

# Developing a Culture for Experiments: Testing Urban Interventions for More Sustainable Planning

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**Abstract:** One of the strategies linking abstract topics such as climate change or sustainable mobility with everyday action is to implement temporary urban interventions. They are regarded as part of participatory planning processes that help to network different urban participants and discuss solutions for the development of urban qualities at eye level. Urban interventions are experiments, they initiate open debates instead of complex and tedious planning processes. The understanding of the city as a laboratory at the interface of science and practice is portrayed in a seminar at the at the University of Duisburg-Essen in 2014. It demonstrated how street space could be designed and used alternatively. In a specific district, different concepts for urban interventions in public space were developed and put into practice for one day. On the one hand, the experiments showed that municipalities and other stakeholders need more courage for experiments in order to offer residents new means to express their desires for change. On the other hand, temporary urban interventions provide new options for public institutions and planning professionals to break free from perfected and fossilized planning routines. How interventions can be integrated in German urban planning practice is presented in the end of this article.

**Key words:** Urban intervention, urban planning, urban design, public space, civil participation.

## 1. Introduction–Objectives and Challenges in Urban Planning

Urban spaces today constitute the habitat for the majority of the population. At the same time, these urban spaces are constantly subject to new influences, and thus also changing spatial and functional structures. Today, urban development and urban spaces have to respond to challenges such as climate change, rising energy consumption, changing mobility needs, health promotion, social justice and demographic changes. For many urban dwellers, these global issues are indeed present in the media, but they seem to have to do very little with their daily lives. But there are many ways to break down the big issues for everyday life into the public space. Recently, increasing temporary urban interventions are discussed in Germany, to confront the individual citizen with alternative designs and uses especially in public spaces.

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These basic ideas lead to questions that are of practical interest from the perspective of urban planning and urban design: how can interventions be integrated into planning processes and existing planning tools so that they do not remain one-off actions? What can they contribute to sustainable urban development? And how do you create a long-term implementation from a successful temporary intervention (“from pilot to permanent”) in order to effectively establish sustainable practices? At the same time, it is outlined which potential interventions as an innovative element linking science and practice may have.

## 2. Urban Interventions as a Means of Testing a Sustainability Strategy

Urban interventions in urban space represent an experimental instrument of testing a sustainability strategy. In recent years, German-speaking publications on this topic are piling up [1-6].

It should be noted that there are different definitions

on this, depending on professional access and intention, but also a lot of substantial congruity. Related terms or those appearing in similar contexts are appropriation of space, space production, temporary use, strategic planning, real-life laboratory or real experiment. In English-speaking countries, one can come across terms like tactical urbanism or place-making. At the same time it is always about participatory processes, being part of social life as well as participation in planning processes.

Below the role of urban interventions, it is first outlined in an urban development process. After a brief overview of existing concepts, the author's understanding of the term is briefly sketched in order to emphasize the perspective of urban planning and urban design. Based on a university project in the city of Essen, recommendations for the planning and implementation of interventions are presented.

### *2.1 Present Situation—Interventions in Urban Development Process*

Economic structural shifts, demographic developments and change in social values lead to changed frameworks for planning concepts. The majority of our cities in Germany has already been built. In this context today planning must be more concerned with development of existing structures than with new construction. It is mostly always about urban renewal, redevelopment and neighborhood development, about dealing with unused spaces and neglected streets or strongly traffic exposed neighborhoods—ultimately and basically it is about the future of our cities.

Increasingly, attention is drawn to the limitations of established planning tools. For example, an “intelligent incorporation of temporary uses into a new form of urban planning based on the formalization of the informal and the informalization of the formal” [7] is proposed. On the part of politics and administration, there is also increased attention towards civic engagement—not least because of the

complexity of the tasks and decreasing scope for action. No longer do citizens wait for participation but engage themselves in the development of neighborhoods.

“Today, people are less inclined to fight for ‘great designs’ (...). However, many are willing to engage in smaller, manageable issues (...)” [2]. By temporary interventions that are developed together, alternative uses of urban space according to needs of the residents and users can be tested and made visible. They are not subject to the pressure of reaching a predetermined end state, but include ways of trying, negotiation and correcting. Interventions initiate an open planning process by cooperative production [8]. This kind of planning is usually not initiated by the municipality, rather new collaborations arise in informal processes [9]. As part of this planning debate, options are central that empower local actors, not only to act as temporary space pioneers, but also to be included as carriers of urban processes permanently. Meanwhile, in many cities, “space enterprises” develop reflecting a user-supported urban development [8].

