

# The Challenging Path to a Redistribution of Space – Renegotiating Urban Mobility

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## 1 ABSTRACT

The (rapid) growth of cities and city populations in many regions of the world puts a focus on the question of accessibility (use and distribution) of urban space. In consequence, the long-prevailing hegemony of the principle of car-friendly cities is being challenged, and political as well as societal mindsets towards individually possessed cars seem to be changing. Nonetheless, more sustainable forms of mobility will need different legal and economic frameworks, and will need to be more demand-orientated and smarter in order to become a real alternative.

From a technological perspective, new regulations on the reduction of (CO<sub>2</sub>), NO<sub>x</sub> and particulate matter have been passed by the European Parliament in 2015, while smart forms of mobility such as carsharing, e-mobility, and automated driving are being supported and subsidized by local and national governments. Both, regulations and incentives from the market are pushing companies to innovate.

From a socio-political perspective, the (re-)distribution of the increasingly scarce resource urban space and the manner of its utilization is a challenge which affects all population groups, but in different ways. Questions arising in this context are: How to actually initiate a process of transformation towards a more sustainable urban mobility? What future quality(s) of life will we have in demographically changing societies and which forms of mobility are more adequate to future needs than individual possession of cars?

This is exactly where our transdisciplinary project in Berlin/Germany takes off: place-based approaches promoting more sustainable forms of local mobility are being combined with iterative bottom-up approaches of discussion, information and playful testing of new forms of mobility for civil society, stakeholders, administrators and politicians. One and a half year into the project, it becomes obvious that urban mobility is a highly contested and emotionalized topic where fear of loss (of the individually possessed car and its parking space) clashes with misinformation, non-reflection of individual mobility behavior and demand, and different esthetic preferences on how public space should be designed.

This contribution presents intermediary results from a research project in Berlin/ Germany (<http://neue-mobilitaet.berlin/>) where local actors together with administrators, politicians, mobility providers and researchers are about to develop and test adequate strategies towards more sustainable local mobility. These intermediary results can be summarized as follows: 1) In order to develop a truly different, and less emotional approach to (sustainable) mobility, intensive communication with different groups and across these groups is necessary. 2) Smartness in the mobility sector is not merely the introduction of innovative technology-based solutions but needs to be understood as a process of multilateral information, discussion, and exchange.

Keywords: communication, urban space, quality of life, mobility, sustainability

## 2 INTRODUCTION

Cities are growing in many regions of the world. Such urbanization processes affect infrastructures and city populations in many ways (WBGU 2016) and sometimes even provoke protests. Similar in Germany - where urban mobility and transportation is one contested topic among many. But the long-prevailing hegemony of the principle of car-friendly cities has been challenged recently. Discussions on health effects, air quality, traffic jams and last not least the quality of life in a city support the idea of more sustainable forms of mobility. In addition, political as well as societal mindsets towards individually possessed cars seem to be changing.

Nonetheless, more sustainable forms of mobility will need different legal and economic frameworks, and will need to be more demand-orientated and smarter in order to become a real alternative. Although especially the younger urban generation attributes less positional value to car-ownership, the numbers of individually possessed cars in Germany is growing (UBA 2017).

This puts a focus on the question of accessibility (use and distribution) of urban space. Moreover, public life, space and mobility need to be organized differently to manifest a more equitable city for all participants. And planning standards need to be redefined to keep up with future needs.

Our contribution presents intermediary results from a research project in Berlin/ Germany (<http://neue-mobilitaet.berlin/>) where local actors together with administrators, politicians, mobility providers and researchers are about to develop and test adequate strategies towards more sustainable local mobility.

