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**When on-street parking is part of the deal...
How dedicated on-street parking for commercial services came about in Paris, and why
innovation in urban mobility might depend on it.**

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Abstract

Until the mid-1950s, stopping or parking a vehicle on the streets of Paris was considered detrimental to public order, and therefore prohibited [1; 2; 3]. Less than a decade later, cars had become an integral part of urban life, regulation had changed, and various users (residents, visitors, commuters, etc.) started competing for limited on-street parking [1; 4]. Residential parking, whether on- or off-street, has been the subject of much recent research, whereas the use of on-street parking by commercial activities has been understudied. This paper focuses on the public provision of *dedicated* on-street parking spaces for select commercial services (including public passenger transport, taxis, cash transport, goods delivery and, lately, car-sharing as well as electric vehicle charging), its historical *raison d'être*, and its more recent role in supporting mobility innovations.

Based on an analysis of legal and administrative archives, we chronicle policy developments regarding the public provision of dedicated on-street parking to commercial services in Paris, and subsequently discuss the hypothesis of an underlying qualitative 'hierarchy' among the use purposes of this resource [3]. Then, using statistics from the City of Paris, we discuss past evolutions in the amount of dedicated on-street parking spaces provided to several categories of eligible services. Finally, based on an analysis of recent developments in car-sharing operations in the Greater Paris region, we discuss the role of on-street parking provision in supporting the development of car-sharing services.

Key words: parking policy, dedicated on-street parking, car-sharing services

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Introduction

Public space in major cities has long been a scarce resource coveted by a variety of potential users, including residents, tourists, commercial activities, cultural activities, government services, etc. To ensure fair access to this resource to all eligible users, public authorities have adopted various forms of policies and regulations over time and across countries. The public streets of the City of Paris, long known as *le Pavé de Paris* [5], had been the stage for a rather fierce competition among its users long before the rise of automotive traffic, but automotive vehicles have brought about major changes in the perception of public space: i) their elevated running speed called for an overhaul of street organisation and traffic rules from the early 20th century [6, pp.59-79]; ii) their fast democratisation among Paris households after the Second World War led to the proliferation of private cars both running and (unlawfully) parking on public streets [6, pp.150-186].

The Penal Code established by Napoleon in 1810 imposed sanctions (fines) against *‘those who would clutter public streets by depositing or leaving without necessity material or any other thing whatsoever that would prevent or hinder the freedom or safety of passage’* (Art.471, §4), thereby leaving little to no legal basis for on-street parking except for ‘necessity’ reasons [1; 7]. Several subsequent regulations have reasserted the prohibition of on-street parking ‘without necessity’, including: a 1852 administrative regulation under the Traffic Police Act of 1851 (*Règlement du 10 août 1852 sur la police du roulage et des messageries publiques*, Art. 10), the presidential order dated May 21, 1921, which instituted the French Road Traffic Code (Art. 11), and another presidential order dated August 21, 1928 (Art. 1), the latter merely replacing the clause of ‘necessity’ by a clause of ‘legitimate motive’.

Thus, until the mid-1950s, stopping or parking a vehicle on the streets of Paris remained prohibited on the grounds that it was detrimental to public order [1; 2; 3]. Yet, less than a decade later, cars had become an integral part of urban life, regulation had changed, and various users (residents, visitors, commuters, etc.) started competing for the increasingly scarce resource of on-street parking [1; 4]. While residential parking, whether on- or off-street, has been the subject of much research as well as political and administrative attention [17; 18] over the past decades, the use of on-street parking by commercial activities remains widely understudied. What are the categories of commercial services deemed eligible for dedicated on-street parking, and why these? Is there a ‘hierarchy’ among the users or purposes of use of the on-street parking resource, and what is it? Has dedicated on-street parking developed consistently with the activities it benefits? How central is the role of dedicated on-street parking in the development of new mobility services in major cities?

This paper discusses the public provision of *dedicated* on-street parking spaces for select *commercial* services (including public passenger transport, taxis, cash transport, goods delivery and, lately, car-sharing as well as electric vehicle charging). We specifically exclude from our scope of analysis the provision of dedicated on-street parking to i) government services (including police departments, fire departments, ministries, hospitals, municipalities, etc.), and ii) individuals (including those with disabilities, bike and motorbike users, etc.).

In the first section of the paper we chronicle policy developments regarding the public provision of dedicated on-street parking to select commercial services in Paris. In the second section we describe and discuss past evolutions in the amount of dedicated on-street parking spaces provided to several categories of eligible services. In the third section we discuss the role of on-street parking provision in supporting the development of new urban mobility services such as car-sharing.