An awakened consciousness of urban qualities and the recovery of urban spaces seem to lend additional momentum to this development. At the same time, it is also about the questioning of the self-perception of planners, city managers or investors.

### *2.2 Terms—Disciplinary Approaches, Different Perspectives*

The term “intervention” derives from the Latin “*intervenire*” and literally means “stepping in between”. The particular work field of urban interventions usually is the public space. It ranges from small interventions such as temporary art productions to large construction projects that change the cityscape and the structure in the long term. They can arise “unplanned” or caused by residents’ and private initiatives and/or may also be scheduled by the city administration. Here, both the composition of the actors as well as the temporal process phases can vary

[10].

The term “urban intervention” is often found in the field of art, that understands the intervention as a “social activist form of art”, “attributes social responsibility and therefore leaves the protected showroom and wants to intervene in the reality of the city” [11]. While art projects rather highlight the neglected urban spaces or draw attention to urban sociopolitical issues [12], often only targeted construction spaces or entire neighborhoods change in the long run and thus do, for example, also use movement patterns.

There are overlaps with the field of architecture and urban design. In addition to new development and urban reconstruction, there are smaller space changing interventions that initially might change a niche only, however, are an important link in the structural change process in the long term. Since 2010, the Senate Department for Urban Development in Berlin presents the Urban Intervention Award for European urban intervention projects which “radiate positively in their surroundings” [10].

Instant urbanism denotes an action research, in which urban spaces are only constituted by the actions of users. The change of the space is developed out of the place with the involvement of local residents. Thus, this refers to the definition of participatory intervention used in social research and to artistic intervention as an art form. [13]

Performative urbanism focuses on actions, policies and design. Here, architecture can be understood as the key to the practice of urban design. “The performative urbanism understands architecture far more than as just objects and images. Situation, application, process, interaction and the urban scale are key terms of a performative understanding” [14].

### *2.3 Interventions from the Perspective of Urban Planning and Urban Design*

From an urban planning and urban design view temporary urban interventions are a way to break

down the first-mentioned abstract topics in concrete everyday practices. Thus, on the one hand, people are affected and can be motivated for local actions. On the other hand, planning and policy can be made aware of a needs-oriented design.

The aim of these interventions is to encourage changes in behavior, habits, and thought patterns of residents and users by temporary transformation and/or change of use of public space. Consolidated structures are revealed and people will realize relationships between their own behavior and the quality of urban space. With few resources, alternative urban space uses should be demonstrated on-site in order to create conditions for urbanity, identification, security and social participation in the public sphere. This potential can be experienced. Moreover, an intervention can have an effect on the reproduction and rediscovery of the neighborhood through alternative perspectives on the use of public space as well as culture and history by its residents.

Intervention develops from the analysis of the urban context, consisting of the living environment of the neighborhood resident, and motivates him to participate immediately. The living world is simultaneously subject and object of the intervention. A key objective is to initiate a debate on the transformation of public spaces. Interventions are therefore understood here as an instrument of procedural urban development and as an urban design solution. An intervention may be the result of a participatory process and serve as a precursor to a future project. The urban space is an experimental laboratory for a sustainable urban development.

Ideally, it is followed by a permanent implementation of the measures. Events, festivals or actions can be carried out as additional measures during an intervention in support of visibility in public, communication and idea generation, but are not to be understood as an end in itself.

Interventions play an important role mainly at district level, since they are still crucial benchmarks

for the daily lives of many of its inhabitants today. Interventions have not only been individual measures of an urban office but are planned in an integrated way and deliberately set “impulse”. They were and are particularly effective when they are directly linked to existing activities of social groups and are developed from the everyday lives of the inhabitants. The practical knowledge of the management and the everyday life of the city dwellers are therefore to be linked in a useful manner. “The usually separate approaches bottom-up and top-down will become two sides of the same coin” [2].

In other countries, there are urban interventions with similar objectives that are already partly discharged internationally. Originally from San Francisco PARK (ing) Day took place for the first time in 2005. With this day of action attention should be drawn to the lack of high-quality public spaces. Further, a debate should be encouraged. Other well-known examples are the transformation of Times Square in New York City or the New Road in Brighton.