### 3 URBAN SPACE IN TRANSFORMATION

Modern Cities in the Western World were designed as “automotive cities” (Gilbert and Perl 2008) where (further) development of transport infrastructure focussed on motorized individual traffic while neglecting non-motorized transport and public transportation (Gössling 2016). In addition, the individually possessed car had been considered a status symbol (Müggenburg 2016) and became an almost self-evident part of people’s lives since the 1950s. While individually possessed cars may often be a necessary feature in rural areas, in cities, and even more so in growing cities and neighborhoods, the increase in (individual, motorized) traffic causes a multitude of problems. For one, there are risks for health and quality of life: Accidents risks, distress, noise, smell– and CO2 emissions as well as particulate matter (Gössling 2016). For another, the hegemony of modernism had major spatial consequences. Urban space had been designed in many cities for moving and parking cars and for individual motorized transport (Gehl 2011; Rammler 2008).

But the need for transformation towards more sustainable mobility is becoming more urgent; it already provoked some changes in political and societal mindsets as many projects on local sustainable mobility are to be found all over the world.<sup>1</sup> Beyond necessary changes in mindsets, more sustainable forms of mobility will need different and adequate legal and economic frameworks, and will need to be more demand-orientated and smarter in order to become a real alternative.

The transformation of a whole mobility system is difficult to achieve though as it is a complex, long-term and resourceful process (Krellenberg 2016). Furthermore, a complete re-thinking of objectives, processes and structures will be required as incremental changes within an established socio-technical system, such as the mobility system, are obviously not sufficient in order to cope with existing and future challenges (Markard et al. 2012). What is needed are radical, large-scale and integrated approaches, which go well beyond traditional policy approaches (van den Bergh et al. 2011).

In a growing city as well as in districts with growing population changing demands for urban space as well as increasing demands for mobility can be identified. Both are challenging existing patterns of space consumption and can only be dealt with adequately if basic conditions are questioned.

### 4 THE PROJECT

Although one might agree that radical changes in urban mobility frameworks are overdue, there is not sufficient knowledge yet in order to come up with integrated, feasible strategies. According to literature on planning and sustainability, the local level is the most promising level to start with as political and economic actors tend to be more open towards experiments, individual engagement can more easily be related to local problems, experiences and solutions (self-efficacy), and (intermediary) results and progress can be perceived more easily (Kemmerzell 2017). This is even more important as a profound transformation towards more sustainable mobility needs to be embedded in and related to civil society.

In consequence, the project “New Mobility Berlin”<sup>2</sup> implements an experimental, demand-oriented and bottom up approach, working with different local actors. The project started in May 2016 with the idea to start discussions on future uses of urban space, and to consequently develop different feasible ideas for local sustainable mobility. The team decided to start with this approach in two neighborhoods where existing local mobility networks could be considered as a promising basis to get into contact with citizens in the district.

In order to facilitate a transformation process towards more sustainable mobility, place-based approaches promoting more sustainable forms of local and smart mobility are being combined with iterative bottom-up

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<sup>1</sup> The German Federal Ministry for Education and Research as well as the European Union support such approaches, and, for example, Chinese state policies seem to be developing in this direction, too.

<sup>2</sup> <http://neue-mobilitaet.berlin/?lang=en>

approaches of public information and discussion, of personal communication, of playful testing and networking for civil society, stakeholders, administrators and politicians. The idea is to change behavior not with radical changes of the framework, but demand-orientated, raising consciousness for and provision of alternatives. At the same time, the question arose on how to use public space in the future if people actually will change their mindsets, abolish their car, and vacate parking lots in order to increase individual or collective quality of life.

To follow these aims, the project's core team was assembled of stakeholders from each neighborhood, science, private business, and local administration. And it combines knowledge from different perspectives: local expertise and networks, scientific competences, expertise with participatory processes, political experience, and administrative knowledge.

