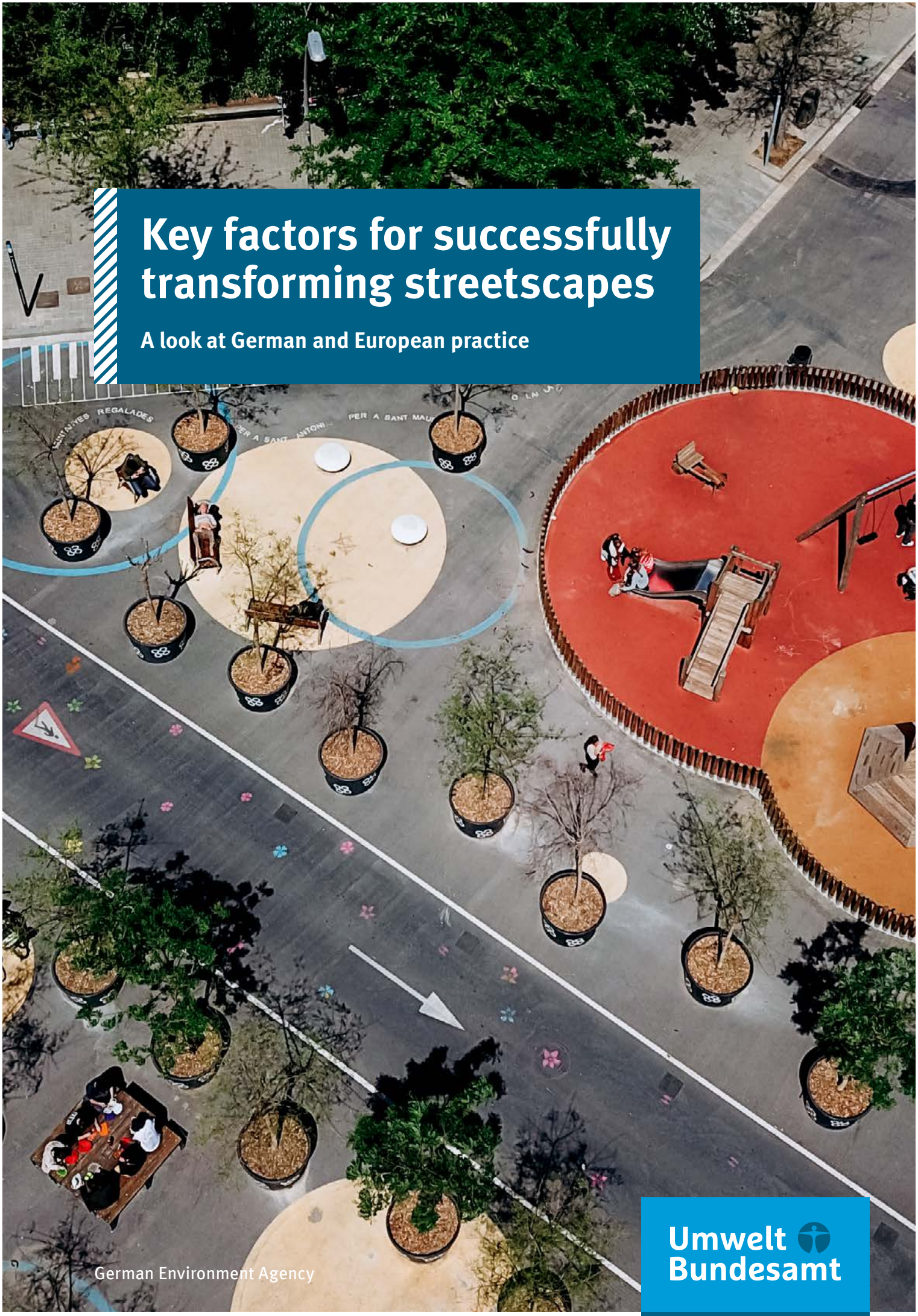

Key factors for successfully transforming streetscapes

A look at German and European practice

German Environment Agency

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Key factors for successfully transforming streetscapes

A look at German and European practice

Abstract

Key factors for successfully transforming streetscapes

This brochure summarizes the practical experience of measures for the redistribution and reallocation of traffic areas in favor of active mobility and quality of life in cities. To this end, a comprehensive evaluation matrix was used to examine successful projects from Germany and Europe. The results were generated in the Federal Environment Agency's research project Transport and Urban Planning Measures for the Redistribution and Reallocation of Motorized Transport Areas in Favor of Active Mobility and a Sustainable Urban Settlement Structure with a High Quality of Life (MUV for short).

Many successful projects display recurring success factors. This experience can be used to provide targeted support for future projects. It is possible from these projects to derive nine propositions for the characteristics of successful projects which address various aspects in the planning and implementation process.

1

VISION PAYS OFF: “THINK BIG”

Having a bold idea about the city we want to live in the future makes the steps to getting there easier.

2

TEMPORARY MEASURES AND STEP BY STEP TO SUCCESS

Temporary and interim measures that can be evaluated and adjusted are often cheaper, faster, and able to convince people of the value of changes.

3

USE TIME WINDOWS, COORDINATE CONSTRUCTION MEASURES

Special situations such as the Covid pandemic represent windows of opportunity. They can be used to challenge the usual resistance. Consideration of lead times, seasons, and activities in the surrounding area is a key contributor to success.

4

PARTICIPATION – INVOLVEMENT OF STAKEHOLDERS HELPS

It is essential for citizens to participate. It is possible to benefit from the knowledge and ideas of those affected locally, particularly with the help of innovative participation formats and methods.

5

CONVINCE THE LOCAL ECONOMY WITH GOOD ARGUMENTS

Good communication can address the concerns that tradespeople often express. They are frequently the ones who benefit the most.

6

USE LEGAL OPTIONS

In many cases, if the political will exists, solutions can be found within the framework of the applicable law and by using discretionary powers.

7

EVALUATION IS MARKETING

An evaluation provides arguments for one’s own success and for future projects. It is important to collect data and base decisions on it.

8

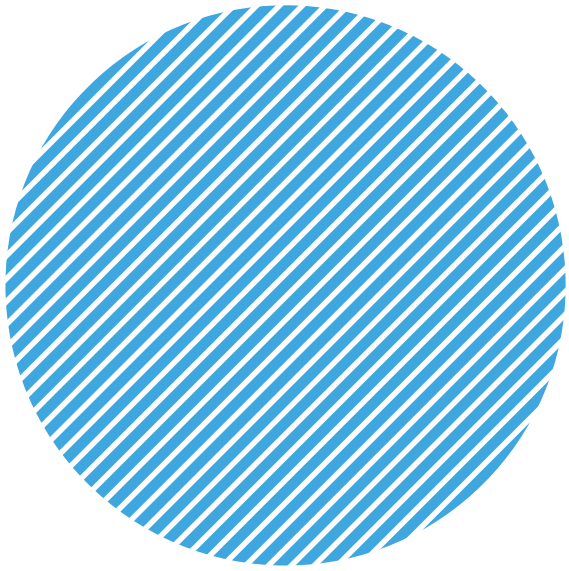
ENSURE POSITIVE EVALUATION THROUGH IMPLEMENTATION AND EXPERIENCE

The satisfaction of those involved almost always increases after the measures have been implemented and positive effects can be experienced.

9

DO NOT KEEP QUIET ABOUT CHALLENGES

Conflicts and adverse effects may arise for individual stakeholders or uses. Communication, participation and evaluations are helpful in finding solutions.



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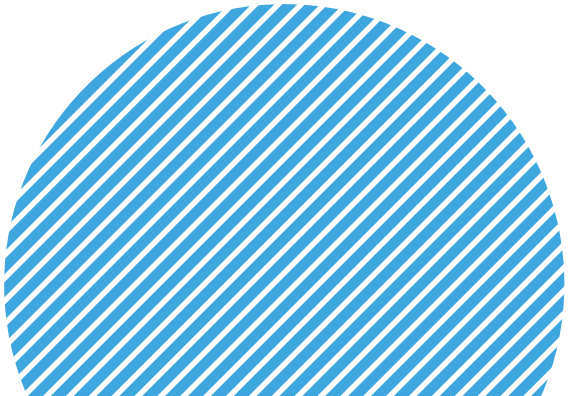


Introduction

Cities are the most important living space of the present and the future. Decades of car-oriented urban and traffic planning have optimized conditions for motorized traffic in many places, but the result is significant congestion. As a result, the local population suffers from noise and air pollutant emissions, accidents, and high land use. In dense urban areas in particular, land is scarce and traffic has an adverse impact on the quality of life in the public spaces that remain. At the same time, the global effects of the climate crisis are increasingly demonstrating that a change of course and implementing a transport transition on the ground are essential requirements for securing the future.

The environmentally-compatible and people-friendly city of tomorrow is characterized by a high amenity value. This can be improved by a shift towards active modes such as walking and cycling. Active mobility promotes individual wellbeing and helps prevent many diseases. More walking and cycling also benefits the local economy. Furthermore, walking and cycling protect the environment, are less expensive than driving, and are open to nearly all segments of the population. As we move toward sustainable urban development that addresses these issues, the following questions arise:

- What successful approaches to strengthening active mobility and improving the amenity value already exist?
- What success factors for corresponding projects can be identified on the basis of previous experience?

Various national and international municipalities have already implemented a large number of both established and innovative measures. Some of these particularly successful examples of the redistribution and reallocation of transport areas were examined in detail in the research project “Transport and urban planning measures for the redistribution and reallocation of motorized transport areas in favor of active mobility and a sustainable urban settlement structure with a high quality of life”.

As part of this research project, a comprehensive fact sheet was prepared on behalf of the Federal Environment Agency for each of the eight examples. The selected examples can help to develop suitable approaches for action at municipal level. For this purpose, the fact sheets provide information on the baseline situation and the objective of the measures taken, the implementation process and the effects.[1]

In addition to the case studies, the project’s[2] detailed final report contains further side notes on the topics of neighborhood garages, effects on the local economy and methods of stakeholder participation.[3] Feasibility studies for three German model cities are also used to illustrate detailed options for action.

Most of the case studies reveal recurring success factors that should be considered in future projects. The aim of this brochure is to synthesize them as a helping hand for municipal stakeholders. In the following, these findings are presented in nine key propositions with recommendations for action derived for municipalities on both a small and larger scale .

1 See: Umweltbundesamt, 2022a bis Umweltbundesamt, 2022i or https://www.umweltbundesamt.de/themen/verkehr-laerm/nachhaltige-mobilitaet/aktive-mobilitaet
2 Expected release end of 2022 at https://www.umweltbundesamt.de/publikationen
3 Umweltbundesamt, 2022j

Key factors for successfully transforming streetscapes – nine propositions

How can projects for the reallocation and redistribution of public spaces succeed? What can be learned from successful national and international examples? Certain key aspects that have been distilled from experience of planning and implementing successful streetscape redesigns stand out due to their significant contribution to success. They can be summarized in nine propositions.

1 VISION PAYS OFF: "THINK BIG"

> **Every achievement of civilization was at some point a utopian fantasy.**
>
> *Rutger Bregmann (Checchin, 2017, p. 1), translation by the authors)*

Cities were and are places where visions develop and are exchanged. Today's challenges facing cities and society demand visions for livable, sustainable and diverse cities. It pays to have a vision, to think big and long-term. Moving away from the prevailing view that the private car embodies progress is a challenge. Cars are still given above-average space in many cities. As a result, people find too little space for social interaction and often, instead of riding on safe bike paths, can only cycle on streets that are primarily available to passenger cars. These challenges demonstrate the urgent need for visionary and sustainable urban and transportation planning that focuses on people.