When in 2013 and 2015, the “EcoMobility World Festival” took place in Suwon/South Korea and Johannesburg/South Africa, parts of the cities were closed to the traffic in order to demonstrate an ecomobility future for residents and commuters for a month [15]. Guided by ICLEI,<sup>1</sup> the world’s largest network of cities that have embraced a sustainable shaping of the future, citizens can experience a sustainable and healthy lifestyle for a month.<sup>2</sup>

### 3. Case Study in Essen: Interventions as Experimental Teaching Format

Often the question arises how the developed approaches and visions can be implemented from the planning science into practice. A direct answer cannot be offered by research. A transformation is possible

only through politics and administration. But also a strong citizenship can initiate or influence processes of sustainable urban development, if the citizens want to actively shape their city. This is where the authors’ approach starts testing urban interventions as a teaching format to meet the much-advocated stronger practical orientation in higher education and at the same time to close the gap between universities, science and the real world in the neighborhoods.

Interventions in the context of a university project at the Institute of City Planning and Urban Design at the University of Duisburg-Essen had for both students and teachers an experimental character and were regarded as a test run [16]. The seminar was conducted in 2014 and consisted of students of the master course in urban systems (inter alia social and cultural sciences, geography, architecture). Below, the intervention process is outlined. Next, the lessons learned are presented.

#### 3.1 The Interventions—Analysis and Implementation

In interdisciplinary teams, the students developed concepts for urban interventions at three different locations in the Rüttenscheid District of Essen and implemented them in one day. There are dense perimeter block buildings and a high mix of uses especially in the center of Rüttenscheid. The Rüttenscheider Straße is highly frequented by cafes, bars, restaurants and retail stores.

As a basis for the concept on-site analyses and surveys were used. To achieve the highest possible acceptance and support of local residents in the vicinity of the selected sites, site visits were conducted prior to the intervention, the findings of which could be summarized in terms of local conditions, use and appropriation by people passing. This leads to the creation of a quantitative questionnaire with a total of about 280 interviewed people.

The survey was intended to provide a rough picture of the residents and visitors and show the peculiarities

<sup>1</sup>ICLEI originally stood for the “International Council for Local Environmental Initiatives”. In 2003, the organization became “ICLEI-Local Governments for Sustainability”.

<sup>2</sup>[www.ecomobilityfestival.org/](http://www.ecomobilityfestival.org/).

of the district. The interviews were conducted on different days and at different times to reach a mixed audience. It was not a representative but a preliminary survey. The survey results made it possible to explore the needs and attitudes of residents and visitors on certain issues and compare these with the already acquired data. Below significant results are listed.

The main reasons for staying in the area were shopping (45%) and visiting cafés (39%). Living and working followed with 33% and 25% (multiple answers were possible). It turned out that Rüttenscheid for both residents and residents of other neighborhoods is an attractive and welcoming neighborhood, where the everyday errands are run.

Deficits were, however, found in the quality of public areas, in particular the greenery. The proportion of green spaces was estimated as low by 59%. Only one-fifth of the visitors were satisfied with the planting. The same can be stated with the number of seating: 59% of the surveyed disagreed with the offer and would very much welcome an improvement; 69% wished for green spaces instead of paved parking spaces; and 58% favored the establishment of more seating. One third of the interviewees preferred more bicycle racks, design elements and playgrounds or play areas. Only 4% of the participants asked for no changes.

People clearly see a restriction of their quality of life through the actual state in which the use of the location in combination with its auto-oriented design is not in harmony. These findings served as an approach to the target and concept development of the interventions to be implemented.

“More people, more green, less cars”—this was the guideline for the interventions. A road section temporarily closed for cars was turned into an urban living room (Fig. 1) and parking spaces were remodeled for hang out and meeting places for young and old (Fig. 2). This was done by simple means, such as sofas, green carpets, self-made furniture, deckchairs, parasols and large potted plants. Here the students

have dealt with the question of how urban interventions help to assess context specific needs of residents and users and to evaluate those in order to formulate measures for a long-term improvement of the quality of life.

The site requirements and considerations for the implementation of interventions depending on the respective intervention include the following:

- prevention of main transport and transit routes;
- mixed use streets or high density neighborhoods;
- roads with low speed or low traffic volume;
- involvement of adjacent uses;
- proximity to schools;
- implications for residents and businesses;
- usability for all, accessibility for disabled people;
- application and approval required;
- maintenance plan.

