Baukultur Report

Public Spaces
2020/21

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bauKULTUR
BUNDESSTIFTUNG

Core Messages of the Baukultur Report 2020/21

Urban and municipal development through high-quality open spaces

Attractive cities and municipalities are vibrant, safe, sustainable, and healthy. They are characterized by a wide range of well-designed, open public spaces which facilitate encounters and encourage communication. As a starting point for urban development planning, open spaces provide basic qualities such as interconnecting paths. They form the fundamental and enduring structure of a city and show its character and rhythm.

Important recommendations for action for new open space initiatives:

→ **Use public spaces as a driving force for urban development**
Streets, pavements, and public squares survive for centuries. The people who plan and design them have to ask what tasks they will perform for coming generations. Urban development models that put people first offer answers.

→ **Create more mixed-use spaces**
Considering functions and uses together rather than in parallel opens new design posibilities. New mixed-use spaces activate locations and concentrate diverse offers in one area. They make an urban development contribution to internal development and thus take into account the different interests of users.

→ **Develop spaces for health and recreation**
Public spaces have a decisive effect on levels of action with respect to climate mitigation and adaptation measures. They are important for health and recreation. Baukultur must increasingly also address and strengthen urban greenspace, surface water, and biodiversity.

Design new mobility and infrastructures – recognize and utilize potentials for public spaces

Streets and traffic areas are public property. Their design can enable cities and municipalities to significantly improve the quality of time spent in public spaces. Attractive and distinctive traffic areas and urban spaces make diverse design, social, and communicative offers. Equitable mobility also necessitates reassessing how space is allocated. Contemporary construction and adaptation is connected with existing cultures and structures. It provides answers to technical, ecological, and social questions.

→ Think about traffic areas for everyone

A new Baukultur for public spaces should follow the principle that everyone has the same rights and obligations in traffic. Traffic areas that also function for children and older and disabled individuals benefit society as a whole and have a high-quality Baukultur.

→ Understand public infrastructures as support for Baukultur

Technical infrastructures and civil engineering structures are integral parts of public spaces. Urban furniture, public lighting, and signage shape the appearance of a location. Their design and maintenance require more care and appreciation.

→ Consolidate cleaning and good maintenance

Clean and well-maintained public spaces are of great importance for society. They are decisive to the identification of residents and an important location factor in the competition between cities. Open spaces that have a high-quality Baukultur foster respectful interaction with the built environment.

Public spaces need representatives of the interests of Baukultur

Public spaces are subjected to the pressures of heavy use and high expectations. To overcome this, an organizational, planning, and supporting structure that takes action holistically must take the place of divided responsibilities and sector-based solutions. A well-positioned management is responsible for planning, construction, communication, allocation of space, and maintenance. Public authorities and private stakeholders are thus in close communication and develop sustainable, shared perspectives.

Important recommendations for action for public sponsorship of public spaces:

→ Strengthen public spaces as a school for democracy

The quality of our shared experience is shown in public spaces. Learning about Baukultur puts people in the position to consciously perceive their built surroundings and play an active part in designing their living environment. This enables people to participate in social life.

→ Public spaces must be and remain accessible for everyone

Public spaces link cities, locations, and people – they are the basis for social cohesion. Active, prudent public authorities ensure that public spaces are available and can be utilized to the fullest extent for the greater good.

→ Create alliances for public spaces

Public spaces are usually municipal property. As trustees of this property, policymakers and administrators play a decisive role. Alliances with stakeholders in civil society are advisable. They facilitate enlivening temporary uses. Special, private rights of use reach their limits where they obstruct the common good.

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Introduction

Public spaces are a basic task for planners. For public agencies, they are part of day-to-day business. For all of us, the design quality of public spaces in a society that is becoming ever more individualized is decisive for whether we feel good in the built environment, or not, and for whether we can orient ourselves or take detours. Public spaces provide a place for encounters and social togetherness. Based loosely on Vitruvius, they have to function well, be cleverly built, and be harmoniously proportioned. This can only succeed as a shared enterprise if public space stakeholders work together responsibly and constructively. These are the roads and parks departments, service providers, utility companies, public transport companies, market authorities, and special users, as well as, naturally, architects, urban and open space planners, engineers and traffic planners, the housing and real estate sector, the construction sector, the building materials industry, and building materials producers.