Last but not least, it also needs people in authority who have the courage to implement the vision of livable cities. This is impressively demonstrated by the example of the Spanish city of Pontevedra. Inspired by the works of Colin Buchanan "Traffic in Towns" (1963) and Donald Appleyard "Livable Streets" (1981) on amenity value and livable streets, Miguel Anxo Fernández Lores developed his vision of

Objectives of the vision for a livable Pontevedra[a, b]

- Highest priority for pedestrian traffic and safety for pedestrians
- Reduction of traffic volume and dependence on PMT (private motorized transport)
- Exclusion of PMT from the old town and later from the entire downtown area
- Reduction of emissions, noise and air pollution
- Expansion of green spaces
- Promoting the autonomy and self-sufficiency of children, senior citizens, and people with reduced mobility.
- Promoting healthy behaviors and social cohesion

a Detailed information on the case study at: Umweltbundesamt, 2022h
b Beltrán, 2019; Concello de Pontevedra, 2015; Deputación Pontevedra, 2017; Pontevedra Website, o.D

The car-free zone in downtown Pontevedra invites you to stroll and linger

the “pedestrianization” of Pontevedra to win the mayoral election in 1999. Since then, he has been re-elected three times.[4]

Today, Pontevedra’s downtown is a quiet place with severely limited access for cars. To do this, a variety of public spaces were created for local residents. Schoolchildren use the streetscape as an extended playground, and new green spaces and trees as well as street furniture ensure a high amenity value. The local economy is flourishing. Initial reservations among the population and in politics gradually diminished. A great deal of persuasion in implementing the vision, but also the tangibly better quality of life, were key factors in this transformation.

In Pontevedra, city officials acted without support from regional or state institutions. There were no precedents from other cities. This implementation has afforded the city a pioneering role since 1999.[5]

> **For far too long, we have planned cities as if we wanted to make cars happy. But cities are supposed to make people happy.**
>
> *Jan Gehl (Büchse 2021, p. 26, translation by the authors)*

The idea of superblocks had existed in Barcelona for decades and had been discussed in the city government since the early 2000s.[6] Support or rejection for implementing the superblock concept prevailed from time to time depending on the interests of the various governing parties. The fact that the respective governing parties did not take any action for a long time was due, on the one hand, to the car’s dominant role in Barcelona. On the other hand, the importance of superblocks and their impact on air quality, public

4 Burgen, 2018; New York City Design Award, 2015; Deputación Pontevedra, 2017
5 Burgen, 2018
6 Detaillierte Informationen zum Fallbeispiel unter: Umweltbundesamt, 2022f

Redesigned crossing in Barcelona in April 2019

health, and options for adapting to global warming went unrecognized for a long time. In the past ten years, however, the city council's focus has increasingly been on sustainable urban development and the vision is being implemented.

Local media initially reported mainly on problems with the implementation of the superblocks and the reservations of local opponents of the concept that were forming. For example, retailers and restaurants located in Poblenou, a district of Barcelona, feared a loss of revenue. The international press, on the other hand, reported on the innovative character of the concept and discussed its transferability to cities such as New York. Over time, this also boosted acceptance among the local population (see 8. Ensure positive evaluation through implementation and experience).

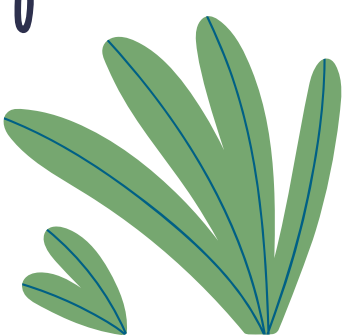
Barcelona is thus an excellent example of how perseverance and courage to tackle the necessary changes to achieve a vision are rewarded. The superblock concept has now become political consensus in Barcelona. The concept also enjoys support among the population thanks to opportunities for participation and a great deal of persuasion in the form of evaluations and scientific studies, especially since the positive effects can be experienced. The population's concerns about the threat of gentrification are being addressed by citywide implementation of the concept and the examination of further protection concepts (compare 4. Participation – involvement of stakeholders helps and 7. Evaluation is marketing).

The newly greened and traffic-calmed Øvre Slottsgate (left) and Fridtjof Nansens plass in Oslo which can now be used for a variety of activities (right).

Oslo is also an outstanding example of a city with a clear vision for a car-free and livable inner city.[7] The city is pursuing an ambitious goal: reducing car traffic in the downtown area and enhancing the quality of public spaces by reallocating and redesigning street space. Oslo's approach was to use the measures to provide the (physical) framework within which the population and local businesses themselves can shape active and vibrant city life.[8] The BYTRANS research project, in which promising paths of sustainable transformation were identified, ran concurrently with the initial redesign measures (compare 7. Evaluation is Marketing). Compared to the rest of Norway, Oslo's inner city is now an economic center with above-average stability that also offers plenty of space for social interaction, active locomotion and events.[9] At the same time, winning the European Green Capital Award attracted international attention.

Conclusion

It is very rare that master plans can be implemented directly in a short time, but bold ideas pay off in the long run. Gradual implementation and evaluation as part of an overall strategy provide the opportunity to continuously adapt this vision of a livable city and make it tangible step by step. This will allow individual strategies affecting different areas of public space and their design to be better coordinated and advanced.



7 Detailed information about the case study at: Umweltbundesamt, 2022g
8 Pacific Roots Magazine, 2019
9 Oslo Kommune, 2020

2 TEMPORARY MEASURES AND STEP BY STEP TO SUCCESS

In the recent past, redesign measures have increasingly been implemented on a temporary basis. These can be provisional redesigns of the streetscape with modifications and installations or interventions in the public space that are ordered or carried out for a limited period of time. This approach offers several advantages over permanent implementation which is usually more complex in terms of construction.

The phased or temporary approach offers the opportunity to first gain experience, make measures tangible, adjust plans, and make improvements in problem areas that arise before a permanent solution is implemented. In this way, comments from stakeholders and the general public can be taken up outside the formal public participation or participation of public agencies, which is provided for in the context of urban land use planning. If recognized points of criticism raised by those affected are addressed, a temporary approach promotes acceptance. Temporary measures, real laboratories or traffic trials thus offer citizens the opportunity to become involved in the ongoing planning process at a time when changes are already visible and can be experienced. This approach of linking participation and provisional measures represents, to a certain extent, participatory monitoring of provisional measures. This can address a common dilemma in planning practice: The impact of participation due to possibly adapting plans is greatest at an early stage, when important decisions have not yet been made.

> **You can propose radical ideas for a completely different society and at the same time be very pragmatic about it. This involves taking one step at a time in a particular direction, doing lots of experiments, evaluating them – and if something doesn't work, of course changing your mind.**
>
> *Rutger Bregman (Checchin, 2017, p. 1), translation by the authors)*

At the same time, it is usually difficult at this stage for those affected to already develop an idea of what the plans will look like. Experience shows that the commitment of citizens often increases when important decisions have already been made. Parallel participation and implementation promise more active involvement of the population and subsequently higher satisfaction if the temporary measures are adapted in line with experience (compare 8. Ensure positive evaluation through implementation and experience).

Contrary to common administrative logic, the projects do not have to be explicitly planned through to the end. However, this contradicts the generally risk-averse approach of public administration.[10] Furthermore, some sections of the population may perceive the ongoing process of temporary experimentation and change as negative. Temporary facilities that are not permanent are sometimes criticized as wasteful. Here, it is worth communicating the costs and time involved in upstream planning and participation, and generally giving citizens a better understanding of public spending on various issues.

In addition, it should be clearly communicated that the advantage of the temporary approach is precisely its cost efficiency, and that subsequent modification of structural changes that are designed to be permanent can thus be avoided.

In several of the case studies examined, the approach was temporary or gradual. The step-by-step approach in the case of Sendlinger Strasse in Munich and the pop-up bike infrastructure in Berlin is viewed positively by those responsible in both cities and, according to the city council, should be applied more intensively in the future. In both cases, however, the implementation had already been planned for some time and was then first put into practice provisionally and later permanently.

In Barcelona, too, the superblocks were initially redesigned on a temporary and provisional basis. Similarly, it has been shown there that reversible solutions can be useful to speed up permanent implementation of the individual superblocks and increase their acceptance. Such solutions include temporary closures of streets to through traffic, the installation of street greenery such as planters and other street furniture. This allows residents and business owners to get first impressions of the redistributed street space and use them to suggest changes by way of the participation opportunities provided.[11]

Sendlinger Strasse in Munich: Step by step to a pedestrian zone[a]

- Sendlinger Strasse in Munich is a good example of how the establishment of a pedestrian zone can promote amenity value, encourage use as a shopping street and promenade, and at the same time have a positive effect on the local retail trade. The key factor here was gradual implementation.
- After successful redesign of the northern part of Sendlinger Strasse in 2013, the measure was extended to the southern part in 2016. To this end, reallocation of the southern Sendlinger Strasse started in July 2016, initially as a time-limited, one-year traffic trial.
- In the course of this, the city commissioned or conducted extensive participation opportunities and a comprehensive evaluation of the measure's impact. By involving various stakeholders in the implementation process, the interests of these groups were incorporated and taken into account.
- Successful evaluation of the traffic trial led to permanent transformation into a pedestrian zone in 2017 and to reconstruction measures in 2019 to 2020 which improved accessibility, created new tree locations and installed new street furniture.

a Detailed information about the case study at: Umweltbundesamt, 2022c

10 Gonser et al., 2019
11 Zimmermann & Zimmermann, 2020; Honey-Rosés, 2019; Scudellari et al., 2020

Pop-up bike lane in Berlin in 2020

Procedure in Berlin for the installation of pop-up bike lanes[a, b]

- In Berlin, bike lanes were installed on former motor vehicle lanes during the Covid pandemic.
- Their installation was implemented in three steps: temporary arrangement – evaluation – permanent structural implementation.
- In terms of the procedure's duration, it can also be considered as a standard procedure for other traffic projects.
- The temporary arrangements and their evaluation make it possible to focus planning processes for subsequent implementation of construction measures on the need for improvements and thus to shorten them considerably. As a result, planning costs can be saved.
- Publication of a manual for the temporary installation and extension of bike facilities as well as corresponding standard plans will facilitate imitation in other municipalities.[c]

a Detailed information about the case study at: Umweltbundesamt, 2022e
b Bezirksamt Friedrichshain-Kreuzberg, 2020
c Mobycon, 2020; Senatsverwaltung für Umwelt, Verkehr und Klimaschutz, 2020c

Children use the temporary play streets in Berlin

Munich's concept of "summer streets" – temporary play streets as well as temporary traffic-calmed areas – is based on a city council resolution on "seasonal urban spaces". The public can submit eligible streets to the city council. After the application phase, the district committees select streets. For the selected streets, the city council takes over organization, traffic regulations and equipping of the areas with city-owned furniture. Depending on the local situation, the road traffic signage is that of a traffic-calmed area (sign 325), a play street (sign 250 with additional sign 1010-10) or a pedestrian area (sign 242).

Parklets in Berlin and Stuttgart – with clear rules for rapid implementation

- In Stuttgart, parklets have been installed on parking spaces in public streets since 2016. The city council has drawn up and coordinated rules and procedures for this. Anyone who applies for a parklet must take responsibility for setting it up and maintaining it.[a] The installation of the parklet is classified as a special use under street law, but no special use fees are charged. In return, the parklet must not be used commercially or exclusively by the applicant privately, but must have a recognizable added value for the neighborhood.