The temporary transformations of the surfaces that are normally devoted to private motorized transport



(a)

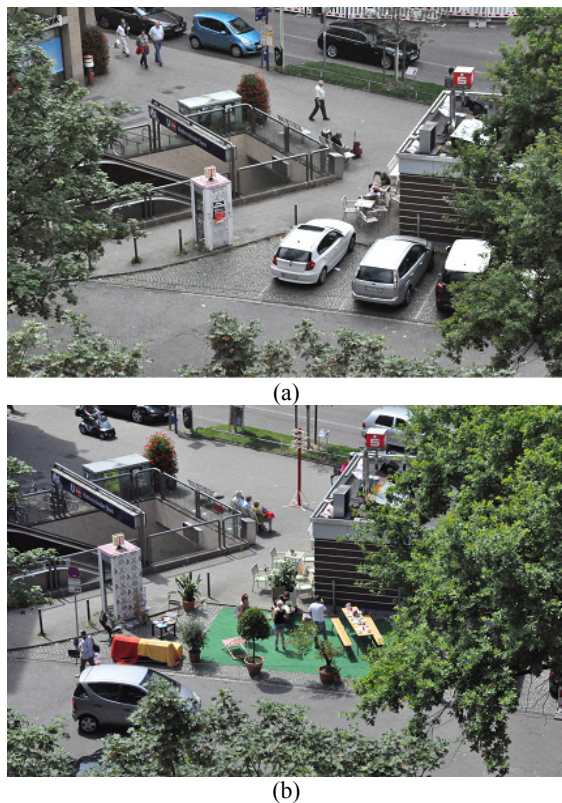


(b)

**Fig. 1 Annastraße: (a) before the intervention; (b) while the intervention.**

Source: ISS (Institute of City Planning and Urban Design).





**Fig. 2 Rüttenscheider Stern: (a) before the intervention; (b): while the intervention.**  
Source: ISS.

have caused predominantly positive reactions among urban dwellers. Approximately 75% of respondents felt that the proportion of public green spaces within the area was too low. Moreover, a more attractive design of stops could contribute to cleaner transport. More than half of all respondents wanted an attractive location, where they can wait for the metro, tram or bus in a pleasant atmosphere.

### 3.2 Recommendations for the Planning and Implementation of Interventions

A detailed analysis of effectiveness could not be carried out due to time and budget reasons. However, the following practical recommendations for the planning and implementation of urban interventions in urban space from the “lessons learned” can be derived:

- Integration of site selection in existing planning considerations: not all urban spaces are equally

suitable as a location for urban interventions. In particular, those neighborhoods and sites offer good conditions, that are located downtown or have their own local shopping center, a high population density, a mix of functions and in addition to motorized traffic also an exceptionally high number of pedestrians. The final decision, however, has to be made context-specifically. In addition, the same strategies cannot be applied to all public spaces. The choice of the location and thus the concept of interventions have to be adjusted to existing plans or projects of the local community;

- Participation of partners and acquisition of financial resources: to carry out interventions in the urban space, political support is needed. Therefore, there have to be early discussions with decision makers of the city administration and policy. Also qualified contact persons who will support the organizational and legal matters will have to be found. In this context, the questions of financing of permits, traffic safety measures, materials and the issue of acquisition of the legal responsibility need to be clarified. A coordination of urban actors (for example, from the City Planning Department, Office of Transport, Environmental Agency) is absolutely necessary.

In a second step, the respective district council should be informed and involved. This is the political interface between residents and local politicians. At the same time major players such as retailers or social institutions must be identified in the district and individual interviews conducted to ideally get an early broad agreement. Communication, early activation and involvement of stakeholders and the formation of a core group (key players) are key factors here;

- Planning phase: for a relatively small intervention, as it was carried out in the student seminar, several months have to be scheduled solely for the planning phase. More complex and also more publicly effective interventions that should be implemented with wider stakeholder groups as a result of participation

processes with a jointly defined objective are more cost-intensive and should be planned with a correspondingly prolonged warm-up period;

- Dates, period and length of intervention: When connecting the intervention with university teaching, the planning of the semester and year, the organization, implementation and duration of the intervention must be considered in an appropriate way. The longer the intervention, the greater the external and internal action, the more data can be collected and the greater the depth of the results.

At least two to three months are recommended, as thus the remodeled space can be lived in as an everyday routine and thus tested. Behavioral changes can be better detected at different times on different weekdays and under different weather conditions to identify usage patterns and potential conflicts. Also early solutions can be found together. A longer intervention also has a stronger effect on the daily lives of local residents enabling them to reconsider old habit patterns;

- Preparatory, accompanying and subsequent scientific studies: the intervention conducted in the project workshop is considered as a “light” version as regards financial budget, time frame and the artistic and organizational effort. If an intervention is carried out as part of a funded project, a relatively high cost is to be expected. In order to achieve learning effects by an intervention, understood as a test run or part of an open (planning) process, possibly also in view of a permanent implementation or transfer to another project, an accompanying scientific research for the systematic evaluation of the process and the result is necessary. This phase of evaluation is essential.