Public spaces of the Baukultur Report

Federal Foundation of Baukultur on the basis of PlanSinn 2019

Publicly accessible interior spaces
for instance shopping centres or railway stations

Crossings Passageways Underpasses

Publicly accessible (open) spaces of buildings

Public squares

Parks, gardens, playgrounds, and sports areas

Streetscapes

Publicly accessible open spaces
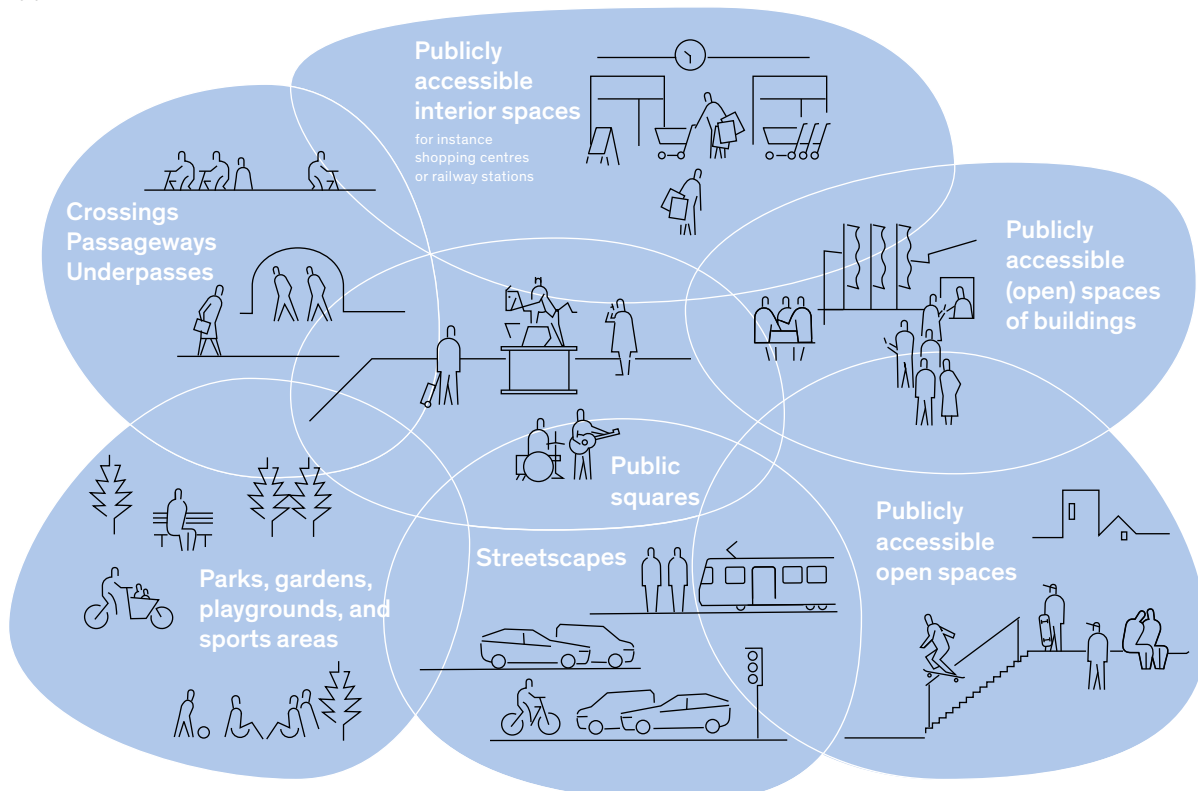
Every two years, the Baukultur Report dedicates itself not only to a focus topic but also to the current situation of Baukultur in Germany. With its Baukultur Reports to date, the Federal Foundation has addressed three topic areas that continue to be on the political agenda: the growth of cities, the loss of attractiveness of rural areas, and dealing with our built stock and heritage. The Baukultur Report's recommendations for action and the corresponding reactions of government, the Bundestag (German Federal Parliament), and the building ministerial conference of the federal states had a positive effect and convinced on a local level. Much is, however, still in progress or continues to be a topic of discussion.