- A road permit issued by the road construction authority makes it possible to set up parklets on street parking spaces in Berlin as well. Their construction as part of a pilot project is intended to test which construction forms are suitable and how they fit into the streetscape. There are certain restrictions on the choice of location. For example, the parklets may only be installed on sections of road with a 30 kph speed limit, within a traffic-calmed area, a bike lane or bike zone. Berlin also provides financial support of up to 3,500 euros for the cost of materials. The fact that, with the Berlin Senate, the state government is so clearly in favor of the amenity value in public streetscapes is noticeable. Parklets are increasingly visible and widespread in the cityscape.[b]

a Parklets für Stuttgart, 2017
b For more information see: https://www.berlin.de/parklets/haeufige-frage

The joint construction of a parklet on a former parking space brings residents together

Conclusion

Where temporary and provisional measures have been taken, the initiators have largely rated them positively. As a result, those responsible are striving to implement the temporary approach to a greater extent in the future. In many examples, the temporary redistribution of space has been made permanent. Those affected appear to be less skeptical in the run-up if temporary rather than permanent measures are initially planned. The opportunities for participation and adaptation increase in the temporary approach because it is possible to evaluate and participate while specifically experiencing the change. As a result, both the quality of permanent measures and the satisfaction of those involved increase. In communication, urban development can be communicated even more strongly as a continuous learning process, both within the city council and to citizens.[12] This is usually accompanied by a greater tolerance to trying different solutions.

12 Kommune Oslo 2019, p. 45

3 USE TIME WINDOWS, COORDINATE CONSTRUCTION MEASURES

The right timing of redesign measures is also important to the viability, acceptance and functioning of new ideas for using space. On the one hand, this involves taking advantage of windows of opportunity, as shown by the example of the pop-up bike infrastructure in Berlin during the Covid pandemic. On the other hand, there are various dependencies and, especially in the case of measures that are not planned on a temporary basis, a longer lead time for planning, approval and commissioning. A change of use for leisure areas and for active mobility must be coordinated in terms of time and space with planned construction measures or urban development projects in the surrounding area, for example with construction work on the pipeline network. For example, there may be greater resistance to repurposing of the spaces if construction sites in adjacent streets result in motor vehicle traffic being diverted to the streets where repurposing is planned. As far as possible, evaluation of a change of use – temporary, provisional or permanent – should also be carried out without being influenced by other construction measures or urban development projects in adjacent streets or neighborhoods.

Construction activities may also provide an opportunity to test modified road layouts and designs or repurposing. If pipeline works are carried out that result in interruptions or detours of motor vehicle traffic, it can be investigated whether these temporarily modified traffic layouts might also be a sensible solution on a permanent basis.

Using windows of opportunity – the example of Berlin[a]

- One goal of the Berlin Mobility Act is to promote active mobility by increasing safety with regard to traffic accidents. To this end, a network of protected bike facilities is to be established on all main roads. Some of the protected bike facilities have already been planned, while others were implemented before the pandemic, such as the protected bike lane on Hasenheide.
- Due to the Covid pandemic, the share of private motorized transport in the total traffic volume increased, whereas public transport was used significantly less than before the pandemic.
- This presented a window of opportunity for a quick implementation of pop-up bike lanes on already planned routes. Thus, temporary installation was decided and later gradually made permanent. This was one way of significantly reinforcing cycling in Berlin in a very short time.

a Detailed information about the case study at: Umweltbundesamt, 2022e

Positive evaluation of the temporary bike infrastructure in Berlin (left) led to its continuation in permanent protected bike lanes (right).

The time of year when public spaces are redesigned also influences their acceptance by passersby. Street furniture or the setting up of an outdoor restaurant are used primarily for lingering in the warmer season. Converting areas used by motor vehicle traffic in favor of a place to linger can be experienced directly as revitalization, especially at this time of year. This is demonstrated by the many positive reactions to the open-air experiment on Untere Königsstrasse in Kassel, which was timed for early fall 2021. In contrast, repurposed areas that are not accepted due to weather conditions can quickly lead to frustration among residents and also result in early termination of the experiments. Adapting plans to seasons and phases of use is therefore also a crucial success factor throughout the process.

Conclusion

Overall, both spatial and temporal dependencies are complex. It may therefore make sense to postpone the permanent implementation of a streetscape redesign, for example until the beginning of the warmer season. Coordination with other projects in the area is often helpful or provides additional opportunities. Occasionally, external events offer windows of opportunity that can be exploited for sustainable urban development.

4 PARTICIPATION – INVOLVEMENT OF STAKEHOLDERS HELPS

Early and comprehensive citizen participation is a success criterion for the implementation of redesign and reallocation measures. Extensive citizen participation in the planning phase usually involves a considerable amount of time and personnel. However, participation formats can be used to spot concerns at an early stage and counter them with facts from evaluations, to seek a reconciliation of interests or to better justify the planned changes. Findings gathered in various participation processes can also be used to respond to identified potential for improvement at short notice and to adjust during trial implementation of the measures. It should be made particularly transparent from the outset that the aim of redesigns is to fairly redistribute road space to facilitate a mobility transition. The fact that this usually goes hand in hand with a reduction in parking spaces cannot be resolved. Participation can help to achieve a balance of interests and to weigh alternatives.

In Munich, residents, tradespeople and passers-by were able to contribute their interests and views on permanent implementation of the pedestrian zone in Sendlinger Strasse during the traffic trial. The evaluation and the criticism expressed in this context formed the basis for the decision to permanently implement the pedestrian zone in Sendlinger Strasse.[13,14] In this way, it was possible to ensure a target group-oriented redesign which took note of different perspectives and took them into account in the planning.

> **We need you as participants, as contributors, to generate these ideas for the future of the city. Thank you very much and I hope you enjoy it.**
>
> *Elisabeth Merk*
> *(Plantreffen München, 2022: Min. 00:42, translation by the authors)*

The piloting and testing procedure (compare 2. Temporary measures and step by step to success), which was supplemented by feedback from those affected, contributed to acceptance. Regular surveys were also conducted to measure the success of the redesign among the population and those affected.[15] The communication channels between the population and the council in Oslo, which were created as part of participation, will continue to remain open, as the city itself sees urban development as a continuous process. Annual evaluations, such as traffic behavior surveys, population surveys and media analyses, are used to determine the success of the measures and any need for improvements.[16]

13 Detailed information about the case study at: Umweltbundesamt, 2022c
14 Krass, 2018; Vick, 2015; Stadt München, 2018
15 Elvsaas, 2020; Pacific Roots Magazine, 2019
16 Oslo Kommune, 2020; Pacific Roots Magazine, 2019

The "Car-free Livability" program: Oslo's visionary approach to a car-free, livable inner city[a, b]

- The "Car-free Livability" program was based on the "City Life Survey". Among other things, the survey asked the population about their perception and use of public space.
- Above all, the city council created the necessary framework conditions to give the population itself the design options for a lively and diverse urban life. Involving the city's population, resident traders, NGOs and companies in the redesign measures by providing space for their own initiatives and surveys was therefore one of the program's key components.
- The "Car-free Livability" program removed 760 public parking spaces in the action area in stages between 2017 and 2019. These and other spaces were transformed using temporary and permanent measures. Installing street furniture, setting up play areas and other sites increased the amenity value.
- To prevent through traffic, traffic routes were changed, one-way streets were designated and some streets were closed to private car traffic. In return, pedestrian zones were extended, the network of footpaths expanded and new bike paths and bike parking spaces built.

a Detailed information about the case study at: Umweltbundesamt, 2022g
b Oslo Kommune, 2019; Oslo Kommune, 2020

Implementation of the superblocks in Barcelona is also being carried out with the participation of the population. In each neighborhood where a superblock is to be implemented, the participatory approach is intended to strengthen the shared responsibility of all stakeholders.

The city intends to involve all stakeholders from fact finding to implementation of the measures. To this end, steering groups will be established in each affected district. They will act as a link between the city council, residents and other stakeholders. These groups will also validate the results of the participation workshops and the measures implemented in the individual phases. This will involve several meetings between residents, city councils, organizations and other stakeholders at different project levels, taking into account the relevant circumstances, e.g. population density or local economic strength.[17] A permanent online participation format will also be used.[18] Opportunities to participate in the committees created and the acceptance of Barcelona residents due to constant evaluation of individual superblocks (including subsequent improvements) can be described as exemplary.

Greened parklets: gained recreational space in Barcelona

Implementation of the superblocks in the neighborhoods of Poblenou (2019) and Gracia (2003) met with local opposition. The "Plataforma d'Afectats per la Superilla de PobleNou" (Platform for Affected Persons of the PobleNou Superblock) opposed the implementation. Criticism was levelled at plans for the relocation of bus stops and the perceived lack of public participation. In addition, residents feared

17 JOANNEUM RESEARCH – LIFE: Centre for Climate, Energy & Society, 2018; Lopez et al., 2020
18 See: https://www.decidim.barcelona/

Innovative meetings enable stakeholders to empathize other perspectives and perceive the surrounding differently (picture from Barcelona)

that traffic in outer and surrounding streets of the superblock would increase significantly. In Gracia, 150 information and discussion events were necessary at the beginning of implementation to dispel the reservations expressed by residents. At the end of this process, the original plan for the superblock in Gracia was adopted.

In particular, the reduction of traffic areas for stationary and moving private motorized transport (PMT) requires a great deal of communication effort during implementation. The associated changes in everyday mobility behavior can be perceived as drastic and require persuasion for people to accept them. However, the examples show that participation contributes to better acceptance and that the implemented measures are now widely accepted due to the positive effects that can be experienced.

Barcelona's visionary superblock concept at a glance[a, b]

- The aim of the superblock concept is to strengthen active mobility and public space in its function as a place for leisure, meeting and recreation. To achieve this, four to nine adjacent blocks of houses are reorganized as one superblock.
- Bollards, flower planters and the like are used to close the streets of a superblock to through traffic, thus forming a traffic-calmed zone.
- Residents, public transport means, emergency vehicles, possibly delivery traffic, and bikes may enter the superblock at speeds up to 10 kph.
- Pedestrian traffic has priority and benefits from more space, safety and increased amenity value due to the absence of motorized traffic.
- Public street space previously taken up by cars can be converted into areas for pedestrian and bike traffic, play areas, recreational areas or green spaces.
- The city of Barcelona provides comprehensive opportunities for the local population to participate in redevelopment and redesign of the superblocks.

a Detailed information about the case study at: Umweltbundesamt, 2022f
b Ajuntanment Barcelona, 2016

Living Labs, as here in the EXPERI project, provide the opportunity to become actively involved in the transformation and to experience its effects experimentally

The examples describe approaches to broad public participation as well as smaller formats for smaller-scale transformation and redesign measures. In addition to the public participation procedures, some of which are legally established in Germany, new and innovative formats and new technological options have also become established in recent years. Concepts are also being tested that enable those involved to experience a kind of preliminary version of the target state.

Real world experiments such as the EXPERI research project in Berlin are good examples of this.[19] As part of the research project, an intersection in Berlin-Charlottenburg was transformed into a temporary city square, and a street was reconfigured as a pedestrian zone in Berlin-Kreuzberg.

The goal of the overarching project is to experimentally investigate the question of how to increase amenity value, create public spaces for residents, and enable health-promoting locomotion. Residents of the neighborhood can contribute and implement their ideas and design wishes to a great extent. Various participatory formats and activities are used for the concrete design.

