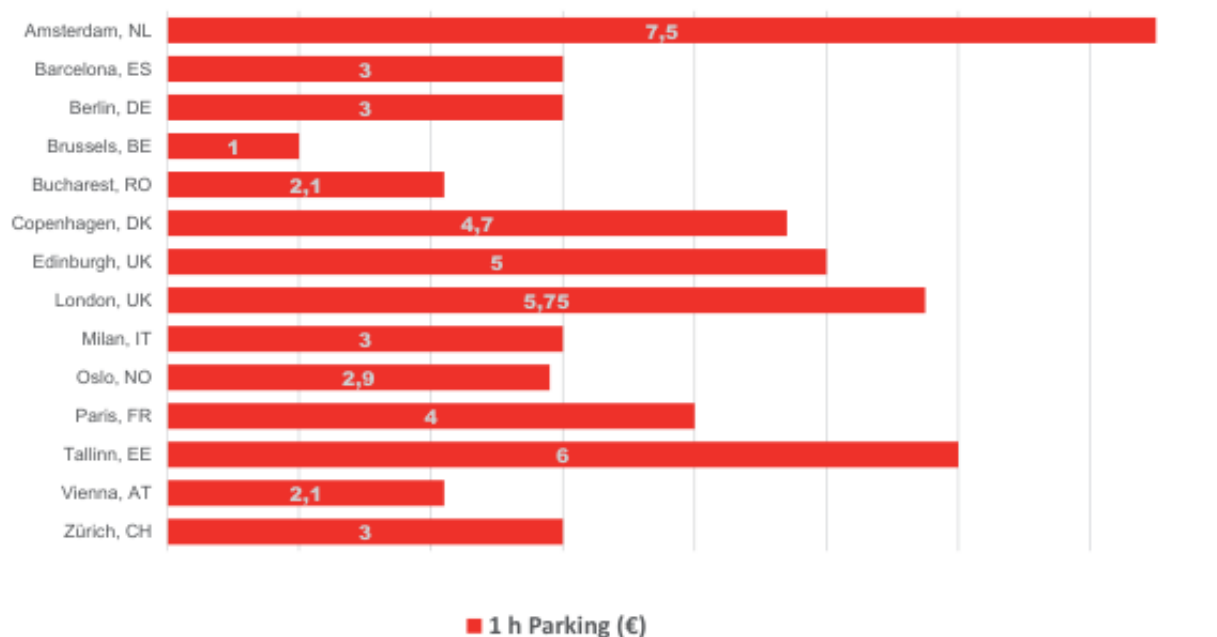
Photos: Harry Schiffer



Costs for parking should be in relation to the costs of public transport - never cheaper than a PT-ticket - to create a level playing field between modes.

The figure shows the maximum prices for 1 hour of on-street parking in inner cities in a sample of European cities. If one considers that a parking space takes up around 15 square metres of land, then a €1 an hour charge translates to a “rent” of 6,7 cents per square metre per hour, or 67 cents for ten hours per day (a period when charges typically apply) or 20 Euros per square metre per month assuming similar occupancy for 30 days a month. Most buildings in central areas have multiple floors, yielding much more rent for each square metre of ground area.

Where parking structures off-street are provided, the investment costs add to the amount that must be charged if the true cost of the parking provision is to be recouped from the user - but it often is not, instead enjoying as subsidy from the municipality to keep the price “down” to 4€ to 5€ per hour and space.