A retrospective look at public policies regarding dedicated on-street parking in Paris

In this section, we use legal and administrative archives as well as other historical documents to chronicle policy developments regarding the public provision of dedicated on-street parking to select commercial services in Paris. Subsequently, we discuss the hypothesis of an underlying qualitative ‘hierarchy’ among the use purposes of this resource [3].

Hints as to the existence in the City of Paris of dedicated on-street parking for hackney carriages, the forerunners of taxi services, can be found as early as the 17th century. According to Ramée [8, p.124], the first letters patent¹ allowing the parking of carriages for hire at crossroads and in other convenient public spots were granted in 1657. According to Auriac [9, p.241], a few years later in 1673 an official order established the precise locations on the streets, squares and crossroads where carriages could be parked ‘*so as to avoid any inconvenience to the public*’. Du Camp, who dates the establishment of such designated parking stations to 1688, found evidence of 28 of them in the streets of Paris in 1753 [10, p.319]. It is worth noting that the expression ‘place carriage’ (or alternatively ‘place coach’) is commonly used in the documents of the 19th century to refer to those of the vehicles for hire that are allowed to park in the streets [7; 8]. An imperial order of 1808 instituted a fee for place carriages to pay for their right of parking on public streets².

If taxi services and other public transport (or their forerunners) seem to have been the first commercial services to be granted permits for on-street parking in the City of Paris, other services have since followed suit. Although dedicated on-street parking for goods delivery services had been around since the 1970s (6,000 parking areas in Paris were dedicated to

¹ A writing (as from a sovereign) that confers on a designated person a grant in a form open for public inspection (source: Merriem-Webster dictionary).

² In the cities other than Paris, although the private use of on-street parking in return for a fee developed in the early 19th century, the legal basis for on-street parking permits for commercial transport services was only instituted under the Municipal Government Act of 1837 (Art. 31) then further clarified under the Municipal Act of 1884 (Art. 98) [9, p.226].

goods delivery in 1982) [19], their legal basis was only truly secured in 2000 (*Loi n° 2000-1208 du 13 décembre 2000 relative à la solidarité et au renouvellement urbains*, Art. 107). In 2000 also, an additional, specific category of dedicated on-street parking was created to accommodate companies providing services for the transport of cash and valuables such as jewellery and precious metals (*Loi n° 2000-646 du 10 juillet 2000 relative à la sécurité du dépôt et de la collecte de fonds par les entreprises privées*, Art. 1).

Following these additions, the French General Local Authorities Code provides as of 2017 that *'the Mayor can (...) reserve space on [the public roads of the city] to facilitate the movement and parking of public passenger transport vehicles and taxis as well as vehicles for the transport of cash and valuables carrying out their duties, and the halting of vehicles for loading or unloading goods'* (Art. L.2213-3) (underlining is ours).

Yet, the services listed in that article of the French General Local Authorities Code make only part of the services that are eligible for reservation by the Mayor of dedicated on-street parking spaces in the city. Indeed, in 2010 another category of dedicated on-street parking was created by the Second Grenelle Act to accommodate car-sharing services (*Loi n° 2010-788 du 12 juillet 2010 portant engagement national pour l'environnement*, Art. 54), although Art. L.2213-3 of the French General Local Authorities Code has not been complemented accordingly. Besides, it should be noted that charging infrastructure for electric vehicles are also *in fact* eligible for dedicated on-street parking, as attested by the regulation of road and traffic signs (*Arrêté du 22 décembre 2014 relatif à la création de la signalisation du service de recharge des véhicules électriques*). Yet, the legal basis for this category of dedicated on-street parking spaces appears somehow weaker as it was only implicitly instituted by the Energy Transition Act of 2015 as one possible sort of 'preferential traffic and parking conditions' to which electric vehicles were declared eligible (*Loi n° 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte*, Art. 36 and 37). In the City

of Paris however, dedicated on-street parking for electric vehicle charging services appears to have existed as early as the 1990s.

Examining the hypothesis of an underlying qualitative ‘hierarchy’ among the categories of users or use purposes of the on-street parking resource, two articles of the French Road Traffic Code in effect as of 2017 can provide useful insights regarding the *rigour of enforcement* of dedicated parking provisions for various categories of commercial services. Table 1 illustrates the provisions of Articles R.417-10 and R.417-11 of the French Road Traffic Code as regards the type of actions that can constitute an infringement by non-qualifying vehicles as well as the level of seriousness (in terms of ‘inconvenience’ caused) and category of fine associated with said infringement for the six categories of commercial services covered by dedicated on-street parking provisions.