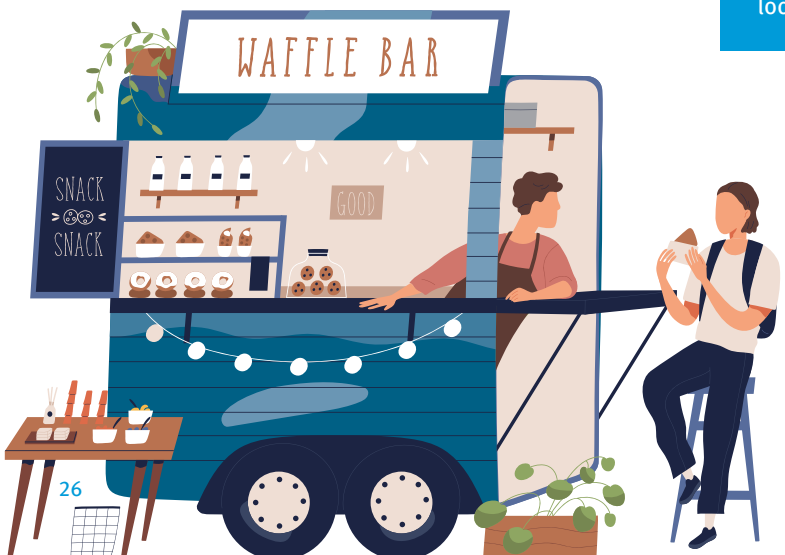
19 For more information see: https://www.experi-forschung.de/

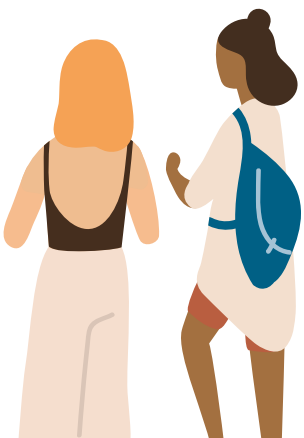
Children develop creative ideas for redesigning transport areas (picture from Barcelona)

Real world experiments or real laboratories have been used for several years. Here, redesign and reallocation measures are developed and evaluated jointly by stakeholders from civil society, science and administration. Real labs thus bring together a wide variety of stakeholders who work together to find solutions to societal issues. Different points of view and thought patterns can thus be incorporated into the design processes in a targeted manner. The communication of information and acceptance by residents can also be the content of Living Labs. The exchange of different views is seen as an opportunity to learn from and to complement each other. The stakeholders operate on an equal footing.

Conclusion

Urban development and the implementation of visions are processes in which all participants can learn from each other. Participatory formats enable urban planning that involves residents rather than bypassing them. Residents have their own ideas as well as knowledge and understanding of local use patterns that can be helpful in the planning process. Participation opportunities help to exploit this potential, increase identification with the projects and improve their acceptance. In this way, a wide range of needs can be taken into account and incorporated into the further design of public spaces. They are a way of giving people the opportunity to help shape public spaces. It is possible to continue broad participation of the population as an open process, even after the construction measures of redesign and reallocation projects are complete.





5 CONVINCE THE LOCAL ECONOMY WITH GOOD ARGUMENTS

When a municipality announces public streetscape redesign projects, local businesses often worry about their sales trends.[20] This concern is mostly based on the assumption that the loss of parking spaces means poorer accessibility by car and that customers will stay away. In some cases, local businesses may indeed experience losses. For the most part, however, transformation measures result in neutral or positive developments for retailers in the redesigned areas. However, this is an area where there is still a great need for research and data.

The higher the satisfaction of customers and traders, the better this is for the local economy. For example, 85 % of representatives of Business Improvement Districts (BID) in London considered a good environment for walking, cycling and lingering important in terms of the performance of their businesses.[21] Traders often evaluate corresponding traffic trials positively and even associate them with an improvement in image.[22]

Evaluations of the Sendlinger Strasse redesign[a, b]

- Between 2016 and 2017, a traffic trial took place to transform the street into a pedestrian zone. This was extensively monitored and evaluated by two planning offices commissioned by the City of Munich.
- The evaluation included a broad mix of methods – the information for assessing the effects on local businesses was based on surveys of traders and passersby as well as traffic censuses.
- The indicators surveyed included sales development, customer frequency, accessibility and satisfaction.

a Detailed information about the case study at: Umweltbundesamt, 2022c
b Förster et al., 2017

20 Der Tagesspiegel, 2022; Hamburger Abendblatt, 2022; Abendzeitung München, 2020
21 Aldred & Sharkey, 2018
22 Förster et al., 2017; CIMA Beratung & Management, 2019

Sendlinger Strasse as a pedestrian zone: fully accessible and with greenery

When designing participation processes, it is important to involve tradespeople as well as citizens (see 4. Participation – involvement of stakeholders helps). This enables their concerns and needs to be heard and addressed at an early stage. Discussions in various cities have shown that local or regional examples of successful redesign measures can convince traders. Implementing redesign measures as initially temporary measures has a greater chance of promoting sensitivity and acceptance in the local economy as well. If they are evaluated, data and facts are obtained that decision-makers can use to promote their line of reasoning. At the same time, the facts and data transparently show the advantages and disadvantages of such measures, especially for the companies affected.

How redesigning the streetscape affects the local economy, i.e. retail and other businesses, depends on various factors. Most scientific studies in this area examine the retail trade. In addition to spending and sales, a variety of other indicators exist for measuring the impact of streetscape redesign on the local economy. Indicators such as customer and passerby frequencies, commercial rents, vacancy trends, number of businesses, and new startups can capture local demand trends. Surveys on the perception and satisfaction of customers and traders also concern other aspects that can have an impact on business success.

Comparative data over time and space are crucial when studying the effects that redesign and reallocation measures of road traffic areas bring with them.[23] In the best case, data before and after implementation of the measures are collected for evaluation in studies.[24] In the case of temporary measures, data can be collected on an ongoing basis to directly address any acute need for action. Spatial comparisons with other urban areas or cities can be used to supplement this (see box).[25] The comparison areas should be considered in terms of urban development, transport infrastructure and land use. The spatial comparative view is also necessary to distinguish the effects of measures from general economic effects. This increases the significance of the results, especially when time and space comparisons are linked.

23 Lawlor & Tasker, 2018
24 New York City Department of Transportation (NYCDOT), 2013
25 Carmona et al., 2018

A protected bike lane and additional spaces for restaurants were built in Columbus Avenue in New York

Capturing sales trends in transformation and comparison areas in New York[a]

New York City carried out many different street transformation projects in the latter half of the 2000s. Measures included street narrowing, the installation of bike lanes and special bus lanes, and the widening and greening of sidewalks. Various data sources were used (e.g. tax data) to obtain indications of the effects of these measures on local retail trade, and their long-term development was examined in the immediate vicinity as well as for comparison areas:

- 1. Action area
- 2. Streets in the immediate vicinity of the action area
- 3. Surrounding neighborhood or district

a New York City Department of Transportation (NYCDOT), 2013

Several studies show that, contrary to what many traders believe, there is no decline in sales in stores and businesses. First, this is because traders often overestimate the proportion of people driving and underestimate the proportion of people walking.[26] This is also the result for Germany obtained from a study in Berlin.[27] Second, although environmental users spend less per purchase, they visit shopping areas and stores more frequently.[28] In particular, those who walk spend more per month overall than customers who travel by car.[29]

Transformation and redesign measures often increase the amenity value and thus the conditions for cyclists and pedestrians. In many cases, pedestrian frequency increases by 30 % or more, which has a positive effect on customer numbers.[30] In addition, many people also linger longer in the areas surveyed and may frequent more stores than before. More areas for outdoor catering naturally lead to an increase in catering establishments and their sales.[31]

26 O'Connor et al., 2011
27 Schneidemesser & Betzien, 2021
28 Transport for London (TfL), 2018
29 Tolley, 2011; Lawlor & Tasker, 2018; Transport for London (TfL), 2016; Clifton et al., 2012
30 Lawlor & Tasker, 2018
31 CIMA Beratung & Management, 2019

In a study based on 22 case studies in many cities of varying sizes in Germany and the UK, more retailers, restaurateurs and hotels reported sales growth in new pedestrian zones than in areas without pedestrian zones.[32] In some cases, however, redesigns also led to a slight decline in sales. The reasons for this can be varied and need not be solely related to the pedestrian zone. The proportion of examples with positive effects clearly predominates. Increases typically ranged between 10 and 25 %.[33] The specific studies examined in the course of this project show sales changes ranging from -5 % to 102 %.

The number of establishments can change in both directions. Contrary to what local retailers repeatedly fear, however, the number of businesses mostly remains the same.[34] In fact, it is often argued that improvements to the street environment, such as street furniture or the redesign of pedestrian walkways, can prompt the establishment of new businesses.[35] After transformation measures, it was also found that vacancy levels decreased or did not increase, or increased less than in surrounding areas.[36]

Overview of pedestrian and customer frequencies after redesign measures

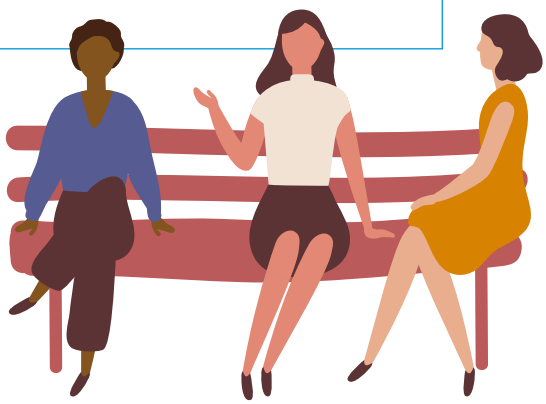
- **Traffic calming downtown (Oslo):**
  pedestrians up by 14 % compared to 2017[a]
- **Redesign efforts under the Healthy Streets program (London):**
  over 90 % more street activity compared to streets without improvements[b]
- **Measures to improve the pedestrian experience (Stoke-on-Trent):**
  customer frequency up by 30 %[c]

a City of Oslo, 2020
b Carmona et al. 2018
c Lawlor et al. 2018

Overview of sales developments after redesign measures

- **Traffic calming on Sendlinger Str. (Munich):**
  for 78 % of the retailers surveyed, sales have remained the same or improved[a]
- **Street redevelopment Severinstr. (Cologne):**
  Comparing 2008 to 2018, sales in the district decreased by 5 %; the number of businesses remained the same, contrary to the national trend[b]
- **Parklets with bike racks (London):**
  sales up by 20 % for adjacent stores[c]
- **“Protected Bike Lane” (New York):**
  sales up by 49 % in the action area, with sales up by 3 % in the district[d]
- **Traffic calming (New York):**
  sales up by 102 % in 3rd year after implementation, with sales up by 18 % in the district[e]

a Förster et al. 2017
b CIMA, 2019
c Lawlor et al., 2018
d NYCDOT, 2012
e NYCDOT, 2013



32 Whitehead et al., 2006
33 Lawlor & Tasker, 2018; Hass-Klau, 1993; Whitehead et al., 2006
34 CIMA Beratung & Management, 2019; LK Argus, 2017
35 Lawlor & Tasker, 2018
36 Lawlor & Tasker, 2018; Carmona et al., 2018; New York City Department of Transportation (NYCDOT), 2012

Redesigns that increase the amenity value are often accompanied by rising rents, both for retail space and office properties.[37] This indicates higher demand and thus positive development of the area, but is also often associated with gentrification. A study in London shows that residential rents increased by 0.25 % per year as a result of improvement measures.[38] Overall, however, the relationship between transformation measures and housing prices is still insufficiently researched.[39]