#### 4.1 The neighborhood

One of the two neighborhoods where the project started is Mierendorff-INSEL.<sup>3</sup> It is located in Charlottenburg-Wilmersdorf district, in the northwestern center of Berlin. Roughly two thirds of the neighborhood consist of residential area, with only few retail business, cultural institutions and restaurants. The other third is occupied by allotment gardens and a wholesale market. In parts of the neighborhood were built one century ago when Berlin already experienced a period of fast growth. Their traditional block perimeter development with its typical Berlin backyards allowed for a high population density. Some smaller parts were rebuilt during the 1950s and 1960s with linear structures alongside the streets and less density. One major, heavily used thoroughfare (airport resp. motorway towards the inner city) produces a large part of local emissions (particulate matter (PM) and nitrogen oxide (NO<sub>2</sub>) as well as noise which exceeds existing reference points significantly (Grobcheck zum Stadtumbau Mierendorff-INSEL 2017: 19). This problem is already being targeted in the 2008 noise reduction plan (Lärminderungsplan).

#### 4.2 Pressure on urban space in a growing neighborhood

While population in Berlin has been growing with a total of approximately 10 percent within the last six years (Amt für Statistik Berlin Brandenburg 2018), Mierendorff-INSEL neighborhood only recently became more popular and additional housing, educational and recreational infrastructure, public space and playgrounds are needed (Grobcheck zum Stadtumbau Mierendorff-INSEL 2017). In consequence, it became more populated and the number of cars grew too. This increases the pressure on urban space in general as well as on parking space.

As part of the project, a study on individual mobility patterns and satisfaction with the parking situation, public spaces etc. was carried out in 2016 by Karlsruhe Institute of Technology (KIT). Figure 1 shows the number of respondents and their degree of satisfaction with car parking (not satisfied on the left, very satisfied on the right) depending on how often they use a car (daily, 3-4 times a week, ... , never). The second figure shows the satisfaction of cyclist (not satisfied on the left, very satisfied on the right) depending on how often they use a bike (daily, 3-4 times a week, ... , never).

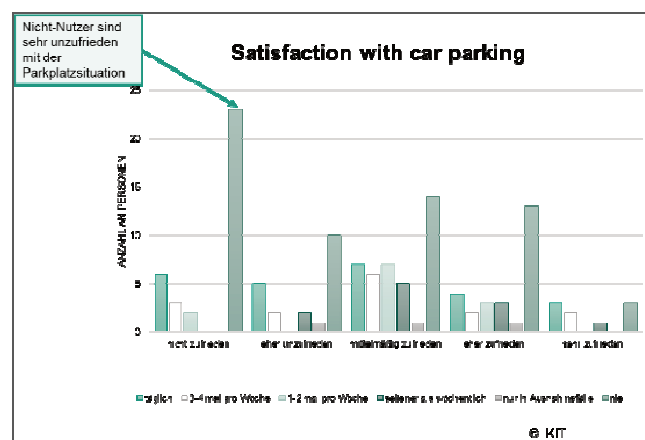


Fig. 1: Satisfaction with car parking in Mierendorff-Insel neighborhood (n = 150).

<sup>3</sup> The second neighborhood, Klausenerplatz Kiez, will not be dealt with in this article.

Results show that both car owners and especially people who never use cars are considerably unsatisfied with the car parking situation (out of 25 car owners 6 are not satisfied and 5 are rather dissatisfied while out of 63 people never using a car 23 are not satisfied and 10 are rather dissatisfied).

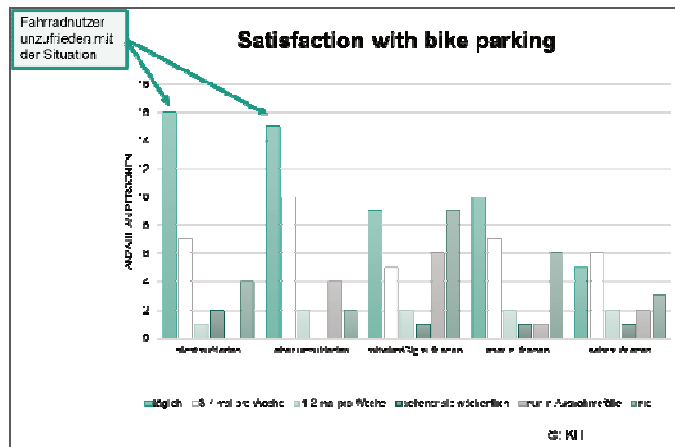


Fig. 2: Satisfaction with bike parking in Mierendorff-Insel neighborhood (n = 150).