The demand for affordable housing in big cities persists. Bottlenecks in the availability of building land have meanwhile led to a growth in demand in second- or third-tier cities, but direct suburbanization with detached houses is also attracting an influx. The signs thus continue to point to mass rather than class. Due to high construction costs and disproportionate increases in the price of building land, savings are often made with respect to durable construction materials and design quality – at the expense of the image of the city or town.

Small- and medium-sized cities represent an increasingly considered alternative when choosing a location: Of the 2.14 million empty flats in Germany, many are found in the centres of cities outside of metropolitan areas. The centres of towns and villages are becoming dilapidated, while their outskirts continue to grow because of new buildings. Political sensitivity to this doughnut effect has meanwhile increased sharply. The Federal Foundation published the handbook 'Besser bauen in der Mitte' (Building Better in the Centre), which shows concrete paths to solutions in interplay with multifaceted recommendations and grants from the federal government and the states. Lastly, it has been possible to promote an activation of existing buildings with the help of family housing grants.

The subject of the Baukultur Report 2018/19, 'Heritage – Presence – Future', has undiminished relevance and topicality. Not only in light of climate change and dwindling resources, there is growing recognition that it is necessary to switch from a culture of predominantly new buildings to a culture of conversion. The bound grey energy in existing buildings is increasingly being taken into account and the identity-forming importance of existing buildings that shape the view of a municipality noted.

Baukultur is also process culture. Without a carefully prepared process that establishes obligations, good results with respect to Baukultur are not feasible. A key task of the Federal Foundation of Baukultur is encouraging all the stakeholders in planning and construction to cooperate in a positive way. More than four million people in Germany are involved full time in planning and construction and create values connected with Baukultur (see p. 17).

Based on the assessment of the current situation of Baukultur in Germany, the Baukultur Report 2020/21 focuses on public spaces. The Foundation thus follows the recommendations of its board and a resolution by the Bundestag (Bundestag documents 19/5300 and 19/11191). For the Bundestag, it was important that the report deal with topics such as the 'sustainable maintenance and design of green spaces', 'public services', and 'new mobility' and that 'public spaces' be taken into account in all future reports. The Baukultur Report 2020/21 thus satisfies the expectations of policy-makers and administrators that Baukultur be made a concern in public spaces.

The thematic field of public spaces is complex: It ranges from the large scale of urban planning and infrastructure to the design and positioning of street furniture and outdoor advertising, and from questions of mobility, safety, and security to democratic participation. Public spaces often have design-related deficits and hold various possibilities for improvement from the perspective of Baukultur. Divided competences, however, result in responsibilities that are not clear. 'We're not responsible!' is a frequently voiced phrase when enquiries about the condition of public spaces are concerned. The preparations for this Baukultur Report have shown that there are often no central representatives of either interests or responsibilities – what is lacking in a carefully considered sense is a lobby for public spaces.

The spaces themselves are just as multifaceted as the topics. Starting with a public square or park, all streets, paths, and parking spaces are part of public spaces, just like technical structures, railway stations, or the foyers of city or town halls. Educational, social, and cultural buildings offer spaces inside and outside accessible for all. If the publicly usable private areas of retail, service, and leisure properties are also considered, a comprehensive picture of the built environment that can be used in daily life emerges. But the user perspective does not stand in the foreground in the case of all public areas and spaces. Different supporting structures, sets of rules, and economic interests lead to diverse fractures and different design solutions. Neglected, purely