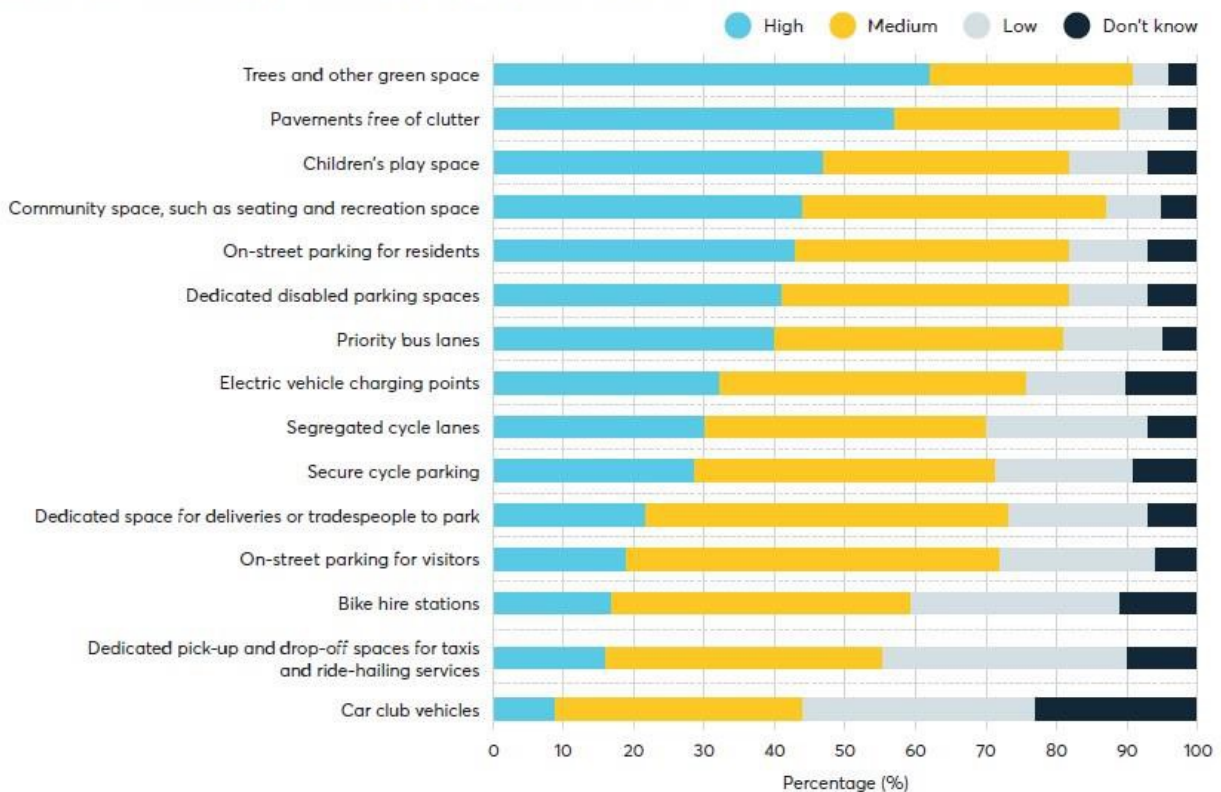




Discuss city and neighbourhood development by asking the people who live there about their priorities across a wide range of measures

The example of London shows that residents are quite good at assessing what priorities they want their neighbourhood to have in order to make it liveable - parking for residents comes only fifth in this list, well down after green space and play space. It is important to give an overall view on all kind of urban aspects. Then discuss priorities for goals instead of measures. The latter bear the risk of being discussed emotionally, especially in the media, as they could possibly lead to a worsening of the personal situation for some, even if they represent an improvement for the majority of the population.

Figure 6: Priority Londoners ascribe to different street space uses in their local area



Source: Savanta ComRes survey of 1,005 adult London residents for Centre for London.



Difficult target group: Shop owners

- Contrary to general beliefs, parking management supports the local economy
- Paid parking does not reduce the number of visitors!
- On the contrary, by managing mobility, it keeps the city centre accessible.
- There is no direct relationship between turnover of shops and the transport mode used by customers and/or the amount of parking spaces.



