

Collaborative mobility: from promises to challenges for public authorities

Laura Brimont, Damien Demailly, Mathieu Saujot, Oliver Sartor (IDDRI)

Blablacar, OuiHop', Karos, WayzUp, Drivy, Koolicar... Carpooling (lift sharing between a non-professional driver and one or more passengers) and P2P car sharing (car rental between individuals) start-ups have multiplied in recent years. These "collaborative mobility" actors are helping to revitalize the shared use of the car, which has been developing since the 2000s with the first generation of actors supported by the public authorities: professional car sharing (Communauto, Autolib', Citiz, etc.) and carpooling companies (La Roue Verte, Ecolutis, Covivo). While this first generation of solutions is struggling to extend beyond certain types of territory and certain population groups, can collaborative mobility actors broaden the development of the shared car and build sustainable business models?

This Policy Brief¹ analyses the development challenges of these new actors positioned in the short-distance segment, which is more promising in terms of environmental and social benefits than those who successfully develop in the long-distance segment, where there is greater competition with collective public transport. Having acknowledged that short-distance collaborative mobility actors are experiencing developmental difficulties, which are all the more important in peri-urban and rural areas, this Policy Brief raises the question of the role of public authorities and suggests six pillars that could form a public strategy for a collaborative and sustainable mobility. This analysis is based on a review of the academic and institutional literature, as well as around fifty interviews with relevant experts and actors: public authorities, traditional mobility actors and new collaborative mobility actors.

1. This *Policy Brief* is the short version of the collaborative mobility report, available at <http://www.iddri.org/Publications/Les-nouveaux-acteurs-de-la-mobilite-collaborative-des-promesses-aux-enjeux-pour-les-pouvoirs-publics>

KEY MESSAGES:

- Carpooling and car sharing can reduce the environmental impact and cost of travel, the annual savings for an individual ranging from a few hundred to over 3,000€.
- However, despite innovations brought by new actors, these practices continue to make little headway in the short-distance segment and are also struggling to break into sparsely populated areas (rural areas, outer suburbs, small cities, etc.). User access to a mix of transport solutions, including collective transport, and the efficiency of collaborative mobility platforms requiring a large number of users, are recurrent and particularly strong issues in these areas.
- Until recently, public authorities have poorly integrated these new actors into their mobility policies. However, they have a vital role in featuring the articulation between collaborative mobility and other modes of transport.
- A public strategy for collaborative and sustainable mobility could be based on six pillars: communication support; tax clarification; road system planning; experimentation; better governance; public funding. These pillars should be mobilized to varying degrees based on the territory types, the last pillar proving to be quite important in sparsely populated areas.

This article is based on research that has received a financial support from the French government in the framework of the programme « Investissements d'avenir », managed by ANR (French national agency for research) under the reference ANR-10-LABX-14-01.

Project partners: Maif, Transdev, Renault, ADEME, Région Île-de-France, Ouishare.

Institut du développement durable
et des relations internationales
27, rue Saint-Guillaume
75337 Paris cedex 07 France

THE PROMISES OF COLLABORATIVE MOBILITY

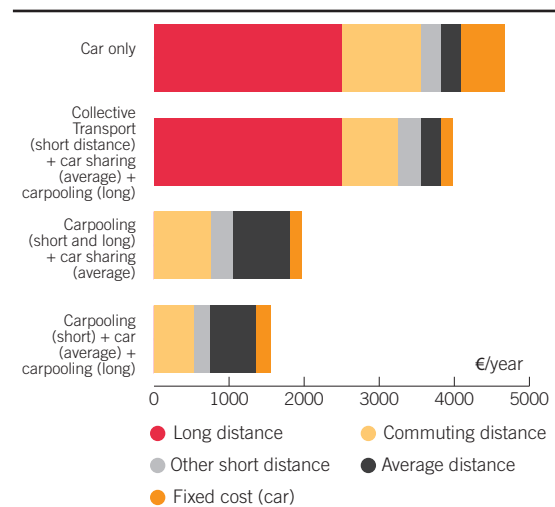
For over twenty years the traditional combination of cars and collective transport has been considered as insufficient to meet the challenges of sustainable mobility, which aims to reduce the negative externalities generated by car travel (greenhouse gas emissions, congestion, air pollution), as well as to address the mobility restrictions related to socioeconomic (age, financial constraints, etc.) and spatial factors. Dependence on the car is thus more important in outer suburbs and rural areas where there is little collective transport and where the dispersed nature of residential, public and commercial buildings limits the options of walking and cycling.