Redesign of Sendlinger Strasse: Impact on local businesses[a]

- The traffic trial "Sendlinger Strasse pedestrian zone" commissioned by the City Council was extensively monitored and evaluated between 2016 and 2017 on behalf of the City of Munich.
- Traffic censuses showed that, especially on the Saturdays considered, more people frequented the street on foot than before the trial (although according to the study this may be due to the "first good spring day"), but increases of 2–7 % were also observed during the week. 57 % of traders reported no change in customer frequency, 22 % a decrease and 21 % an increase.
- This also had an impact on sales, with 78 % of business owners reporting that their sales had remained the same or improved. For some traders, however, sales had worsened in the period under review.
- Critical comments were made about poorer accessibility for delivery traffic. More than 50 % stated that accessibility for delivery traffic had deteriorated. The reasons given for this were problems meeting delivery time windows and long distances. This resulted in individual goods being delivered late or, in some cases, not at all.
- After the redesign measures, more customers, residents and commercial employees came to the pedestrian zone using environmentally friendly public transport. Passersby perceived a significant improvement in the quality of the time they spent there.
- The general satisfaction of customers and employees improved. In particular, business owners rated the image and the street itself better than before. Most tradespeople also tended to perceive their customers' satisfaction as having increased.
- The example shows that, despite possible negative expectations and any actual problems and challenges that arise, traders ultimately assess the effects of such a measure as predominantly positive overall after its implementation. 63 % of respondents stated this, while 22 % considered the effects of the traffic trial to be negative. Reviewers also rate the outcome positively based on three of the four indicators examined. Only accessibility, access, and delivery are generally problematic, while sales development and customer frequency as well as the satisfaction of customers, employees and cooperation partners are assessed as positive. Thus, Sendlinger Strasse is a good example of the business-promoting effect of redesign measures.

a Förster et al., 2017

37 Lawlor & Tasker, 2018; Carmona et al., 2018
38 Carmona et al., 2018
39 Lawlor & Tasker, 2018

Strengthening the business location together – the redesign of Severinstrasse in Cologne[a]

- The redesign of Severinstrasse was initiated by traders, interest groups and the city of Cologne. The main objective was to increase economic vitality, amenity value and traffic safety in the commercial street which is heavily dominated by car traffic.
- By deconstructing the roadway and transforming it into a traffic-calmed business area, Severinstrasse was strengthened in its function as a neighborhood shopping street. The street is well connected to the public transport network and today forms an important traffic axis for bike traffic between southern urban areas and downtown Cologne.
- Residents and visitors have the option of parking their private cars in a nearby neighborhood garage. Nevertheless, some visitors rate the parking situation rather negatively. However, it was possible to significantly reduce traffic obstructions caused by delivery traffic by using partially removable bollards and short-term parking facilities.
- Compared with downtown Cologne, the numbers of retail businesses in the Severinsviertel are stable. The neighborhood has seen an increasing number of food service establishments over the years and has become a sought-after restaurant location. Visitors cite the retail offerings and the gastronomy in particular as a reason for visiting the Severinsviertel.

a Detailed information about the case study at: Umweltbundesamt, 2022b

Fewer cars and more space for pedestrians make Severinstrasse in Cologne a more attractive shopping street after the redesign

Interviews (left) and information events (right) with the local economy led to success in Barcelona

Conclusion

Planned redesign projects often meet with initial resistance from local retailers and restaurants. This ranges from appeals to the establishment of traders' initiatives and lawsuits, as in the case of Berlin's Friedrichstrasse.[40] Despite the fears expressed in the run-up, however, it has become apparent that corresponding measures do in fact have predominantly positive effects on retail trade and gastronomy. This applies in particular to customer frequency and sales. However, there are critical issues that arise in many projects and these should be considered at an early stage. They relate mainly to delivery traffic and supplies to the stores. Solutions to this should be worked out together locally and embedded in the overall concept to ensure the process runs smoothly,

Among the positive effects, it should not be underestimated that employees of local businesses also benefit from the area's increased attractiveness because they find it a better place to linger. Implementation of the measures themselves also creates new jobs. Finally, improvements in the ambience and satisfaction in the action area, which also have an impact on the local economy, are also highly valuable but cannot be quantified directly.[41]

40 See: https://www.tagesspiegel.de/berlin/sofort-wieder-freigeben-handler-klagen-gegen-sperrung-der-friedrichstrasse-8684461.html
41 For detailed information see: Umweltbundesamt, 2022i

6 USE LEGAL OPTIONS

In Germany, the legal framework for redesign measures in favor of active mobility is primarily provided by road traffic law, the road and right of way laws of the federal states, and building law.[42] Despite long-standing calls for reform, road traffic law in particular – the Road Traffic Act (Straßenverkehrsgesetz – StVG) and the Road Traffic Regulations (Straßenverkehrs-Ordnung – StVO) – remains complicated and primarily safety- and order-oriented.[43] The Road Traffic Regulations and their implementing regulations in the General Administrative Regulation-Road Traffic Regulations are primarily concerned with safety and are strongly oriented towards motor traffic. As a result, they have a restrictive effect on changes in many areas. For example, higher-level goals such as climate and environmental protection, the protection of health and the promotion of sustainable urban development have not yet been anchored in road traffic law.[42] Road law also appears to be in need of reform. While urban planning law is already geared to the goals of sustainability and traffic prevention and reduction (Section 1 (6) No. 9 Building Law Code, Baugesetzbuch – BauGB), road law is primarily geared to providing sufficient space for traffic – especially motorized traffic.[44] Correcting these deficiencies in federal and state laws would provide cities and communities with scope to advance the transformation of local transportation, make public spaces more attractive for all, and create a better quality of life.[44]

The legal framework is already in motion: recent amendments to the Road Traffic Regulations, which among other things facilitate traffic trials and the establishment of bike zones (Section 45 Road Traffic Regulations), are an example of this.[45] And the good practices examined also show that there is already room within the current legal framework to implement creative ideas. What must be taken into account here are the different requirements, scope for application and impact, and responsibilities of the instruments from urban planning law, road law, and road traffic law.

Very simply, urban planning law offers municipalities the greatest scope for preparing even large-scale redesigns within the scope of their planning authority. However, this also requires long and dialog-intensive procedures. Road legislation, such as the withdrawal of parking spaces, is possible based on and under the conditions of the relevant state road legislation. The responsibility for road construction and thus also authority over allocation and withdrawal varies depending on the road category. The local road traffic authorities are responsible for numerous orders of the Road Traffic Regulations with which, for example, it is possible to mark pedestrian areas and obtain parking bans for cars. However, the municipality has only limited say here and the orders usually have a rather selective scope.

42 Umweltbundesamt, 2021
43 Agora Verkehrswende, 2022
44 Umweltbundesamt, 2019a
45 Bundesgesetzblatt, 2020

In detail, there are a variety of different options but they should be examined on a case-by-case basis by the local municipality with the assistance of legal counsel. Some selected measures from the good practice examples and from current judgments, the legal bases used in each case and any conditions for success at the political or administrative level are classified and described below.

Urban planning law: laying the foundations with time and municipal planning sovereignty

Urban planning law (communal urban land use planning) is designed for medium- to long-term urban development. It incorporates a large number of interests into the decision-making process and, in principle, also permits large-scale redesigns. The Building Code, which forms the basis for this, pursues the objective of sustainable urban development "while avoiding and reducing traffic" (Section 1 (5), (6) No. 9 Building Law Code). The goals of limiting soil sealing and adapting urban development to climate change (Section 1a Building Law Code) are also helpful foundations. Against this background, urban development concepts and urban land use plans offer the greatest scope for implementing redesigns to promote pedestrian and bike traffic. For example, various types of traffic areas can be designated in the development plan and thus established (Section 9 (1) no. 11 Building Law Code). They include pedestrian areas and areas for bike parking. This is a good way to prepare for structural redesigns. However, the development of urban planning concepts, their further development with the involvement of the public, and their transfer into legally binding urban land use plans are time-consuming and cost-intensive. In the example of Dessau-Rosslau, traffic policy approaches that ultimately led to the extensive, pedestrian-friendly redesign of the downtown area completed in 2018 can be dated back to 1992 (compare 1. Vision pays off: "Think big" and 4. Participation – involvement of stakeholders helps).[46]

Road and street laws of the federal states: Use allocation and (partial) withdrawal

In addition to urban planning law, the Road Act (or Road and Paths Act) of the respective federal state also offers scope for design. Allocation and (partial) withdrawal determine which roads are to serve public traffic ("public use"). In the case of unrestricted allocation, all types of traffic are initially permitted. If traffic is subsequently to be restricted to certain

Potsdam: Successful withdrawal of parking spaces for cars[a]

In the case study of Potsdam (Drewitz Garden City), a withdrawal order was issued by the city of Potsdam in 2015, based on Section 8 Brandenburg Road Act (BbgStrG), for the parking areas located within the project area for subsequent management and orderly designation. The withdrawal order was part of implementing the overall urban development concept for the further development of Drewitz Garden City. This had already been updated in a workshop process with citizen participation in 2010 and approved as a "master plan" by the city council in 2012. For the traffic field of action, the concept provided, among other things, for parking space management and an orderly relocation of stationary traffic. With this preliminary work at the conceptual level, the municipality was able to successfully justify the order for partial withdrawal, which is permissible based on Section 8 Brandenburg Road Act (Brandenburgisches Straßengesetz – BbgStrG) "for overriding reasons of public welfare". This also withstood judicial review in two lawsuits brought by property owners against the loss of parking facilities because residents have no entitlement to parking facilities set up or retained on public streets and squares in the immediate vicinity.[b]

a Detailed information about the case study at: Umweltbundesamt, 2022d
b Landeshauptstadt Potsdam, 2015

46 Detailed information about the case study at: Umweltbundesamt, 2022a

types of traffic, for example, to pedestrian and bike traffic, the allocation must usually be changed. Such a change of allocation (partial withdrawal, reallocation) also takes place based on the Road Act.

Road traffic law: Safety and order – but for pedestrian and bike traffic too!

Even without a change in allocation under road law, numerous spatially limited measures can be implemented with the help of road traffic law. Here, the road traffic authorities are responsible and can issue orders for the reasons stated in the Road Traffic Regulations. This also makes it possible to ensure more safety and create more space for pedestrian and bike traffic.

The basis for orders can be found in particular in Section 45 of the Road Traffic Regulations, but the requirements for these orders are comparatively narrow and case-specific. It should also be noted that whenever a type of traffic, cars for example, is to be completely excluded, road traffic law is not sufficient and a change of allocation (reallocation) must then take place under road law procedure. This is the case, for example, if a street previously used by everyone is to become a pedestrian zone. In contrast, traffic-calmed business areas and 30 kph zones, for example, can be ordered on the basis of the Road Traffic Regulations. Here, all traffic types remain permitted, the speed alone is reduced for safe mixed traffic.

