POLIS

Parking and urban development

Now that we are smart, how can we be good?

Parking Paper 2019

(November 2019)

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1. Starting point

'We need to talk about parking policy, not about technology.'

In the past years, the Polis – EPA parking working group has dedicated attention to the digitalization of parking. A survey was conducted and two papers were published describing the current and (potential) future state of play of digital applications for local parking management. This included recommendations on how to optimize the use of digital parking tools in urban mobility policies. The 2018 Polis parking paper concludes that 'Polis members, local governments managing parking, see digitalisation of parking in a wider context. For them, it is about r**eaching wider mobility and transport policy goals – embedded in a global spatial, economic and social vision for the city**.'

Within the working group, the overall conviction grew that the discussion on the digital future of parking is very important, but does not address the fundamental issue of undesigning European cities from the surplus of privately owned and used vehicles. The Polis members also see parking technology to become more useful when it has the ability to inform decision makers about mobility and urban planning.

The current mobility context in larger cities, for the first time in decades, presents a real alternative for private vehicle ownership. **Cities can finally move away from a mobility system depending on large numbers of stationary cars.** This new context sees a shift from motorized vehicles to active travel modes (walking and cycling) and from private ownership to shared, collective of temporary use of vehicles (with proven and new public transport concepts, shared mobility, and new mobility services – ride hailing, micromobility).

Changes of modal shift in favour of active travel and new mobility services and replacing private car ownership might currently be confined to specific cities and specific city districts. However, they start to have impact on local parking strategies, use of parking infrastructures, and revenue generated by parking management infrastructures.

Recently **parking issues have risen to the EU policy agenda**. The EU institutions discussed parking standards and Electric Vehicle amenities in view of the revision of the Energy Efficiency Performance of Buildings Directive. The ECF brought forward a comprehensive study presenting the current status with regards to bicycle parking standards across EU members states and regions. In addition, the OECD published a paper highlighting the potential of advanced parking policies in view of environmental and energy policies of its member states.

The above reasons have made that the EPA-Polis working group has moved on from the focus of technology, to a topic that is closer to the built environment and urban planning. We have tried to answer the question how to actively un- design cities from the surplus of cars, but also to start preparing our cities for new mobility lifestyles. The cities engaging in the working group activities agreed that decisions about the built environment need to be taken now to avoid a legacy that hampers further evolution, sinks public and private budgets in infrastructures that might be underused and deliver bad to negative return on investment.

In this document, a simple solutions framework is provided, starting from the following principles: 1) Build less parking parking and optimize the use of existing offer; 2) reduce the spatial impact of parking

infrastructures; 3) Reconvert parking infrastructure for new forms of use. A reflection on digital tools to support decisions on urban planning and parking is included.

We understand these principles can be provocative or controversial. All solutions mentioned are or have been applied in European cities. We did however include discussion elements into this paper, as several of the policy measures mentioned bring economic, political or operational questions along. Finally, suggestions about future actions by Polis on this topic are included.

2. Measures toolbox

2.1 Solution 1: build fewer parking spaces

Cities are struggling with understanding the overall parking capacity in their cities, being it on-street, off-street, private or public.

For cities with a longer tradition of parking management and parking infrastructure development and availability, the saturation level of parking infrastructure provision is often reached. There might not be a real need to provide additional parking spaces. These cities look at ways to reduce the number of newly created parking spaces that are part of new urban development projects. Below we provide you with solutions addressing this issue – as implemented by Polis cities.

2.1.1 Parking standards: minimum, maximum or none?

The Parking Working Group went through some intense discussions about the best option in the establishment of parking standards for new urban developments. The planning authority can set either/or minimum standards (the number of on-site parking spaces has to be a minimum in relation to the number of households, dwellings, employees, or square meters in the building, but the developer can go above these numbers), maximum standards (the number of on-site parking spaces is capped in function of the above mentioned parameters).

Planning authorities can also combine minimum and maximum standards, leaving a window or fork between which the actual parking availability can be determined by the developer or negotiated between the developer and the planning authority. Some cities do not establish standards, assuming that developers will reduce the number of on-site parking spaces as developing costs can be reduced in this manner. Overall, the only certain policy to reduce parking capacity in buildings is to set a low maximum parking standard. The ECF study on parking standards shows that no country in EU has established a maximum for housing construction : maxima have been used for other functions such as offices, shops etc.