Shared cars provide additional solutions to improve the sustainability of daily travel. Carpooling enables car journeys to be shared and therefore reduces congestion and the emission of pollutants, while car sharing makes it possible to optimize car use: a car is rented only when really needed, while different transport modes are used on other occasions. These two practices reduce the costs associated with mobility, with annual savings ranging from a few hundred to over three thousand euros, depending on the scale of the change in behaviour (Figure 1).

The shared car sector has been experiencing a revival in recent years, with the emergence of a number of new actors in the so-called “collaborative mobility” sector. The spread of smartphone technology and digital innovations have made it possible to develop new tools and improve the ergonomics of user interfaces, thus facilitating transactions between individuals. For example, Koolicar equips cars with a connected box to enable the keyless unlocking of a car so that the vehicle can be borrowed without needing to meet the owner, facilitating short-term car rental. This P2P business model allows individuals to develop car sharing in less densely populated areas, where professional car sharing is not profitable.

In terms of carpooling, OuiHop’ and WayzUp use smartphone geolocalization to enable passengers to identify nearby drivers for real time “notification” of the ride required (dynamic carpooling). Karos, another carpooling startup, exploits the potential of artificial intelligence to anticipate journeys and spontaneously offers carpooling alternatives (predictive carpooling). Another version includes Ecov, which is reinventing hitchhiking by equipping roads with display terminals that allow drivers to easily identify the presence of a carpool buddy.

Figure 1. Comparison of different mobility options and their costs to the individual



Source: authors.

Notes: For methodological elements see Brimont, L., Demailly, D., Saujot, M. Sartor, O. (2016). New actors in collaborative mobility: from promises to challenges for local authorities, *Studies* No. 02 /16, IDDRI, Paris, France.