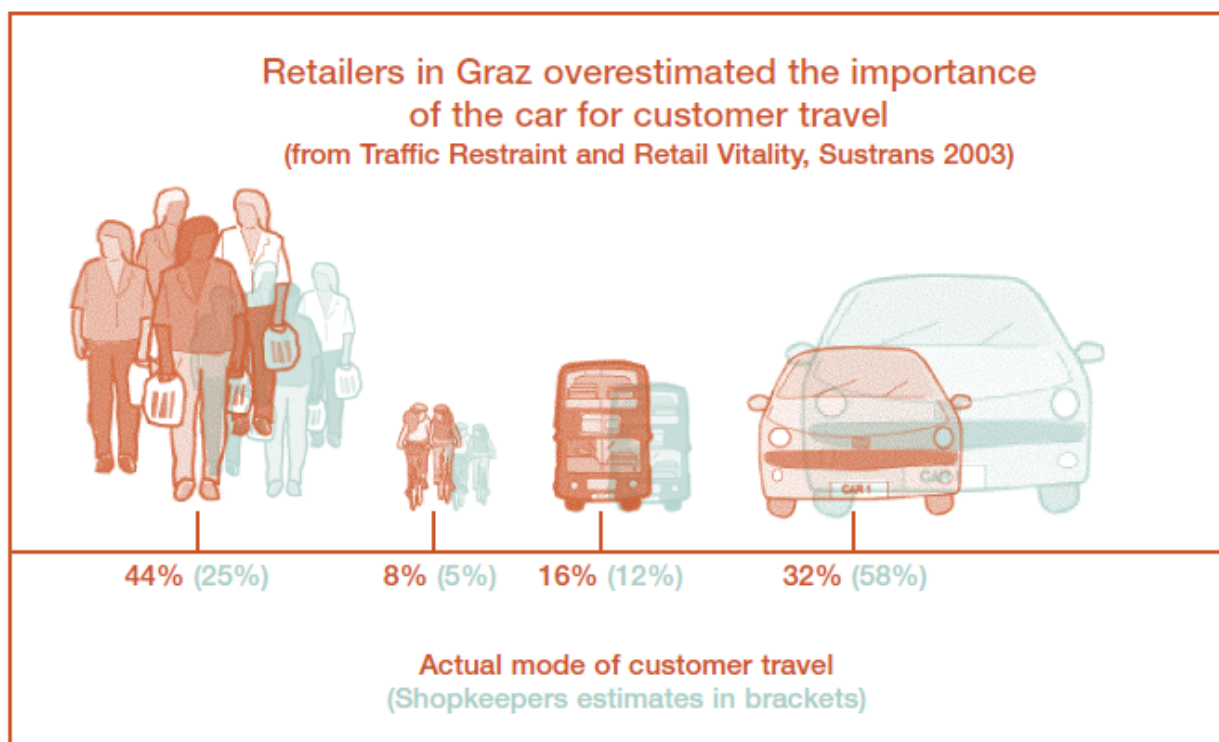
Photos: Harry Schiffer



Retailers often overestimate the importance of parking spaces

Parking in an attractive city is less important to successful shops than shop-owners think. People choose where to shop based on the range and quality of shops, and the atmosphere of the place. Parking plays a role, but it is not the main factor. Research shows that there is no (direct) relationship between the turnover of shops and the transport mode used by customers and the amount of parking spaces provided.

People who walk, cycle and take public transport to the shops visit more often and visit more shops than those who come by car. In terms of turnover, there are no differences over time. Weekend car shoppers do not spend more money than customers on foot or by bicycle.



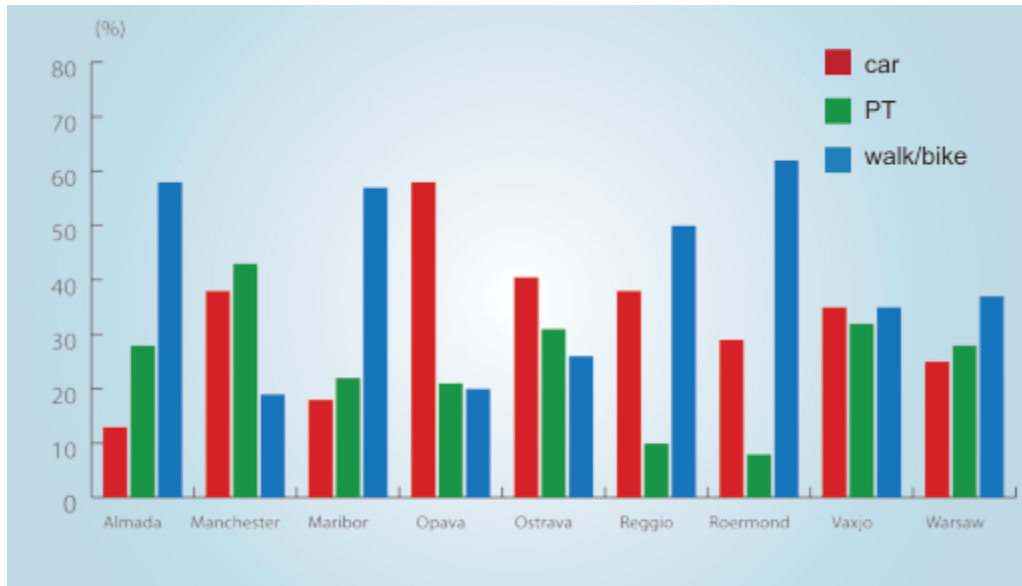
Source: Sustrans; From Traffic Restraints and Retail Vitality