The political and social path of the Baukultur Report 2020/21

Federal Foundation of Baukultur 2020

Baukultur Report

Research

Surveys

Forums

Events

Expert discussions

Preparation Baukultur Report 2020/21
Completion Spring 2020

Public presentation and debates from June 2020 onwards

Distribution to cities and municipalities

Communication
Professional / general public

Political Process

Baukultur Convention May 2021

Distribution
- at events of the Federal Foundation and its partners
- to planners in different disciplines
- to municipalities
- to the real estate and housing industries
- at trade fairs
- to those interested in Baukultur
- as a download on the website of the Federal Foundation

Preparation Baukultur Report 2022/23

Parliamentary debate

Cabinet deliberations

Ministers of Construction Conference

Resolution proposal
Bundestag Committee for Building, Housing, Urban Development and Local Government

Committee Meeting
Bundestag Committee for Building, Housing, Urban Development and Local Government

functional, or over-designed areas are sometimes adjacent to one another but without relevance to their function within the overall appearance.

The Baukultur Report was systematically developed with the help of many experts and pertinent experiences. In addition to the Board of Trustees, its Advisory Board – an interdisciplinary circle of experts – also assisted the Federal Foundation. A competence team of the Federal Foundation created the basis for the report. Central Baukultur workshops and a series of expert discussions and Baukultur salons then took place on this basis. In the Baukultur workshops, in which several hundred creators of built environments of various disciplines participated, diverse aspects of public spaces were brought into focus: 'urban planning and public spaces' in Weimar and Erfurt, 'infrastructure and elements' in Cologne, and 'democracy and process culture' in Ulm. The knowledge-related basis was supplemented by surveys conducted for the Federal Foundation: a population survey, a survey of municipalities, and a survey by the chamber of industry and commerce, representatively for its members.

The Foundation also commissioned a real estate industry feasibility study on ground floor uses (Bulwiengesa in cooperation with companies in the real estate sector) and a study on the function of public spaces in small towns and rural areas (Berlin Institute for Population and Development). The preparation of graphs for the survey results and content-related contexts simplify access to the topic of public spaces, which is multi-layered and has significant impacts on our everyday living environment.

As a connected and supplementary element, project examples are presented in pictures and text. The Federal Foundation lives up to its communication mandate by making use of good examples as inspiration and reference. Based on research conducted throughout Germany, twelve project examples addressed in the Baukultur workshops were selected and are in this Baukultur Report as project descriptions, including the names of all protagonists. These descriptions are stepping stones by which general insights and recommendations become concrete. The complex field of public spaces in which Baukultur has a positive effect as a level of action is thus described from social concerns to a literal grounding in reality.

The Current Situation of Baukultur in Germany

The Federal Foundation of Baukultur publishes a report on the situation in Germany every two years and thus advocates for nationwide improvements in the quality of planning and construction. The Baukultur Reports are addressed to the Federal Cabinet, the Bundestag, and all individuals interested in Baukultur. The first report by the Federal Foundation was published in 2014. It was dedicated to big cities as fields of tension with respect to Baukultur. Two years later, the focus was on smaller cities and rural areas, with the doughnut effect exemplifying the challenges in such places. The importance of the stock of existing buildings and Baukultur heritage was the emphasis of the third Baukultur Report.

Living in more space
Development of living area per person
Source: Federal Foundation of Baukultur 2014;
Destatis 2012 + 2019

m² per
person

46.7
2018

41.9
2007

40

36.7
1995

34.4
1986

30

28.8
1975

22.3
1965

20

14.0
1950

1960   1980   2000   2020

Baukultur in Cities

Influx to Cities The trend continues: People are moving to urban centres, and the utilization pressure continues to mount. Municipalities find themselves confronted with the question of how the quality of open public spaces can be maintained and improved. How can they be made accessible for the ever-greater number of people? Policy-makers, administrators, and the housing sector are searching as well for answers to the lack of affordable housing. The stated objectives are ambitious and a challenge for all involved. What is clear: The great urgency cannot be addressed at the expense of the intrinsic value of what has already been constructed. The demand for quality that we articulate today will ultimately design the living spaces of future generations and influence their day-to-day life to a major extent.