Planning authorities can also require that on-site parking spaces are designed to be used as parking only. The city of Gent prohibits the construction of 'boxed' underground parking spaces, but requires open spaces. This makes it impossible to use these parking spaces for storage purposes. This also allows a shared use of the parking offer.

Finally, even if parking standards are in general defined by local authorities, the ECF study shows that national laws can frame the definition of those standards: e.g. in France, minima for housing are

"capped" by the law in areas close to efficient public transport, and for certain typse of housing (social housing, housing for students, elderly…).

2.1.2 Parking standards in relation to quality of Public Transport provision

Several Polis members determine the parking standard in relation to quality of public transport that services the areas where the standard is applicable. The better the availability of public transport, the lower the number of parking spaces that has to be built on-site. New developments close to bus and urban rail axes and stops, need less parking capacity.

Lille Métropole even takes the actual quality of service into account when setting the standards i.e. not only the frequency but also the urban context. These policies have several advantages. It rewards developers that build close to public transport and is an indirect incentive for a 'light' variant of transport oriented development. It avoids crowding neighbourhoods and streets close to PT stops and axes with private cars, hence facilitating smooth public transport, while, for areas further from city centres, it allows a production of reasonable number of privately offered parking that avoids having cars parked on-street. For those citizens who actively make the positive choice not to own a car, it provides cheaper housing options without the 'burden' to own your own parking space.

2.1.3 Bicycle parking standards

The ECF has made a strong case for establishing, implementing and enforcing bicycle standards in buildings. Next to recommending the actual availability of bicycle parking, the ECF also provides qualitative requirements for bicycle parking. 'In order to encourage regular cycle use, access to bicycle parking most of all has to be easy and convenient. It should be as barrier-free as possible, weather-protected, theft-secured and provided in sufficient numbers in or near the entrance to buildings, taking bicycle ownership as well as (projected) daily/regular use into account.

Facilities to accommodate the increasing diversity of bicycles, such as tricycles, cargo bikes and bike trailers should also be provided. Existing developments without bicycle parking should be retro-fitted, either by converting car parking spaces into bicycle parking or by providing parking facilities near/adjacent to buildings. An adequate number of power sockets should be installed for recharging e-bikes.'

2.1.4 Retroactive application of parking standards through operational actions

The Brussels region retroactively applies its parking standards for buildings where people are employed to the existing building stock. This policy is implemented through the environmental permits that employers need to acquire in order to operate their business. In the process of environmental reporting, the number of on-site parking spaces has to be reported.

The surplus of parking spaces in view of the set standards, has to be gradually removed, or companies are fined/taxed. The advantage of this policy is that there is no competitive advantage/windfall profit in the delay in renovation of building stock or in the lease of buildings that are sub-performant.

2.1.5 Shared parking burden

In mature parking and urban development markets, real estate developers establish agreements to share the parking development burden. The developers bundle financial resources to build grouped parking facilities that can be exploited for the inhabitants/employees of the buildings taking part in the project, and to users beyond that target audience.

Such a parking swap (where parking space is sourced off-site) has the positive impact that the traffic impact can be better channelled (one access point versus multiple access points), and that car trip resistance grows with the fact that the trip will include a longer last leg that needs to be walked.

2.1.6 Trading parking quota for Mobility Management measures

Several cities make the parking quota that need to be produced due/thanks to the building standards subject to trading for mobility management measures. The developer does not have to build on-site parking spaces if access to car/bike sharing services is provided or space for these services is included in the building design, MaaS or PT subscriptions are delivered to the renters or buyers.

This has financial advantages for the developer (and can specifically support public housing companies that are under severe budgetary pressure). It has the advantage for the residents that mobility options – other than the private car - are in reach for daily use.

Linked to this principle the US practice of parking cash out can be mentioned. Parking at work can be seen as a employee's perk, and therefore could be substituted by a monetary representation (cash) of the advantage. The parking space at work could be replaced by additional salary, so rewarding employees who do not travel to work by car. For the employer the benefit is in the gap between the cost of providing parking and the actual amount distributed as additional salary.