Mannheim: Establishment of a bike street – careful preparation, successful lawsuit[a]

- In 2020, the traffic authority ordered the establishment of a bike street in downtown Mannheim on which motor vehicle and pedestrian traffic were to remain permitted. The order was embedded in a higher-level plan to improve the bike lane network and was based on a city council resolution. The legal basis for the order was Section 45 (1) p. 1 in conjunction with (9) p. 1 Road Traffic Regulations. In addition to the appropriate signage (beginning and end of bike street, one-way street regulation with permission for bike traffic in the opposite direction), orders were given for the installation of bike racks and bollards, and the removal of parking spaces.
- After unsuccessful objections, residents filed a lawsuit against establishment of the bike street. However, the administrative court dismissed the lawsuit and upheld the traffic authority's action. The decision focused on the questions of whether the authority had permissibly ordered the bike street for reasons of safety and order, and whether the order had been mandatory. The court affirmed both conditions. Several traffic censuses had previously demonstrated a high volume of through traffic, including an already high proportion of bike traffic with an upward trend. As the roadway was narrow and visibility was difficult due to local buildings, the court considered that the requirements for a specific hazardous situation, which requires orders according to Section 45 of the Road Traffic Regulations, were met. It was also mandatory because it was not possible to achieve the intended effect of the order, which was greater protection for bike traffic by introducing a special hazard and obstruction ban and reducing the speed of motor vehicle traffic to 30 kph by other, more general traffic regulations.
- Since the traffic authority had already shown in the administrative procedure that the interests of motorists, pedestrians and cyclists had to be considered and it had carried out an appropriate assessment, and because the extent of the hardship caused by the new situation was deemed to be comparatively low for the resident bringing the lawsuit, the court also classified the order as free of discretionary error and the result lawful.

a VG Karlsruhe, Urteil v. 24.05.2022 – 14 K 964/21

Berlin: Pop-up bike lanes – controversial but permissible[a, b]

- The so-called pop-up bike lanes in Berlin (compare 2. Temporary measures and step by step to success) were the subject of an urgent legal dispute in two courts of law following a lawsuit brought by a member of the Berlin House of Representatives. Construction of the bike lanes had been accelerated during the Covid pandemic based on existing plans. They were implemented as temporary yellow markings on the roadway similar to physical construction site barriers on various main roads in the city area.
- Initially, the Berlin Administrative Court ruled in September 2020 that, due to a lack of sufficient grounds, the orders had to be revoked and the temporary lane markings removed. However, it had already been clarified before the Administrative Court that the "pop-up principle" in the form of temporary orders is generally permissible (Section 36 (2) No. 1 Administrative Procedures Act). It also considered the installation of bike lanes on the roadway – in some cases motor vehicle lanes were reduced for this purpose – to be permissible based on road traffic law and a partial withdrawal under road law to be unnecessary. Here too, the core of the examination was whether the requirements of the relevant basis for the order Section 45 (1) clause 1 in conjunction with (9) clause 1 Road Traffic Regulations were fulfilled. This was answered in the negative because the authority's central argument, that pop-up bike lanes should serve as protection against infection, was "traffic-unrelated" and thus not suitable as grounds for a road traffic order. The Administrative Court deemed the orders deficient because there was no concrete illustration of the hazard situation (hazard projection) and also no compelling need, both of which were required to issue an order for reasons of safety and order.
- The Higher Administrative Court of Berlin-Brandenburg revised the decision in the subsequent appeal proceedings, having previously halted its enforcement. The original lawsuit was withdrawn after the Higher Administrative Court's decision, so that a decision will no longer be made in the main proceedings. The decisive factor for the contrary decision was the detailed hazard projection submitted subsequently by the State of Berlin based on traffic analyses. The court agreed with the State of Berlin in the assessment that the separation of bike traffic from motor vehicle traffic may be necessary for safety reasons, at least in streets with a proven high traffic load (load levels III or IV according to ERA 2010, item 2.3) or corresponding accident statistics (then also streets of the lower load level II). Accordingly, it considered the requirements of Section 45 (1) in conjunction with. (9) p. 1 Road Traffic Regulations as factually fulfilled based on the grounds subsequently submitted and the authorities' decision-making leeway (discretion) as permissibly exercised.

a Detailed information about the case study at: Umweltbundesamt, 2022e
b VG Berlin, Beschluss v. 4.9.2020 (VG 11 L 205/20); OVG Berlin-Brandenburg, Beschluss v. 6. Januar 2021 – OVG 1 S 115/20

Lawsuits against such orders cost the municipality concerned a great deal in time and staff effort.[47] On the one hand, temporary and thus correctable solutions and proactive participation formats can prevent legal disputes (compare 2. Temporary measures and step by step to success and 4. Participation – involvement of stakeholders helps). Justified objections can thus be heard at an early stage and included in the measures. On the other hand, it is necessary to examine and justify traffic regulation measures in detail in accordance with the requirements of their respective legal basis. Then a court decision may also be in favor of the relevant measure and provide further examples of success.

47 Agora Verkehrswende, 2022

Munich, Summer Streets
Variant 1 – play street

Sign 250 with additional sign 1010-10

Variant 2 – living street

Sign 325.1

Berlin, Temporary Play Streets
(Picture: BA Pankow)

Sign 250 with additional sign 1010-10 and additional sign for the time limitation

Signage options for temporary play streets

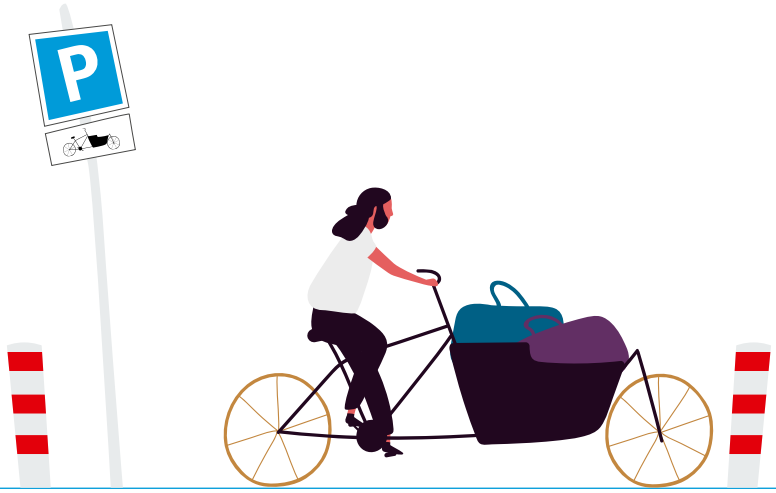
Munich, Berlin and elsewhere: (Temporary) play streets, summer streets

- Play streets open up the streetscape for children to play but that is not all. Neighbors can meet up and the street also becomes a place to linger. If a play street is to be permanently established, this can be done as a traffic-calmed area or pedestrian zone based on the Road Traffic Regulations. This requires an order according to Section 45 (1b) p. 1 no. 3 Road Traffic Regulations: In the traffic-calmed area, the allocation for general traffic remains, but with modified special consideration requirements for pedestrian traffic. The pedestrian zone additionally requires a restricted allocation under road law for pedestrian traffic only. Both orders may only "mark" what is already prepared structurally under road law. In principle, the concept of a play street also goes further – all vehicular traffic, including bike traffic, is excluded to aid the safety of the children playing – and play is the primary focus.

- Even with the temporary setup, the allocation to general traffic remains. However, traffic is completely excluded from individual street sections or entire streets at certain times.

- Even temporary play streets do not yet have a specific basis in the Road Traffic Regulations, despite long-standing demands. Nevertheless, in Bremen and Frankfurt/Main they have been around for over 10 years and in Griesheim in Hesse for as long as 20 years.[a] In the meantime, a proper citizens' play street movement has formed[b], and several municipalities nationwide are already taking up the cause. The procedure for approval and the basis for orders vary: In some cases, Section 29 (2) of the German Road Traffic Regulations is used (event). However, the event character of a temporary play street is controversial.[c] In Berlin, a guideline by the Senate Department for Mobility, Environment, Consumer and Climate Protection (SenUMVK) recommends the order by implementing a ban on vehicles of all kinds and permission to play on the road and in the space to the side (Section 45 (1) p. 1 Road Traffic Regulations, Section 31 (1) p. 2 Road Traffic Regulations).[d]

a Information page of the Deutsches Kinderhilfswerk: Temporäre Spielstraßen in Berlin, https://www.dkhw.de/schwerpunkte/spiel-und-bewegung/politische-arbeit/temporaere-spielstrassen/. Last retrieved: 30.09.2022
b "Bündnis Temporäre Spielstraßen" with contact addresses, photos of possible implementation, guide, training film: http://www.spielstraßen.de/. Last retrieved: 30.09.2022
c VG Berlin, Beschl. v. 13. 7. 2015 – 11 L 275.15
d SenUMVK, 2022



Bikes in converted car parking spaces

- Individual parking spaces for cars can be redesigned on a case-by-case basis following a traffic law review, while their widespread abolition requires justification and planning and, if necessary, partial withdrawal based on road law.
- So far, bike parking facilities have not been installed on the roadway across the board. In 2008, for example, Berlin stipulated that (only) “in special cases” where there is a great need for such facilities and there is a lack of suitable sidewalk space, motor vehicle parking areas (parking spaces or hard shoulders) should also be used for the installation of bike racks.[a] This option is increasingly being used as part of traffic trials and to reduce vehicle parking.

a See: Leitfaden Fahrradparken in Berlin, 2008, p. 22

Increasingly, former car parking spaces are being converted into bike parking facilities, in this case designated cargo bike parking spaces in Berlin

Diagonal barriers, here in Berlin, reduce motorized through traffic

Traffic management for superblocks: one-way streets and modal filters

- The “superblocks” concept described requires the modification of traffic routing for motor vehicle traffic.[a] One example of achieving this is by establishing one-way streets. The basis for ordering such a traffic detour by the local road traffic authorities is Section 45 of the German Road Traffic Regulations and it is implemented with appropriate signage (sign 220 “One-way street”). A one-way street can be permitted for bike traffic in the opposite direction by combining with additional sign 1000-32.

- If the aim is to reroute traffic physically using so-called modal filters, the design in individual cases is decisive. A (partial) withdrawal or allocation restriction under road law is required if modal filters are used to completely prevent private motorized traffic from driving through a road previously dedicated to general traffic and, as a result, a section of road is no longer passable at all by bikes or cars. For example, if a diagonal barrier merely diverts traffic so that it passes side by side, this is possible within the framework of allocation based on road traffic law, provided that such a detour is needed for reasons of traffic safety and order. On the other hand, there may be a need for reclassification or allocation restriction under road traffic law if the diagonal barrier is part of a concept by which through-traffic in the area in question is to be successively reduced and eventually restricted to purely residential traffic, so that use by “general traffic” is cut.

a Detailed information about the case study at: Umweltbundesamt, 2022f

Gradual removal of all motor vehicle parking spaces, redesign of the parking spaces released

- In Germany, the blanket removal of vehicle parking areas as in the Oslo[a] example (compare 1. Vision pays off: "Think big") cannot simply be ordered based on road traffic law on streets that are fundamentally allocated to public traffic. Motor vehicle parking ("stationary traffic"), like flowing traffic, is understood as public use within the scope of this allocation purpose. The creation of a traffic-calmed area (Section 45 (1b) no. 3, clause 325), however, reverses this relationship: Parking is only permitted there within the appropriately marked areas; if they are missing, a general parking ban applies in this area. Parking bans can also be ordered in individual cases for reasons of safety and order. Likewise, the use of parking privileges for vehicles of disabled persons, e-vehicles, car sharing vehicles, delivery vehicles, etc. can be considered (e.g. Section 45 (1b) no. 2, 1g, 1h Road Traffic Regulations). Motor vehicle parking areas can generally (only) be completely removed within the framework of a concept prepared under urban development law. For example, this may be allocation for pedestrian and bike traffic only.