Category of commercial service w/ dedicated parking	Action constituting the infringement	Seriousness of the offence (corresponding category of fine)
Electric vehicle charging	Parking	Inconvenient (2 nd class)
Goods delivery	Parking	Inconvenient (2 nd class)
Public passenger transport	Halting or parking	Inconvenient (2 nd class)
Taxi	Halting or parking	Inconvenient (2 nd class)
Car-sharing	Halting or parking	Inconvenient (2 nd class)
Cash and valuables transport	Halting or parking	Very inconvenient (4 th class)

Table 1 – Hierarchizing offences related to dedicated on-street parking

As illustrated by this table, combining the type of action that can constitute an infringement with the seriousness of the associated offence, the six categories of dedicated on-street parking for commercial services would appear to fall into three groups in terms of rigour of enforcement:

- Most rigorous enforcement of dedicated parking provisions can be expected (at least on paper) for parking spaces dedicated to cash transport services, whereby halting alone can constitute the infringement, and the associated offence is considered the most serious of all;
- Rigorous enforcement can be expected too for parking spaces dedicated to public passenger transport, taxi or car-sharing services, whereby halting alone can constitute the infringement, but the associated offence is not as serious as for cash transport;
- Finally, some tolerance seems to be in order for parking spaces dedicated to electric vehicle charging or goods delivery services, whereby only actual parking can constitute the infringement.

Past evolutions in the amount of dedicated on-street parking provided

In this section, we use statistics from the City of Paris to discuss past evolutions in the provision of dedicated on-street parking spaces for several categories of eligible services.

Table 2 presents the statistics on on-street parking supply we were able to collect from the following two streams of statistical archives released by the City of Paris:

- the *Voirie et déplacements* series, years 1998, 2003 and 2008 [11 ; 12 ; 13];
- the *Bilan des déplacements* series, years 2013, 2014 and 2015 [14 ; 15 ; 16].

In just eighteen years between 1997 and 2015, the total supply of *non-dedicated* on-street parking places decreased by 40% (-93,000 spaces) from 235,000 spaces to approx. 142,000 spaces. On the other hand, the same period saw an increase in the overall supply of on-street parking dedicated to commercial services (probably about +2,000 spaces, or +8%, accounting for the size of delivery areas and coaches parking areas).

On-street parking supply	1997	2003	2007	2013	2014	2015
Non-dedicated	235,000	170,424	158,700	143,267	142,983	141,757
Goods delivery (areas)*	n.a.	9,672	9,000	9,477	9,469	8,837
Coaches*	290	257	265	299	300	323
Taxi	4,000	3,618	3,529	3,004	3,004	3,004
Cash transport	-	-	770	n.a	n.a.	n.a.
Autolib car-sharing	-	-	-	2221	2450	3050
Other car-sharing	-	-	-	-	-	226

* Each delivery area is approx. the size of 2 parking spaces. The same ratio holds for coaches parking areas.

Table 2 – On-street parking supply in the City of Paris, 1997-2015

The supply of dedicated on-street parking for tourist coaches increased by 10% over the period, whereas taxis saw their parking footprint decrease by 25% (in the meantime, the number of licences reached 17,770 in 2015, up from 14,900 in 1997). Eight years after their introduction by law, there were 770 on-street parking places dedicated to cash transport services in the City of Paris. We could not find any ulterior statistics on this category of dedicated parking.

Finally, the category of dedicated on-street parking with the strongest growth over recent years is the category of car-sharing services. Two years after launching in late 2011, the public car-sharing service Autolib already totalled more than 2,200 on-street parking spaces (for a total of 2,010 vehicles in service in the Greater Paris area³), mostly reclaimed from residential parking at the time. Another two years later, the same service totalled more than 3,000 on-street parking spaces (for a total of 3,698 vehicles in service in the Greater Paris area), the most recent growth spurt having probably reclaimed from goods delivery areas as well as residential parking. Other car-sharing services in the city are minor contributors to the

³ The service area of the Autolib service extends beyond the administrative boundaries of the City of Paris and the vehicles can be stationed at any point in the network. It is therefore impossible to provide statistics as to the number of Autolib vehicles operating in the sole area of the City of Paris.

demand for on-street parking by commercial services (200 places by the end of 2015), but the process for granting dedicated on-street parking rights to private car-sharing operators, a.k.a. the ‘SVP label’, was only finalised in March 2015 [16] and further growth can be expected.