2.1.7 Unlocking existing unused parking spaces for residents or visitors

Various digital tools and apps exist to unlock and optimise the use of available capacity in private parking facilities. In France, ZenPark has established good coordination with local authorities, hotels and public/social housing groups. The company established a business and operational model to create a win-win situation: the parking provider manages to raise financial revenue from capacity that normally would not generate this. The driver pays on average less than for the regular parking offer. Finally, the planning authority can incorporate less growth in newly built parking infra, if applications such as ZenPark and the unlocked capacity are well-integrated in the overall parking capacity planning.

2.2 Solution 2: Decrease visual and spatial impact of parking

Parked cars clutter the streets, parking lots surrounding destinations increase walking distances for pedestrians, have a visual impact and create physical and visual barriers in streets. In a context where vehicles become gradually larger and with their skyrocketing sales, SUVs start to become the de facto standard for cars. This barrier effect of parked cars has also safety impacts, specifically for children.

So, what can cities do to decrease the impact? La Rochelle makes it obligatory to integrate at least 60% of the on-site parking in new developments, to avoid large outdoor parking lots. For on-street parking, cities such as Gothenburg make work of **seasonal parking management**, with summer parking regimes

replacing parking spaces by living streets functionalities. In winter, when people are more relying on cars and less prone to outdoor activities, parking returns to the streets.

Another solution is **concentrated neighbourhood parking**. On-street capacity is excluded from the street design, but concentrated at street or neighbourhood level in well-designed concentrated patches. This allows for efficient enforcement, increases the trip resistance (distance to the car), and improves the quality of the urban space. It allows for a concentrated deployment of EV infrastructure. It also allows adding multimodal solutions to these parking facilities, creating e.g. 'eHubs'.

Finally, there is a lot of activity with regards to **integration of parkings with urban greening**. City surfaces need to become more permeable to allow for better water management. Also this issue can be solved by looking at smart design of parking, and can also be developed in urban planning rules, such as Lille Metropole did.

2.3 Solution 3: Reconversion of parking spaces

Next to small scale, targeted and/or temporary reconversion of parking spaces applying the parklets concept, there are also **large scale programmes for streets space conversion**. Cities such as Amsterdam, Oslo and Brussels have formulated strong targets for cutting parking spaces (ranging into numbers over 10.000 spaces). This will have use impact on car culture (ownership, use, status etc.) and will make street space available for other purposes. Not only road space can be reconverted. Also existing buildings can. We did not see active examples of reconverted parking stock managed by Polis members, but Polis members do built parking infrastructure that is designed in a versatile way, so future reconversion is possible (Leuven, parking at Martelarenplein).

If reconversion is not permanent, it can also be temporary, by mixed and flexible use of parking spaces or the kerbside: bike parking, logistics operations, bus lanes etc. The MORE project looks into the technical and regulatory details of this type of dynamic road space use.

2.4 Solution 4: digital parking tools to support mobility and urban planning

From the 2018 Polis parking paper, we understand that **data for planning** would allow evidence-based planning and could develop more precise measures causing less disruption and better results. At current stage, this is largely dependent on the data sharing agreements that authorities can reach with the respective data owners and harvesters and the ability of planning procedures to incorporate data such as visitors monitoring.

Nevertheless, for planning purposes, such as planning of parking capacity, statistic data will be largely sufficient as also for the reallocation of road space and kerbside reuse, i.e. for deliveries, parklets (parking spaces that are temporary or permanently reversed for other functional use), or bike parking.

Strategic policy such as parking standards for buildings can be based on statistic data too, allowing for determining precise develop of a measure but also measuring the success of a policy. Historic data sets can also inform transport related policies such as connected and automated vehicles or air quality standards.Cities need to map how digital parking can better inform parking, mobility and urban planning policies, and what data they require from the parking sector, in real time, and as aggregated historic data. This allows making informed decisions about land use, building regulations and new parking infrastructure: the data generated by parking can be merged with other data sets to

establish a detailed picture of the actual mobility needs and patterns for specific sites. This can inform decisions about parking standards in buildings, new construction of publicly accessible parking spots etc.