If parking is not regulated, shoppers and visitors coming by car might experience difficulties in finding a place available close to where they want to be. When there is no parking management, parking in front of shops is often used by long-term parkers (not uncommonly by shopkeepers themselves!) instead of being available for customers. Henley is one of the many towns in UK where this is a problem; “It would be much better use if it had restricted parking in order to open it to a lot more users” is the suggestion of the Town centre manager about some of the parking in his local high street (Henley Standard, 2013).

Often an automatic link is made especially by shopkeepers and local politicians between the amount of parking provided for shoppers, and the success of local shops - but all the evidence shows that the reality is much more complex than this. Shoppers value the range of shops and the shopping environment, and there is no clear link between retail success and the amount of parking provided and how much if anything it costs to park. This complexity is also reflected in the results from research with 8 cities from North, South, Eastern and Western-Europe - The RESOLVE M&E Tool - Consumers and retailer survey (2017 and



2018) (see graphic) - this shows clearly that in most cities car drivers are not those who contribute most to the retail economy. Thus, it is important to provide what shoppers who do not arrive by car require, which is often a high quality, people-friendly shopping environment, not dominated by traffic. For those who do travel by car, it can be important to make it easy for them to park (although not necessarily for zero cost) which means charges and time limits so that parking spaces near shops are not occupied by long term parkers.



Source: The RESOLVE M&E Tool – Consumers survey (2017+2018)



A car parking space only becomes profitable when it is used several times a day

Retailers often demand more parking spaces and at the same time the lifting of time limits or removal of paid parking. However, parking spaces only become profitable - in terms of the money they bring in from the customers who use them - if they are used by several customers per day and not as permanent long-term parking spaces by commuters or a shop's own employees.



Photo: Robert Pressl



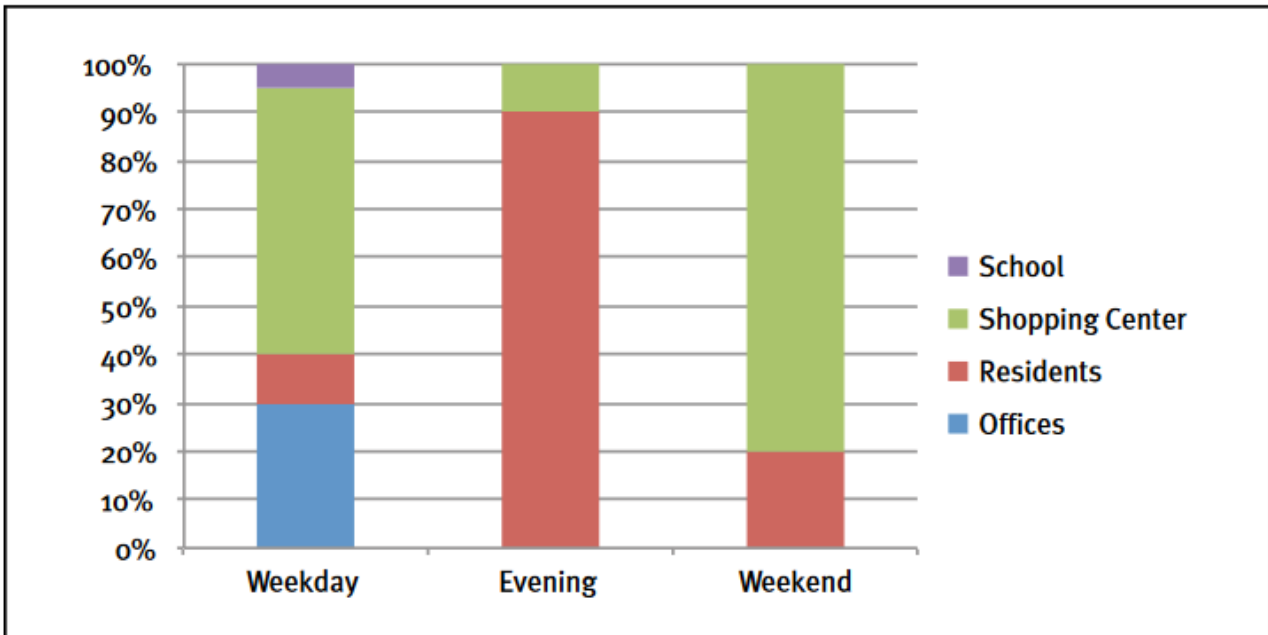
Reducing the need to provide parking spaces for clients (focus on multiple-used parking areas / shared parking when setting standards)