### *3.3 Experimental Systematization of Various Types of Intervention*

Interventions in public space can be divided into different types and sizes (S to XL), which, e.g., extend from traffic-regulating measures such as the temporary closure of a road section to design or

structural measures. They can range from simple measures such as changing road or place markers, mobile furniture or small plantations to structural measures such as a surface design with new coverings, a new carriageway and, consequently, the reduction of space for the moving traffic or parking cars, permanent street furniture or new tree plantings.

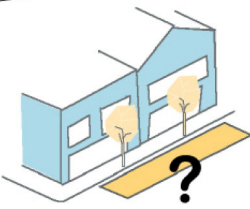
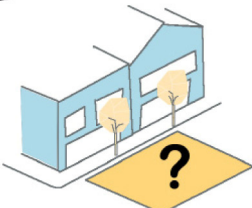
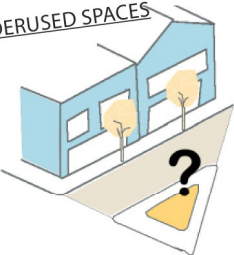
For space-changing interventions in addition to the experimental nature, the following key objectives can be established:

- the breaking down of abstract urban social issues to concrete action practices in concrete space: the abstract is experienced and lived;
- the influence on urban space and on human perception and behavior: it is about changing space design and interactive social processes;
- continuance or permanent dynamics: the temporary intervention will become a permanent implementation;
- the link between science and practice in an open (planning) process: researchers’ perspective and design practice are closely linked (as effect evaluation).

## **4. Integrating Temporary Urban Interventions in the German Urban Planning Practice**

Temporary urban interventions may be of great benefit within the urban planning practice (Fig. 3). As a “test run”, the process of “intervention” in advance or parallel to the informal planning and concept development in cooperation with various public and private stakeholders takes place before the plan is enshrined within the formal procedure. In addition, planning has to open to the “unplanned” and allow bottom-up processes, especially as the city planning in the context of human and financial resources is constrained to the adoption of measures by “private” clients. Urban interventions by the citizenship or private initiatives are “unplanned”. They need to be “formalized” in planning processes in the long run.

The municipal administration has a wide range of

<b>PARKING SPACES</b> 	<b>S</b> Single parking spaces (Parklet) E.g., „PARK(ing) Day“	●	●
	<b>M</b> Larger Parking Spaces E.g., „Rüttenscheider Interventions“, Essen	● - ● ●	● - ● ●
	<b>M</b> Sidewalk Widening E.g., „Younge St“, Toronto	● ●	● ● ●
<b>STREET SPACE</b> 	<b>L</b> Temporary Bicycle Path Bsp., „New Road“, Brighton	● ●	● ● ●
	<b>M/L</b> Pocketpark E.g., „Street Playground“, Copenhagen	● ● ●	● ● - ● ● ●
	<b>L/XL</b> Common Street Space E.g., „Rüttenscheider Interventions“	● ● - ● ● ●	● ● - ● ● ●
<b>UNDERUSED SPACES</b> 	<b>S/M</b> Triangular Squares E.g., „Madison Square Plaza“, NYC	● - ● ●	● - ● ●
	<b>L/XL</b> Underused Urban Spaces E.g., „Schützenmatte“, Bern	● ● ●	● ● ●
	<b>M/L</b> Median E.g., „Sonder Blvd“, Copenhagen	● ● ●	● ● ●
<b>Legend Financial budget:</b>		<b>Legend Planning &amp; Organization:</b>	
● low		● short preparatory phase	
● ● medium		● ● some months for planning and organization	
● ● ● high		● ● ● approx. one year for planning and organization	

**Fig. 3 Categorization of interventions.**

Source: own graphics based on Ref. [17].

instruments to enforce sustainable goals and to enhance urban public space, traffic avoidance and relocation. The local control of the city structure is based on overall planning and building regulation instruments and related legislation, i.e., by legal influence in the form of legal framing of economic and market-based instruments as well as communication and information instruments, through advice and persuasion on the part of the municipality of the population, land owners, investors and politics.