Examining again the hypothesis of an underlying qualitative ‘hierarchy’ among the categories of users or use purposes of the on-street parking resource, it would be interesting to compare in a more systematic way past evolutions in the provision of dedicated on-street parking spaces for each category of eligible services with the developments in the associated industries. This comparison could not be completed in the context of this paper due to incomplete data and unresolved methodological issues regarding the comparison across activity sectors that are heterogeneous in nature. It can be underlined, however, that public authorities have organised a decrease in the ratio of dedicated on-street parking spaces over operating vehicles in the taxi industry: from 1 space for approx. 4 vehicles in 1997 down to 1 space for approx. 6 vehicles in 2015. Due to its operating features as a one-way car-sharing service, whereby the vehicles can be picked up and dropped off in different stations, the Autolib service altogether (not limited to the City of Paris) operates with a ratio close to 1 space for 1.5 vehicles in 2015 (down from 1 space for 2 vehicles in 2013). As a reference, it should be noted the ratio for residential on-street parking was 1 space for 1.8 vehicles⁴ in 2015 (down from 1 space for 2 vehicles in 2013).

Discussion: The role of on-street parking in the development of new mobility services

In this section, we discuss the role of on-street parking provision in supporting the development of new urban mobility services such as car-sharing.

New mobility services are emerging, proliferating even, in most major cities across the world under the influence of various drivers of change, including: the increasing scarcity of some

⁴ We used the number of valid residential parking permits as a proxy for the number of vehicles.

resources (including public space and public funds), the rising awareness of environmental and health effects of mobility, the reconfiguration of lifestyles and behaviours (including mobility behaviours) by digital technologies, etc. [20]

The promotion of car-sharing services by public authorities at national level in France was really initiated with the First and Second Grenelle Acts of 2009 and 2010 (*Loi n° 2009-967 du 3 août 2009 de programmation relative à la mise en œuvre du Grenelle de l'environnement*, Art. 13; *Loi n° 2010-788 du 12 juillet 2010 portant engagement national pour l'environnement*, Art. 54), and was later strengthened by the Energy Transition Act of 2015 (*Loi n° 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte*, Art. 34, 40-42, 51, 56). The City of Paris was among the pioneering local governments in France to promote car-sharing, with the establishment in 2007 of a first 'car-sharing label' associated with preferential parking conditions and support for communication and awareness campaigns [21; 22].

Significant benefits are usually expected from car-sharing at a local level in terms of reducing car ownership and use, developing intermodality and multimodality (including through coordination and joint planning with other public transport modes), reducing traffic and parking congestion, and reducing road transport emissions (including through use of low- and ultra-low emission vehicles). Yet, the massive uptake of car-sharing services by private household requires a shift in attitudes regarding the private car and in overall mobility behaviours.

The provision of dedicated on-street parking for car-sharing services (or, for that matter, any other innovative urban mobility services) is likely to support such a shift in two separate ways:

- From a practical and economic standpoint, because car-sharing services compete with an omnipresent, very convenient private car that is currently allowed to park *on public streets* at a very low cost (as of 2017, the *weekly* fee for residential parking in the City of Paris amounts to 9 EUR), it can be argued that dedicated on-street parking for car-sharing is an essential prerequisite to create a reasonable level playing field;
- From a cognitive and behavioural standpoint, because car-sharing services remain an emerging innovation and don't have yet the same level of popularity and widespread recognition as the private car, it can be argued that dedicated on-street parking for car-sharing enhances the exposure of the service and can contribute to the dissemination of information among the general public.

In such a transition process (as theorised by Geels [23]), public authorities may want to fully secure the legal basis of dedicated on-street parking for car-sharing as these services are not yet strongly anchored in the sociotechnical regime of urban mobility. With this objective in mind, an easy step forward could be to complement Art. L2213-3 of the French General Local Authorities Code so as to make explicit provisions for Mayors to be allowed to reserve on-street parking spaces for car-sharing vehicles (besides public passenger transport vehicles, taxis, cash transport vehicles and goods delivery vehicles).

That being said, if car-sharing services were to reach mass diffusion in major cities after a transitional phase (assuming they would take over a significant share of the current market for private car use), the question could then be asked as to what the rationale of *on-street* parking would be for such services over the medium term. As for private cars today, seeking a sound combination of on-street and off-street parking (the distribution was 83/17 in 2015 for overall parking, as compared to 70/30 twenty years earlier [11; 16]) is probably the smart way forward... until automated vehicles become available and disrupt the balance of urban mobility all over again anyway.

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