Parking spaces are often empty for much of the time - for example, supermarket car parks are rarely occupied at night and only near full at peak shopping times. Multiple use of such spaces can reduce demand on parking in other areas, freeing it up for other uses; and/or reduce investment costs in new off-street parking. The Belgian City of Sint Niklaas implemented the concept of shared parking on a street called Vijfstraten, one of the main corridors into the city centre. The city wanted to create segregated cycleways on Vijfstraten, but could only do so by removing on-street parking spaces currently used by residents. The city made an agreement with a supermarket located on the street to allow residents of Vijfstraten to park in the supermarket car park instead of on the street. Peak residents' parking demand does not coincide with peak shopper demand so there is enough parking for everyone. Since then it has made several similar agreements with other owners of off-street parking in the town.

Sint Niklaas implemented another clever approach following the multiple use of scarce public space for parking. The loading and unloading zones on the main shopping street Stationsstraat are used as bike parking areas outside the hours when loading and unloading are permitted.



Photo FGM-AMOR



The table illustrates how 100 parking spaces in a mixed-use district can be distributed based on usage at different times.

Source: https://itdpdotorg.wpengine.com/wp-content/uploads/2014/12/Shared-Parking_ITDP.pdf



Parking management helps to protect the streets you are living in from excessive parking volumes caused by other users (like commuters)

Often the streets in our cities are used as parking spaces for people who don't live there but who use their car for the home-to-work trip, for example. This means that a scarce good like an inner-city parking space is occupied by one car only for the whole day. Neither residents, nor the local economy, profit from such behaviour. An easy solution is to limit the duration for parking to a maximum of e.g. 2 hours (residents excepted).



Photo: Robert Pressl



Parking Management ensures that available parking is focused on those who need it most, like patients attending medical facilities

Sometimes visitors / clients / employees of an institution cannot use other means of transport than the car for their trip. This may be due to physical disabilities or, in the case of shift work, for example in hospitals or factories, limited public transport operating hours. Parking management makes sure these people who really have no alternative get access to a space.



Photo: Robert Pressl



Parking management supports creating safe school neighbourhoods

Removing parking spaces in front of schools or even better restricting access of private cars at times when school starts or ends is a valuable contribution to traffic safety. Often parents argue that it is important to bring their children to school by car because the situation for their children to walk or cycle to school is too dangerous. A chaotic situation of stopping in front of the school in the second lane and letting children out of the car is the result. Parents very often overlook the fact that they are the source of the danger.

Barcelona has implemented school traffic calming zones outside more than 20 schools in the city, wholly or partially closing all or part of the street where the school is located and removing parking spaces in the process. See https://ajuntament.barcelona.cat/qualitativa/es/noticia/transformacion-de-una-veintena-de-entornos-escolares-y-centros-educativos-2_976036

If parking spaces are provided, they should be at a distance of at least 200m from the entrance of the school. In this way, students can walk the last parts of their home-to-school-trip.