Similarly, people riding their bikes every day are mostly not satisfied with the parking options for bikes (figure 2).

Satisfaction with public space in the neighborhood was also part of the interview. In figure 3 the bars show the percentage of respondents not satisfied (left) and very satisfied (right). Obviously, most residents consider their satisfaction with public space as average with room for improvement (figure 3).

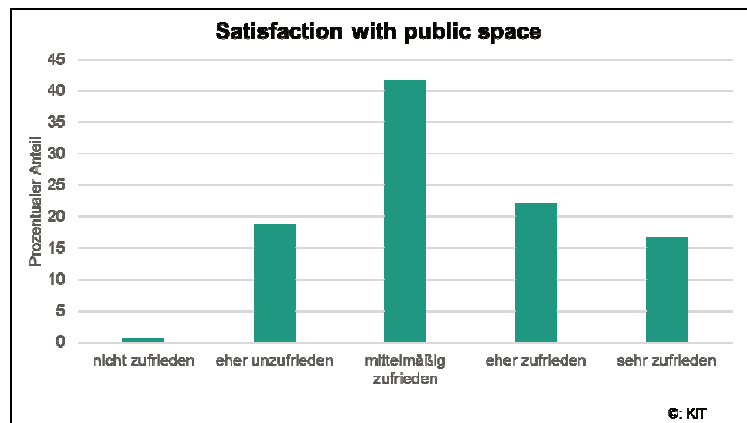


Fig. 3: Satisfaction with public space in Mierendorff-Insel neighborhood (n = 150).

### 4.3 Approach

These results were the basis to start public discussions on future uses of urban space and local quality of life. The vision of the project team is to improve quality of life through the demand-oriented advancement of jointly developed local sustainable mobility solutions. This results in several objectives: 1) Holistic approach to transformation to sustainability, 2) Systematic inclusion of locals & local initiatives from the start, and 3) Keeping and improving quality of life from a demand orientated perspective, considering the needs of local citizens. This will be implemented with a variety of measures such as:

- (1) Reduction of urban space needed for driving and parking as well as reduction of mobility related emissions by changing the modal split and reduction of individual car ownership
- (2) Conversion of parking space into public space which can be used in different ways and increases local quality of life in the neighborhood
- (3) Facilitating sustainable mobility in the neighborhood by raising the visibility of available options and expanding mobility opportunities, such as car and bike sharing, renting out cargobikes etc.

#### 4.4 First steps

First insights into local mobility demands were – as mentioned – collected through a survey on individual mobility behavior and preferences. When browsing the answers, the idea emerged to give people the opportunity to experience living without their car for two weeks. In addition, different activities focussing on the topic of mobility (information and discussions, offering e-scooters, bike and car sharing) were offered (this approach has been nick-named ‘mobility days’ in the project team): An agreement with the local authorities allowed us to use six parking lots for such activities – with the precondition that the project team is able to convince six car owners to not use their cars for two weeks.<sup>4</sup> Which happened. In consequence, we started a discussion process with locals on how to use this ‘free’ urban space in a different way. As a result, a ‘Bring-your-own-Cushion’ lounge was built from pallets by a local artist. This form of parklet was used to rise the awareness of how much space is needed for parking and how it could be used alternatively.



Fig. 4: Activities in the ‘Bring-your-own-Cushion’-lounge during the ‘Mobility Weeks’.