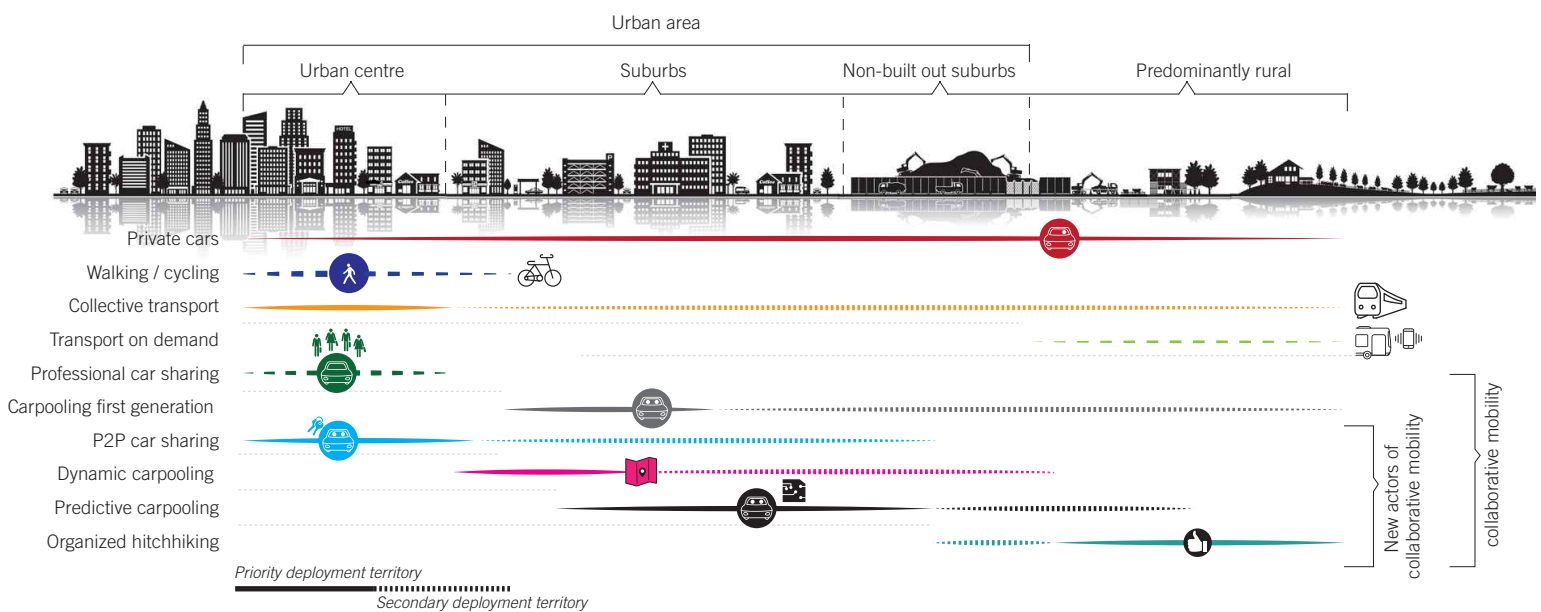
FROM PROMISES TO DEVELOPMENT CHALLENGES FOR SHORT DISTANCES

These new actors aim to reach new audiences and extend the areas in which car sharing and carpooling are used. These aims, however, are facing challenges associated with short-distance travel.

Firstly, the development of P2P car sharing depends on access to a wide range of alternative modes of transport (collective transport, carpooling, cycling) for their most frequent journeys. This option can indeed only be used for occasional trips: to use car sharing for daily trips would be more expensive than to use one’s own car. Although the P2P business model broadens the uptake potential of car sharing to include less densely populated areas, its dissemination cannot be extended to territories where there are few alternatives to the car, including outer suburbs and rural areas.

Regarding carpooling, although new actors have developed innovative tools that are reducing the transaction costs associated with repeat trips (searching for carpooling buddies, contacting, etc.), the financial gain remains moderate (a few hundred euros per year) and spread out over a period of time, which reduces the perceived benefits. Indeed, financial gain only becomes significant if an individual gives up his or her own car, which implies that alternatives are available to the individual for most of their daily trips: cycling, collective transport or a carpool scheme that enables a variety of journey types, which is rare as carpooling has been developed primarily for commuting.

Figure 2. Spatial and temporal complementarity of different transport modes



Source: authors.

Finally, the platforms used by most of these solutions are subject to “network effects”. Below a certain threshold of users, the usefulness of these technologies is very low because the chance of finding a match is almost zero. This threshold, known as a “critical mass”, is higher for short-distance trips. Indeed, individuals have less flexibility in terms of space and time for their daily travel needs. Carpooling buddies must live in the same area and work in the same sector, while car sharing relies on a rental car being available near the home of a potential user. To reach such a level of congruence between supply and demand, these platforms must attract a large number of users. While it is difficult to reach this threshold in densely populated areas, the challenge is even greater in outer suburbs and rural areas.

WHAT ROLE FOR PUBLIC AUTHORITIES?

Given these difficulties that are specific to the short-distance segment, which are particularly important in outer suburbs and rural areas, the issue of the role of public authorities is raised, particularly that of local Mobility Organization Authorities (“autorités organisatrices de mobilité”, AOM). The interviews conducted during this study showed that a lot of them have adopted a very cautious attitude towards these new actors, firstly because they struggle to understand the relevance of the solutions, and secondly because these solutions raise issues of competition with collective transport or professional community-supported car sharing systems. Thus, while many local

authority representatives declare that carpooling and collective transport are complementary, this complementarity is understood as a subordination relationship: carpooling should be deployed either where there is no collective transport or at its extremities (first and last kilometres), in the rationale of providing intermodal transfer facilities.