5 minutes before school starts



5 minutes after school starts



Photos: Robert Pressl



Parking management increases traffic safety for children

Due to their small physical size children face a high risk of accidents at junctions or pedestrian crossings where cars are parked too close - even at low vehicle speeds - especially in housing areas with dense parking on both sides of the street. Parking management and especially the related enforcement of regulations and laws make a major contribution to road safety by ensuring good visibility for pedestrians at crossings and all road users at junctions. In high density urban turn of the century neighborhoods, where the streets are 'overused' by parked cars, even the fire brigade often argues for proper enforcement to ensure access when there is a fire.



Photo: Robert Pressl

Parking Management ensures clear conditions (timing and space) for deliveries of goods and for services

There are often conflicts in the use of the kerbside between the local logistic providers and delivery services and other users.

Clear rules for using these parts of the street regarding space and time are necessary to reduce these conflicts and solve the problem. Flexible and demand-responsive use of the space - so that for example a loading bay in the morning becomes a bike parking area in the afternoon - is also needed.



Parking street

Public transport curb access conflicts
Unauthorised use of public transport space contributes to delays and unreliability

Ride service double-parking
In busy areas and at peak times ride-service and taxi double-parking triggers congestion and places passengers in danger.

Poorly-managed loading/unloading
Abusive occupation of parking or other reserved space leads to more cruising for parking.



Flex-use street

Public transport:
early start and priority at junctions

On-demand micro-transit
accommodated with public transport

Semi-automated people movers
provide first and last kilometre links alongside cycling walking

Metered parking
15 vehicles/day

Food truck
150 meals/day,
€650-€1500
income/day

Separated bike track
and safe junction treatment for cycling. Entices a broad segment of the population to cycle conveniently and safely

Parklets and "streeteries"
activate public life in the street and spur commerce
Parklet: 100 visitors/day, 10-20% additional revenue to nearby businesses

Cycling

Source: The shared use city: managing the curb - OECD/ITF 2018



Parking Management helps bike parking gain the same status as car parking

Bicycle parking is often neglected when it comes to planning for parking. However, in several countries standards for bicycle parking facilities have been introduced - e.g. 1 bicycle parking space per pillow for apartments. It is important to mention that bicycle parking standards should be minimum standards while at the same time car parking standards should be maximum standards.



Photo: Robert Pressl

Short-term: close to entrance, flexible



Photo: Harry Schiffer

Long-term: safe, comfortable, extra services



Photo: Harry Schiffer

Residential: safe, weather-protected



Park and Ride in the region supports public transport

Park&Ride is often seen as a panacea when it comes to reducing the number of people driving alone, especially on the home-to-work trip.

However, cities often make the mistake of building Park&Ride facilities on the immediate outskirts. In order to intercept the large number of commuters right here and motivate them to change to public transport for the onward journey to the city centre, very large parking areas or expensive multi-storey car parks would be necessary. In addition, car drivers are often very reluctant to switch to buses and trains if they have already made most of their trip by car.

Another disadvantage of new P&R facilities on the outskirts of the city is that new car traffic is induced. Commuters who previously used buses and trains to get to work now see it as more convenient to drive their own car to this point and only switch to PT for the last stretch. Thus, there is a high risk that these new P&R facilities will be filled to capacity quite quickly with unforeseen car trips.

The smarter solution is to encourage commuters to change to PT in the region as close as possible to their home. This requires an attractive, fast and direct PT connection to the higher-level centre, but also direct and secure car parking. The car thus serves as a feeder for the short trip between home and PT stop / station. Public transport which often cannot be run cost-neutrally in the region anyway, could be supported and strengthened by gaining new customers, and car kilometres are reduced.



Photo: Robert Pressl



Reduce complaints from car users about difficulties finding a parking space and about the unfair use of public space

The use of scarce public space often leads to conflicts between individual road users. How should public space be distributed? Conflicts between different groups of motorists such as commuters, residents, visitors, delivery services and shoppers about the use of parking also occur time and again. Transparent parking space management that covers all these groups (but that does not necessarily meet the demands of all) reduces these conflicts and allows car owners and planners to concentrate on their main tasks.