What is necessary is a sustainable building and planning culture that thinks in an integrated way – from the so-called Phase Zero of public participation at the outset to the Phase Ten of implementation. In the Baukultur Report 2014/15, the focus on cities put an emphasis on creating mixed and vibrant urban districts. Its recommendations for action continue to hold true unabated: Only integrated planning and qualification that is accompanied by an upgrading of public spaces produces districts with a future – because they are mixed and worth living in. Perspectives on living and working in cities and rural regions have meanwhile become central to political debates. Throughout Germany, big-city mayors (Oberbürgermeister, OB) see the greatest need for action in connection with affordable residential construction and mobility. This is shown by the OB barometer of the Deutsches Institut für Urbanistik (Difu, German Institute for Urban Studies). In 2019, mayors mentioned these fields three times more often than in the first survey in 2015.

Space for building is becoming scarce both in and round urban centres, while the demand for housing continues to increase. In many places it can no longer be satisfied. According to the calculations of the Pestel Institut, 400,000
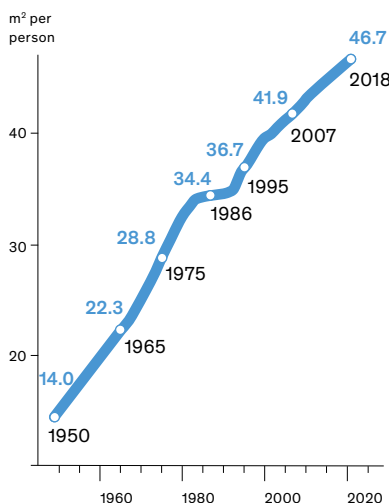
new housing units would have had to been built each year from 2016 to 2020 to meet the need. For 2018, the Statistisches Bundesamt (Destatis, Federal Statistical Office) identified 285,900 completed units. Even though this is the largest number of new housing units since 2002, it is still insufficient.

Challenges for Residential Construction Land prices have increased sharply throughout Germany; in and round urban centres, they have virtually exploded. According to the economic research enterprise Prognos, the prices for land ready for building increased by 36 % round the country between 2011 and 2017. In so-called B-locations – which include university cities like Freiburg or Potsdam – the prices have risen even more sharply, with an increase of 105 %, than in the seven biggest cities (plus 88 %). In A-locations such as Munich or Berlin, they have nearly tripled since 2009.

The construction sector's order books are full: their capacity utilization is the highest it has been since reunification. Not all building measures that are approved can be realized in the near term. In 2017, the construction backlog, meaning the number of approved but not yet completed housing units, came to 693,000. This is the highest level since the turn of the millennium. From the perspective of the building industry, the main obstacle is a lack of specialists. In a survey by the Hauptverband der Deutschen Bauindustrie (Central Federation of the German Construction Industry) in 2018, this was named as the biggest problem four times more often than in 2010.

New buildings are often not created where housing would be most needed. This emerges from an assessment by Destatis: Housing is predominantly constructed as detached houses outside of the highly in demand urban centres – in Bavaria and Baden-Württemberg, in the west of Lower Saxony, or in southern Brandenburg. Where building land is still less expensive, the building activity per person is higher than in cities. At the beginning of 2019, the number of detached houses that were approved increased – in comparison to the previous-year period – while the number of multifamily buildings and flats that were approved decreased.