Fundamental to successful urban planning in addition to the formal legal instruments particularly are informal plans in the form of urban development

and transport development plans (overall city), district and neighborhood concepts or urban design frameworks that are especially important for design matters. They serve as technical basis of the legal form of plans and at the same time prepare planning decisions in the process of policy formulation of municipal policy makers.

These plans are often well suited to actively involve the planning executives concerned in the planning process and to recognize in this way potential resistances, conflicts of use and to take up planning ensuring a better acceptance and support by those affected [18]. Particularly in the context of urban



redevelopment, informal framework-instruments play a major role. These instruments are mainly used when it is initially all about determining the prospects for future development, when a frame is to be defined for private investment and the rebuilding process requires flexible action [19].

In particular, temporary interventions in cooperation with the respective residents, owners, or the local economy can be seen as alternative “designs”. Superordinate authorities make use of informal planning as a decision aid in the assessment, promotion and approval of urban planning and urban design measures, particularly in existing districts.

For citizens informal plans should provide preliminary information and help to understand a planned measure. They thus unburden the complex and lengthy building design process with its clear and rigid guidelines on content and procedures. They also ensure a better coordination of all municipal technical planning and departmental activities (e.g., transport planning, infrastructure planning, social planning, etc.) [20].

In the reorganization of the development of existing urban structures—for example, the renewal of public (road) spaces—above all, there are the formal instruments of urban planning legislation, such as carrying out urban renewal and redevelopment measures. Based on these enforcement-oriented legal instruments, the goals of urban renewal and urban regeneration, supported by appropriate funding, can be implemented [18].

Within these formal processes, urban interventions can serve as decision support for defining measures in public space. Due to the focus on implementation, these instruments are particularly suited for complex projects of urban renewal in areas of urban grievances or the need for new urban developments, which depend on private investment initiation, local inputs and a synchronization of public and private measures. Thus, the municipality can combine multiple financial,

planning and legal instruments and increase the chances of successful implementation of complex urban projects [19].

Urban interventions can thus serve as a preparation for implementation of real measures, especially when they are integrated as part of informal planning concepts and processes. In particular, within the framework of the German “Special Urban Design Law” (in German: *Besonderes Städtebaurecht*), urban interventions can have the potential for implementation with the support of urban design funding programs. The formal legal instruments under the German “General Urban Design Law” (in German: *Allgemeines Städtebaurecht*) are generally used only when an investment is sustained by law.

## **5. Conclusion—Integration of Innovative Teaching Formats at the Interface of Science and Practice**

Civic education is a prerequisite when it comes to mobilizing planning and policy on the one hand and the people on the other to implement small-scale design measures as a component of overall concepts for sustainable urban development. The first step is to raise the participants’ and stakeholders’ awareness by temporary interventions. Other necessary steps include bundling actors, planning/designing, implementing and operation.

The objective to animate people to more sustainable practice, is therefore likely to require innovative participation and communication formats and appropriate tools in the future. Universities can support the city administration, politics and actors in addition to their standard teaching methods through applying new practical teaching formats. Through their resources such as knowledge, time and staff, they can contribute to a long-term development and design of our cities, not only regarding spatial design, but also in the joint effort of designing spatial processes with local people.

On the other hand, through the integration of real

life problems in the academic learning experience, students get to know about situations of real competing interests in the city and can thus apply their knowledge iteratively. Cooperation in interdisciplinary teams and thinking in complex urban contexts can be promoted. Various perspectives on subject matter and methodological priorities can be merged in an interdisciplinary approach. City is, e.g., understood not only as a built or free space, but also as a social field of action.

At the same time from the perspective of urban planners and policy makers, practical evidence is urgently needed that evaluates the effectiveness of existing planning policies. Windows of opportunity should therefore be used when, e.g., intervention ideas are linked to existing initiatives or urban redevelopment projects. Thus, a specific opportunity for research is provided, when, e.g., “natural experiments” are carried out to evaluate before and after effects.

If municipalities strive to be sustainable, they must ultimately show more willingness to take risks, question their current planning processes and develop a culture of experimentation in planning. Universities as an intermediary between civil society, policy and planning, as well as a knowledge disseminator can help them on the way to a more sustainable city. It is high time: the increasing civic engagement, growing sustainability awareness, especially among the younger population, as well as changes in the culture of mobility create a favorable environment for this purpose. Ultimately, good planning approaches, political support, legal knowledge, the participation of stakeholders and a good networking of actors are required to work together to create urban spaces for a healthy, social, energy-efficient, and climate-friendly everyday life.

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