- The temporary redesign of released parking spaces can also be considered as part of a traffic trial based on Section 45 (1) no. 6 Road Traffic Regulations (compare 2. Temporary measures and step by step to success). Exemptions under road traffic law (Section 46 (1) no. 8 Road Traffic Regulations) and also special use permits are another way of temporarily integrating flower planters or other street furniture into the streetscape. Some municipalities have already developed processes within the local council because certain temporary uses have been in high demand (compare 2. Temporary measures and step by step to success).

a Detailed information about the case study at: Umweltbundesamt, 2022g

Conclusion

Even with a legal framework that is still far from being adequately adapted to pedestrian and bike traffic, the examples mentioned mean that, in a large number of cases, there is already a viable route for many approaches to promoting active mobility within the framework of existing law. However, because these routes often represent detours around the logic of private motorized transport and its facilitation, which is still anchored in road traffic law, they are characterized by a high level of justification and are often associated with a high degree of legal uncertainty.[48]

In the future, road and traffic law must be understood as the basis for transforming transport and must secure essential regulations for this at legislative level.[49] A key element here would be a new general function in Section 1 of the Road Traffic Act, which would replace the previous focus of solely preventing danger to the safety and ease of traffic with broader public welfare objectives such as environmental and climate protection, health protection and sustainable urban development as objectives of road traffic law.[47] In line with this new objective, the enabling norm for the concretizing Road Traffic Regulations (Section 6 Road Traffic Act) would also have to be reformulated.[47] In addition, there is a need for numerous further adjustments to the German Road Traffic Regulations (StVO), state road law and building law which would give local authorities in particular more scope to implement the traffic transition and allow priority to be given to public transport and simplified (temporary) use of road space for non-traffic purposes.[47] There are already concrete proposals for this which the Federal Environment Agency has published as a short paper[47] and which are available to read as part of the final report on the MONASTA[50] project.

48 Umweltbundesamt, 2019, 2021
49 Umweltbundesamt, 2021
50 Umweltbundesamt 2022k

7 EVALUATION IS MARKETING

Fact-based argumentation and proof of the effectiveness of redesign measures are critical to the success and acceptance of projects (compare 5. Convince the local economy with good arguments). Systematic before-and-after studies make it possible to check whether the intended effects and stated goals are being achieved or whether there is a need for improvement.[51] For example, it is important to ensure that there are no undesirable adverse effects in adjacent areas such as traffic displacement.

Evaluation results from projects in other municipalities or districts can help to address stakeholders' concerns in a fact-based manner as early as the planning phase.[52] In the case of a temporary test phase in particular, an evaluation makes it possible to adjust the measures if potential for improvement is identified. A participatory evaluation phase can also have a very positive effect on acceptance among the population (compare 2. Temporary measures and step by step to success and 4. Participation – involvement of stakeholders helps).

It is important to draw up a schedule for impact and process evaluation at the concept phase. It is necessary to review the extent to which meaningful data describing the baseline state are available or need to be collected before the measures are implemented. This is because it is only possible to assess the impact of the target state at a later date if there is a valid data basis for the baseline state.

Process evaluation accompanies all phases of developing and implementing measures. It therefore begins at an early stage in the concept phase. Its main purpose is to minimize obstacles and difficulties in the planning and implementation phase and to learn from the process for subsequent projects.[49]

However, evaluation results not only pave the way for further local measures. They can also be shared with other cities and inspire imitation. For example, the superblock model is described in scientific publications as an advisable way of making the city of Barcelona more sustainable and creating livable urban space.[53] The model has proven to be transferable to other cities and has already been implemented in Vitoria-Gasteiz (Spain), Vancouver (Canada) and Quito (Ecuador).[54] Implementation of the concept is being discussed in New York (USA), Vienna (Austria), Berlin and Hanover. With ongoing evaluation and publication of the results, cities can learn from each other and inspire each other to implement or adapt concepts. The attention created by this can also serve as a way for cities to promote themselves. It highlights the quality of life in cities and the city is shown as a livable place where people like to be and live, where they can move around freely, safely, and actively. Successful redesign measures can and should therefore be communicated as an economic and location factor.

51 https://www.umweltbundesamt.de/publikationen/evaluation-zaehlt-ein-anwendungshandbuch-fuer-die
52 https://www.umweltbundesamt.de/publikationen/modellvorhaben-nachhaltige-stadtmobilitaet-unter-0
53 Detailed information about the case study at: Umweltbundesamt, 2022f
54 ADFC (2020): Weniger Verkehr, mehr Grün, mehr Lebensqualität: Die Superblocks in Barcelona

Possible elements of evaluation of redesign projects[a]

Impact evaluation (before/after study):

- Surveys of the population (perception/satisfaction/acceptance, also includes the possibility of participating in the planning phase).
- Traffic impacts (censuses by mode, conflict situations/traffic safety)
- Environmental impact (measurement of air pollutants, calculation of noise pollution, land consumption, etc.)
- Survey of local economy development (sales, number of stores and businesses)

Process evaluation:

- Survey of obstacles and drivers during planning and implementation of the measure (standardized surveys, storytelling, learning-history workshops)
- Determination of frequency, intensity, type and scope of survey (process phases: conception, planning, implementation, operation)

a https://www.umweltbundesamt.de/publikationen/evaluation-zaehlt-ein-anwendungshandbuch-fuer-die

One example of a successful evaluation is that which took place in Oslo, where the BYTRANS research project (2016–2020) of the Norwegian Center for Transport Research was carried out parallel to the redesign measures of the "Car-free Liveability" program.[55] This aimed to analyze measures for transforming the transport system and their effects, and to identify promising ways of transforming transport systems sustainably. A wide range of opportunities for participation were created during the transformation of downtown Oslo. For example, surveys were conducted among residents and local businesses, which were used in the evaluation of the "Car-free Livability" program.

Conclusion

Evaluations require additional financial and human resources. However, this effort is often worthwhile because the municipality can learn a lot from the evaluation results for easier implementation of subsequent projects. The municipality can confidently disseminate positive results of the impact evaluation, thus promoting itself and enhancing its image. Winning internationally recognized awards can bring attention to a city. Similarly, good results in city rankings, such as the bicycle climate test, can be used for city marketing. Evaluations also provide the opportunity to compare streetscapes and even entire cities in order to learn from each other. This allows cities to set themselves new standards nationally and internationally, benefitting people in a variety of ways (compare 5. Convince the local economy with good arguments). Evaluations are therefore always worth the effort and an important tool for successfully redistributing streetscapes. Even when goals are not achieved, the publication of evaluations, in the sense of identifying potential for improvement, is helpful for current and any future projects.

55 Detailed information about the case study at: Umweltbundesamt, 2022g

8 ENSURE POSITIVE EVALUATION THROUGH IMPLEMENTATION AND EXPERIENCE

Particularly in the planning phase, measures to reallocate and redistribute traffic areas sometimes meet with significant resistance. Similar reservations are expressed at citizens' meetings or elected officials are confronted directly with their concerns. To many of those affected, the risks appear greater than the opportunities. This is linked to the uncertainties that such changes and transformations can bring. There is widespread concern that accessibility will decrease which will lead in turn to a loss of customers or restrict residents' mobility. As described, a temporary approach, active participation of local stakeholders and an independent evaluation can help people to feel that they are being taken seriously (compare 4. Participation – involvement of stakeholders helps and 2. Temporary measures and step by step to success). In addition, in the course of redesign measures, it usually becomes clear that risks and unwanted side effects do not occur to the extent previously feared or do not occur at all. In contrast, the positive effects become clear. This increases satisfaction among all stakeholders. This applies to traditional planning and implementation processes as well as to temporary approaches. Nevertheless, redistribution measures entail disadvantages for individual stakeholders or explicitly intend behavioral changes in the context of moving away from car-oriented mobility (compare 9. Do not keep quiet about challenges). In this respect, it is not usually possible to achieve complete satisfaction of those affected.

Involving people with mobility limitations in the participation process ensures cosidering their needs when redesigning areas

Even in the case of very successful national and international examples, there were usually strong concerns beforehand. In many cases, the concerns that shopkeepers had before the traffic trial in Sendlinger Strasse in Munich turned out to be unfounded.[56] This only became clear as a result of the traffic trial itself, where a temporary pedestrian zone was initially set up.

The example in Pontevedra in particular proves that staying power pays off.[57] Rejection of the redesign required a great deal of effort in terms of communication and educational work, as a result of which, however, most of the former opponents of the plans actively and constructively

56 Detailed information about the case study at: Umweltbundesamt, 2022c
57 Detailed information about the case study at: Umweltbundesamt, 2022h

People enjoying the good weather in the now quiet superblock in Poblenou, Barcelona

participated in the planning processes and implementation. Nevertheless, the example also shows that the population will rarely approve 100 %.[58]

The superblock concept also initially met with skepticism in Barcelona.[59] After years of persuasion, there is now general agreement for the concept among the population and politicians. The plans and ideas for the superblocks were initially viewed critically in the local media, with reports mainly about the fears of local opponents.[60] In contrast, the international press described the concept as a visionary example of modern urban development.[58] This international attention and considerations about transferring the concept to other cities also changed attitudes and reporting in Barcelona. When individual superblocks were implemented, there was initially local opposition, for example in Poblenou (2019) and Gracia (2003) (compare 4. Participation – stakeholder involvement helps). Various specific issues were criticized, such as the locations of individual bus stops, and basic reservations such as fears of traffic relocating into the surrounding area, or what was initially perceived as insufficient participation. After extensive opportunities to participate were provided in the form of information and discussion events, the original plans were largely implemented.

Despite previous concerns, the majority now accept the superblocks in Gracia and Poblenou due to the positive effects that are experienced.[58]

Conclusion

Due to concerns about change and feared risks, some of those affected protest significantly during the planning and implementation phase of redistribution and reallocation measures. However, many examples show that after completion, when positive effects kick in, they are acknowledged and a majority of the critics stop protesting. A particularly good way to use the findings to increase satisfaction is through temporary approaches whose effects can be experienced quickly. However, increasing satisfaction among those affected does not mean that complete satisfaction is achieved. As a rule, not all critics can be convinced (compare 9. Do not keep quiet about challenges).

58 Pontevedra Website, n.d.; UN-Habitat, 2014; Concello de Pontevedra, 2015; Smart City Dives, 2017
59 Detailed information about the case study at: Umweltbundesamt, 2022f
60 Lopez et al., 2020

9 DO NOT KEEP QUIET ABOUT CHALLENGES

Despite positive effects, measures for the reallocation and redistribution of traffic areas can also have adverse side effects. This can result in objective deterioration of the individual situation for those affected. If the projects interfere too much with the interests of those affected, the result may be justifiable lawsuits brought by the affected parties and the subsequent abandonment of redesign projects. This is often linked to restricted options for delivery or access to land and buildings. This is unavoidable when dealing with the intention to improve active mobility at the expense of private motorized transport and car drivers. Accordingly, it is imperative to find solutions and weigh up interests.

Changes to public space and its use are also accompanied by other practices. In the process, it is possible to mitigate many of the disadvantages of a car-oriented city. At the same time, each new use can bring with it new external effects. These possible adverse interactions, such as less traffic but more recreational noise, should be considered in advance and prevented or mitigated to the best extent possible.

Not all projects are as successful as the examples presented here. Often, this is related to local conditions. Paying attention to the factual aspects described in the previous propositions increases acceptance and a positive overall result. It is particularly important to involve the local population by using appropriate participation processes (see 4. Participation – stakeholder involvement helps). In the case studies considered, it can be seen that redesigns may entail the very specific practical challenges described below when spaces are not used as intended or problems arise. Redesign measures can also reinforce processes such as gentrification in a neighborhood.