3. Discussion

The potential of the above mentioned measures is real, and their implementation shows they are effective. However, they do not come without challenges.

Polis members (as well as EPA board members) have raised the risk **of geographical polarisation**: measures that can be applied in metropolitan areas will be less applicable in small and medium-sized cities. The availability of alternatives to private car use, the dependency of the rural hinterland on smaller regional centres, the administrative capacity of the planning authority… these reasons make that the portfolio of planning-based instruments for curbing parking capacity will differ between geographical realities.

There are important questions about the economic model of these measures, which consist of an interplay of balancing costs and profit between three parties: the community, the developer and the owner/user of the property. Cui bono? With lower parking standards, the developer can reduce costs and build more dwellings/officer at a lower price. Will the owner/leaser also pay less for obtaining or renting the building? Cui malo? If the latter comes unprepared, he/she needs to find solutions to park at certain cost (financial or practical, e.g. parking at distance). Neighbourhoods might see an increased on-street parking offer, waiting times or insufficient capacity for resident permits. The city might need solve the mobility situation, with higher financial contributions to public transport, costly parking enforcement or a publicly organised parking offer, where a private solution might be possible. Cities are recommended to track the market price of garage box or parking space ownership.

The public consideration of the mobility needs of neighbourhoods and developments with low parking capacity can be perfectly justified, as long as it fits in the overall mobility policy of the city. Polis members therefor raise the issue of **understanding the real mobility impact of these measures**.

Given the strong quantitative nature of the measures, they allow for ex-ante modelling and appraisal. This gives some indication of how the mobility situation could evolve as urban development projects are implemented and in operation. The planning authority has to set goals and indicators that can effectively be monitored for the medium to long term. Issues like car ownership, modal split, trip length etc. can be considered. The planning authority has to asses to what degree the parking offer reduction contributes to mobility, urban development and economic objectives.

4. How to take this forward

We suggest the following actions:

1. Engage in a dialogue with the real estate sector. It is clear that the crucial stakeholders in this discussion are real estate developers. Polis will seek contact with associations such as Housing Europe, CEPI, EPRI etc. to discuss common interests on parking standards. This way we can organise dialogue and coordination between authorities and professionals in charge of parking policy, on-street and off-street, public and private, and urban planning. Aim: to include in urban development that a new project is an opportunity / may require an action on parking.
2. Polis can build a repository/inventory of best practices in parking standards in its membership and beyond.
3. Polis can build a 'playbook' on versatile parking infrastructure provision, being this parking for on-street, surface or off-street use. Urban greening will be part of the equation here. Polis can seek contact with the ECTP and AESOP to interact on these issues.
4. Projects such as PARK4SUMP, MORE, MOMENTUM and GECKO can be addressed to discuss the specific question of understanding the relation between required and projected parking capacity in view of take up and regulation of new mobility services and lifestyles.
5. Polis can look into shifting business models resulting in changing views on parking infra provision - in view of changing mobility patters. Working group meetings brought forward stories from Dutch cities where - thanks to advanced modal shift policies and urban space/parking management – they overall cost of implementing these policies is higher than the financial revenue raised by the policies. In addition, Dutch parking stakeholders commissioned a study about financially failing parking infrastructures.

We are happy to continue the discussion about this paper in the 2020 activities of Polis on Parking and the city.

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Polis, Polis parking paper 2019

About Polis

Polis is the leading European network of cities and regions focusing on urban transport innovation. We cooperate to develop sustainable urban mobility solutions for the city of today and tomorrow. Polis draws its expertise from a network of decision makers, technicians and managers working in authorities at local and regional level across the European Union. Building on results developed in European projects and in thematic working groups that touch upon key transport challenges, we link innovation and public policy orientations on urban and regional mobility with European policy development.

Polis has a an active Parking Working Group, and a successful partnership with the European Parking Association. The networks co-organise an annual workshop on the topic, in addition to the Polis Parking Working Group meetings.

The Parking Working Group of Polis is chaired by Olivier Asselin, Lille Métropole and managed by Ivo Cré (icre@polisnetwork.eu).