During all the testing and discussing, it became obvious that a large part of the population was either unaware of more sustainable alternatives to driving a car or was reluctant to switch to more innovative solutions such as car and bike sharing and different forms of e-mobility. This observation has been reinforced after the ‘mobility days’ when we organized three workshops with participants of the survey. The aim of these workshops was to find out under which conditions people would be willing to give up their car for a certain period of time or permanently. This information, in the following, should help to create an attractive mix of different mobility options within the neighborhood to convince people (not only those in the workshops) to decide against their individual car. In order to identify local challenges of sustainable mobility, a district-wide conference was organized. By now, there seems to be a growing network of individuals, public and private organizations supporting the idea of different future uses of urban space and more demand-orientated sustainable mobility. In addition, our activities were accompanied by two filmteams to present local ‘car-abolishers’ on their journey towards a car-free future and to show potential effects of our approach to a broader public (<https://www.youtube.com/watch?v=FCJrFpnnK3g&feature=youtu.be> & <https://www.youtube.com/channel/UC6wECBORM0ifAeEoo1uCCCg>). Local, and quite recently, national press and television, seems to become interested too.

## 5 DISCUSSION

One and a half year into the project, it becomes obvious that urban mobility is a highly contested and emotionalized topic where fear of loss (of the individually possessed car and its parking space) clashes with misinformation, non-reflection of individual mobility behaviour and demand, as well as different esthetic preferences on how public space should be designed.

The first suggestion regarding a successful transformation towards more sustainable mobility and use of urban spaces therefore, would be to establish multilateral communication: Such communication helps to better understand each others demands as seemingly only few people do actively reflect their everyday mobility, and even less individual mobility demands of their fellow citizens. It also helped to initiate and facilitate interaction across actor groups, resulting in this case in a growing local network and activities of

<sup>4</sup> The cars were safely parked in a different Berlin district during this period.

different kinds. In addition, intensive, personal communication is necessary and fruitful too - as the team experienced some strong opposition against the project in public discussions and individual dialogues over various topics (e.g. local quality of life, everyday mobility, alternative uses of urban space). After several hour-long exchanges with both residents and politicians, common grounds could in many cases be identified. It certainly helped when trying to de-emotionalize discourses on mobility that the project team consisted of science, mobility provider, local initiative and local administration. In order to develop a truly different, and less emotional, approach to (sustainable) mobility, intensive communication with different groups and across these groups is necessary.

A second early observation made is that most people are not familiar with alternative, innovative or smart forms of mobility. With our visible activities in urban space we provoked fears that the main aim of the project was to reduce parking space and to cut personal freedom (which in some cases was very closely linked to the possession of a car). In consequence, providing opportunities for information on recent technological developments in the mobility sector proved successful – even with critics of the project. And this even more so if it was combined with testing of new products and business models. This approach opened additional ways for discussions on individual prejudices against alternative forms of mobility or intermodality. The second suggestion therefore would be to conceptualize & test new forms of intermodality in order to reduce the number of individually possessed cars. The topic of intermodality, though, is quite challenging in the Berlin context as there is a tangible concurrence between different mobility providers and that intermodality is being seen/ prejudiced to be stressful and awkward oder laborious oder complicated. In consequence, if the plan is to identify people who are willing to get rid of their cars, it seems necessary to provide this. Smartness in the mobility sector is not merely the introduction of innovative technical solutions (like devices for detecting free parking lots) but needs to be understood as a process of multilateral information, discussion, and exchange.

## 6 CONCLUSION

Initiating transformation processes regarding sustainable mobility and future uses of urban space is very interesting, resourceful and fruitful, but at the same time challenging because of the redistribution of space to new purposes. Multilateral communication in combination with individual experimentation with alternative solutions is successful and appeals to different levels. It is essential to find ways to relate local administration and politicians, mobility providers and civil society. In a wider perspective, this approach also aims at contributing to Berlin's climate protection and sustainable mobility targets, providing examples on how transformation towards more sustainable uses of urban space might happen.

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