This hierarchy of modes runs against the concept of multimodal system, which is based on the spatial, temporal and economical complementarity between the different modes (Figure 2). For example, carpooling is easier if there are backup solutions (shuttles on request) that enable a trip to be made in off peak hours when there is no carpool offer. In turn, the development of a safe and effective carpooling service may encourage some households to part with their vehicles, and to use car sharing or other modes of collective transport for other types of travel. The linking of different collective private and shared modes of transport needs to be established.

Six pillars could help build this linkage in the framework of a public mobility strategy. These pillars are necessary to varying degrees from one territory to another: supporting the emergence and linking of the supply in places where the actors are already present (in large cities); encouraging their emergence by organizing a fertile ground in areas where they are not yet present (in small towns and low population density outer suburbs and rural areas).

Communication with users

Communication with potential users and the coordination of the existing user community are key issues in reaching the critical mass. It would be appropriate for public authorities to work with some private actors (businesses, insurance companies) that hold data that would be useful for targeting communication towards individuals most likely to use these practices, such as employees making long commutes or car owners driving a small number of kilometres per year.

Clarifying the fiscal framework

Collaborative mobility poses serious fiscal challenges, chief among them being the definition of what can be considered as cost sharing, and could therefore possibly be tax exempt. Beyond this clarification, two options to encourage carpooling can be considered. Firstly, the reform of the “frais réels” fiscal niche, which reduces the financial incentive to carpool and discourage user registration with platforms.² Secondly, the implementation of incentive schemes of the type involving the repayment of a proportion of collective transport season tickets or a mileage allowance for bicycle usage.

Road system planning

Creating dedicated or discounted parking spaces for car sharers, carpool areas or reserved lanes: this type of road system planning informs users about these practices, limits the use of private cars and promotes their sharing, and finally facilitate the intermodal and multimodal cornerstones of sustainable mobility. To determine whether a car is shared or not (which is very important in the case of reserved lanes or parking spaces), one could imagine that the actors of collaborative mobility could play the role of a trusted third party, together with public powers.

2. The reform of actual costs is part of a broader issue of ecological taxation. See on this matter Chancel, L., Saujot, M. (2012). Les “frais réels”: une niche fiscale inéquitable et antiécologique. *Working Paper* n°19/2012, IDDRI, Paris, France.

Experimentation

Experimentation helps refine knowledge on mobility behaviour, which is needed to organize complementarity between the modes of transport: how do different sections of the public use the different offers available? What are the technical challenges that particular solutions will face? Acquiring a culture of experimentation firstly requires the acceptance of failures, and to dare to establish ambitious systems—to escape from the trap of thinking too small which has often been presented as a factor of failure—but also to systematize and disseminate the assessments.

Adapting the public governance of mobility

Making mobility more sustainable involves the building of a transport service that meets different needs, while retaining as much as possible the freedom and convenience offered by the private car. To overcome the fear, justified or not, of a competition between collaborative mobility and collective transport, and to link all of these solutions, a governance of multimodality must be implemented. Local public authorities have a key role to play in planning and designing the new system of mobility, and to ensure its management. But do they have the capacity to do so? Alternatively, should we, as some suggest, let the actors of collaborative mobility develop themselves, and adapt ex post the offer of traditional forms of transport?

Public funding of collaborative mobility

The possibility of subsidizing collaborative mobility is highly debated. It is not, however, rejected by local authorities that are searching for new solutions to ensure a high quality collective transport service throughout their entire territories, especially in rural areas, and nor is it rejected by certain actors of collaborative mobility. One can therefore imagine new forms of contractualization between local authorities and collaborative mobility actors, the establishment of partnerships between traditional public service operators and the new actors in collaborative mobility or the development of collaborative solutions by traditional operators. ■