> **The challenges are great and we must tackle them together courageously. The aim is to ensure that Germany remains a strong business location in the long term. Climate protection is now a prerequisite for competitiveness, innovative strength and prosperity.**
>
> *Robert Habeck (Leonord+Bauer, 2022, translated by the authors)*

The Free and Hanseatic City of Hamburg chose a special approach and introduced a Business Improvement District, a private initiative for neighborhood development in Neuer Wall. Here, several streets, for instance those with dense retail business use, were redesigned to provide generous sidewalks, street greening and delivery zones. After completion of the construction work, a service was introduced with coordination of parking and delivery traffic, which also monitors occupancy of the delivery zones.[61]

61 Freie und Hansestadt Hamburg, 2022

Pop-up bike lanes make cycling more attractive and safer but unfortunately they are not immune to illegal parking

Likewise, on Kottbusser Damm, questions regarding the second escape route for buildings, which allows the fire department to evacuate the street in an emergency, have not yet been conclusively resolved. If the loading zone is blocked by parked vehicles, the gap between the wall of the building and the ladder truck may exceed the maximum permissible distance of 12 meters, meaning that there is no guarantee that the upper floors via ladders can be evacuated in the event of a fire. The pop-up bike lanes themselves also had to be monitored frequently during the temporary phase, as mobile beacons and signs can become displaced.

Parking problems: Practical difficulties at Kottbusser Damm in Berlin[a]

- During installation of the pop-up bike infrastructure on Kottbusser Damm in Berlin, new loading zones were also created.
- However, there is illegal parking in the loading zones on this densely built-up and mixed-use inner-city street due to high pressure on parking. As there is only one lane per direction for motorized traffic after the transformation, it is not possible to deliver to the adjacent stores when the loading zones are blocked by parked vehicles without completely blocking the flow of motorized traffic.
- So far, it has not been possible to maintain sufficient monitoring pressure. Proposals that have already been put forward in the past by the Federal Association of Last-Mile Logistics, the Federal Highway Research Institute and the German Automobile Club (ADAC), independently of this case study, provide for a separate “loading zone” traffic sign as an addition to a no-stopping zone.
- Nevertheless, the problem of staff-intensive monitoring remains. One possible solution would be digital recording via sensors.

a Detailed information about the case study at: Umweltbundesamt, 2022e

The challenge of gentrification: Handling and strategy in Barcelona[a]

- In addition to the very practical challenges, upgrading public streetscapes can encourage unfavorable social developments. In Barcelona, the superblock in Gracia, which was established in 2003, resulted in more and more tourists visiting the neighborhood and its increased attractiveness caused real estate prices to rise. This led to accelerated gentrification of the area, which sometimes resulted in residents being forced out. In contrast, a study in and around the superblock in Poblenou showed that two years after the measures were implemented, there were still no signs of gentrification.

- The risk of gentrification and possible partial price increases in and around individual superblocks should be countered by the citywide introduction of superblocks. In addition, increasing the share of social housing (1.5 %; as of 2020) and limiting rent increases are being discussed as possible solutions in Barcelona.

- The establishment of individual superblocks can also lead to conflicts and discrimination between residents of a superblock and residents in the neighborhood.[b] For example, conflicts between residents and non-residents (extended neighborhood, commuting) have occurred during implementation of the superblocks. These conflicts are due in part to differing desires for use of the newly reclaimed streetscape.

- Local businesses also feared that sales would decline and residents would be forced out due to possible gentrification. Residents of neighboring areas were concerned that they would be impacted by rerouting of traffic. To specifically avoid this, a study on implementation of the superblock in Poblenou recommends that larger areas are declared as superblock zones at the same time, among other things to enable better control of the traffic.[c] The challenge here is to achieve supra-local synchronous scheduling with the involvement of the population.

- In addition, the superblock model must be flexibly applied to real-world contexts, such as the diverse needs of the local population and existing infrastructure such as public transport stops. Additionally, it has been shown that simple and reversible solutions can be useful for speeding up implementation of each superblock and increasing its acceptance. Such solutions include temporary closures of streets to through-traffic, the installation of street greenery in planters, for example, and street furniture. This allows residents and business owners to get first impressions of the redistributed streetscape and use them to suggest changes by taking advantage of the participation opportunities provided.[d]

a Detailed information about the case study at: Umweltbundesamt, 2022f
b Enorm-magazin.de, 2019; Zimmermann & Zimmermann, 2020; Honey-Rosés, 2019; Scudellari et al., 2020
c Scudellari et al. 2020
d Zimmermann & Zimmermann, 2020; Honey-Rosés, 2019; Scudellari et al., 2020

Based on other examples, some of the uses of the redistributed space do not exactly match the project design or the intended new allocation of use. For example, in Sendlinger Strasse in Munich, the ban on cycling is not yet working smoothly. Some cyclists do not use alternative routes. Where conflicts occurred, pedestrians mostly behaved passively and avoided the bikes. Some of the respondents therefore called for increased monitoring of illegal cyclists, while respondents called for the cycling ban to be lifted.[62]

62 Förster et al., 2017

Rebound effects are beginning to be seen in Oslo.[63] For example, surveys indicate that after the removal of public street parking, resident companies increasingly provided their employees with private parking spaces close to the workplace. This even led to a slight increase in car use among commuters.[64]

Urban problems that often used to remain more hidden are negotiated in spaces formerly used by cars. Conflicts often arise where more people use these spaces due to higher amenity value. This is more about social issues and social interaction than about mobility or the design of squares and streets. Gentrification and rent increases, but also homelessness, drug problems and a general lack of consideration are social problems that are not new but can become more apparent if spaces are no longer blocked by (parked) vehicles. Road traffic noise may be replaced by recreational noise which can be perceived as equally or even more annoying.

Conclusion

As public spaces are transformed, their use also changes. Newly created locations with increased attractiveness can invite people to linger and serve as social meeting places. This revitalization and use of urban space by the urban community is emphatically desired. The effects of private motorized transport such as noise and air pollutants are reduced. In addition, inefficiently used areas are freed up for other purposes. The revitalization and use of urban spaces can result in new challenges, such as increased recreational noise. This change, as well as very specific, practical obstacles such as delivery possibilities, can be a detriment to individual stakeholders. In addition, intended upgrading of the spaces could encourage gentrification trends and encourage similar changes in the residential and commercial structure. These potentially adverse effects should be taken seriously and discussed as part of participation processes. In this way, it may be possible to find a positive approach to dealing with the new challenges. A detailed inventory helps to record special individual interests so that they can subsequently be taken into account. If justified individual interests are weighed against the interests of the general public, there is less likelihood of lawsuits at a later date that could topple the overall project. A common delivery problem, for example, can be solved by time windows for delivery combined with restriction. Here, too, the importance of evaluation is obvious: often, adverse effects can only be meaningfully identified if the evaluation is good. At the same time, effective evaluation can form the basis for countering these adverse effects at an early stage.

63 Detailed information about the case study at: Umweltbundesamt, 2022g
64 Hagen & Tennøy, 2021; Hagen et al., 2020

Conclusion

As an important living space of the present, cities will continue to grow in importance in the future. The challenges are many and the need for action is increasing. Important framework conditions are being created and changes are being tested in pioneering cities to ensure the success of the transport transition. At the same time, the processes of reallocation and redistribution and related discussions have to be conducted on a case-by-case basis with many parties who are directly affected, even if issues and reservations are often repeated. This requires small-scale local action. The negotiation processes can be difficult. This makes it all the more important to coordinate approaches and learn not only from the successes and challenges overcome by others, but also from their blind alleys. Overall, a welcome paradigm shift in urban and transportation planning is emerging, representing a move away from car-centric planning.

Ways and packages of measures to achieve the livable city of tomorrow have already been described, including in the UBA vision "The City for Tomorrow."[65] Many aspects that characterize a sustainable city and sustainable transport intertwine and, in many cases, have synergies.

Analysis of the case studies shows that important aspects appear repeatedly in different places. The nine propositions formulated help to deal with these points. They provide arguments in the discussion with citizens, tradespeople and other stakeholders. They are also intended to help people benefit from the experience of pioneering municipalities and to set appropriate priorities in planning and redesign processes. They should also encourage people to tackle the specific challenges in their communities and cities. They should additionally serve as a source of inspiration, highlight success factors, but also provide pointers to pitfalls. Detailed long versions of the selected examples in addition to further practical side notes and comprehensive feasibility studies are available in separately published fact sheets.[66]

The examples show that people who develop visions and drive them forward are needed at decisive points. Testing and step-by-step implementation of these visions are success factors in this process. It is important to see urban development even more as a learning process that can be continually adapted to circumstances. This is reflected not least in the increasing importance of temporary and phased approaches and in the use of innovative participatory processes.

In addition to adapting to local conditions, timing is also crucial when implementing measures. Windows of opportunity should be used to realize the vision of a livable and sustainable city. This includes comprehensive and early participation of individuals affected and other local stakeholders. Participation ensures that the needs of these groups are taken into account and provides the opportunity to shape cities and public space together. What sometimes appears to be a lot of effort to obtain broad participation is worthwhile in order to secure acceptance for implementation. It also makes it possible to identify unwanted adverse effects that may occur after implementation at an early stage by using ongoing participation formats, enabling them to be considered from the outset in further implementations. Many examples show that the initial concerns of those affected and the local economy prove to be unfounded, satisfaction increases after implementation and the local economy in particular often benefits.

A cautious approach and constant communication with those affected are not the only crucial factors for acceptance among the population and in the local economy. Fact-based communication of both the positive and the critical effects of corresponding

65 Umweltbundesamt, 2017
66 See: Umweltbundesamt, 2022a bis Umweltbundesamt, 2022j or https://www.umweltbundesamt.de/themen/verkehr-laerm/nachhaltige-mobilitaet/aktive-mobilitaet

measures constitutes a further building block in successful projects aimed at reallocating and redistributing traffic areas. Evaluations provide the basis for clearly communicating the contribution that the measures make toward resolving the specific problems on the ground, and also provide stronger arguments for targeted discussion with those affected.
In terms of further developing approaches, adverse experiences also help to address the challenges and achieve positive effects overall in the future. However, it is still apparent that there is often no data available for comprehensively evaluating the impact of the measures. Well-planned prior studies and long-term monitoring of development after appropriate redesigns can provide important insights and should be considered during the planning process.

Added to this, evaluations are useful not only as a basis for argumentation, but also as a marketing tool. The effect of positive reviews should not be underestimated as assets for the location. These may be city rankings, competitions, role models for redesigns in other cities, or certification e.g. as a bike- or pedestrian-friendly municipality. In addition to having a positive effect on the influx of residents and businesses, this can also lead to better funding conditions at federal and state level.

The examples presented and the conclusions derived from them invite us to use and shape the existing scope within the legal framework to meet individual requirements and problems.

Successful projects are composed of recurring key factors

However, there is a need for more far-reaching, fundamental legal adjustments: In the future, the German Road Traffic Act, the German Road Traffic Regulations, the state road law and building law should give local authorities more scope to implement the transport transition and allow public transport and simplified (temporary) uses of streetscapes for non-transport purposes to take priority.[67] Specific proposals for this have already been submitted to the Federal Environment Agency as a short paper[65] and published as part of the final report on the MONASTA project.[68] Implementing them could ensure that road law and road traffic law become the basis for transforming traffic in the future and pave the way for climate protection and a high amenity value in cities.

Let's get started!

67 Umweltbundesamt, 2021
68 Umweltbundesamt 2022k

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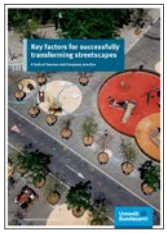

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