Residential housing stock and vacancy rate in Germany

Source: BBSR 2019; Destatis 2019; the federal government 2020
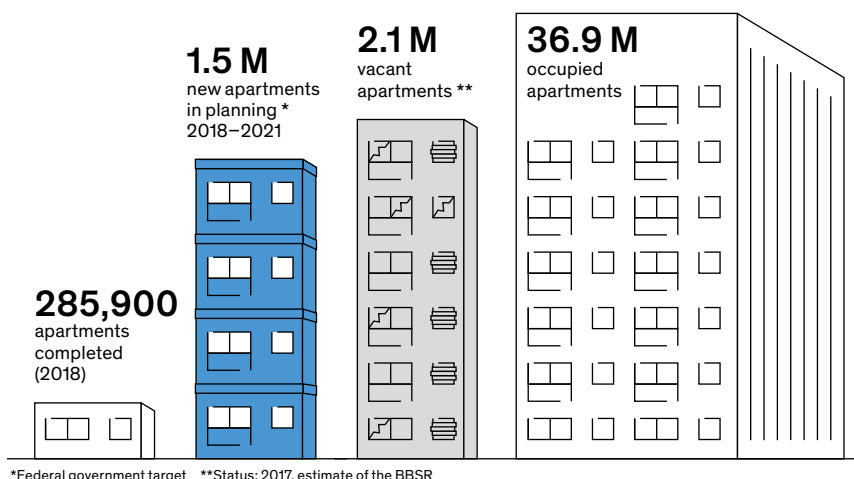
1.5 M new apartments in planning * 2018–2021

2.1 M vacant apartments **

36.9 M occupied apartments

285,900 apartments completed (2018)

*Federal government target   **Status: 2017, estimate of the BBSR

Unequal developments

%

120

Settlement areas and
traffic infrastructure
49,254 km²

43,939 km²

Inhabitants
83.0 M

100

82.3 M

Open areas*
87.9 %

89.7 %

80

| 2000 | 2005 | 2010 | 2015 | 2018 |

* Agricultural areas, forest and wooded areas,
uncultivated plots of land, mining and tailings pile areas,
and bodies of water

Many of the instruments that were proposed by the Baukultur Report 2014/15 have found their way onto the political agenda. With the revision of the building code in 2017, the urban area category was added to the Federal Land Utilization Ordinance as a response to the call for dense, mixed districts. It facilitates realizing housing, commerce, and social and cultural facilities in the same building location. As part of the Federal Republic's housing space initiative, which was decided on at the summit on housing and rental at the Federal Chancellery in September 2018, 'Urban Development 2020' puts an emphasis on revitalizing the centres of cities and towns. Five billion euros were earmarked for social housing construction from 2018 to 2021. The federal government also wants to pursue the Building Land Commission's recommendation to make inexpensive building land available to municipalities for social objectives.

Baukultur in the Countryside

Contradictory Developments Villages are shrinking, cities growing. This common assumption has become out-dated, as shown by a closer look at the spatial development of the past ten years. What is becoming more and more important is whether a municipality is near an urban centre or farther away in the surroundings. Since 2007, rural communities and small towns in peripheral locations have been increasingly losing their populations. Municipalities nearby prospering centres, in contrast, are growing sharply – regardless of whether village or small city.
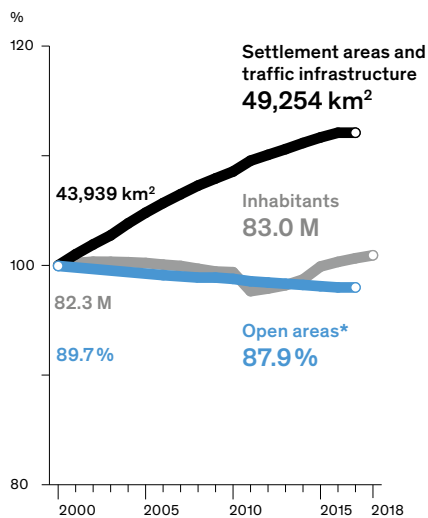
With the Baukultur Report 2016/17, the Federal Foundation of Baukultur looked at rural communities and small and medium-sized cities. Smaller municipalities in particular have to develop new overall concepts afresh in the fields of tension between landscape, retaining local character, and infrastructure, or between demographics and the world of work. The report shows that social challenges cannot be overcome in cities alone. Since then, housing and living costs and the traffic volume in cities have continued to increase. The public infrastructure of big cities is close to its capacity limits. This often occurs at the expense of quality of life. Rural communities offer a perspective for the future with respect to spatial development in the Federal Republic that has hitherto rarely been recognized and utilized: According to a survey for the Baukultur Report 2016/17, one third of Germans would be happy to live in a small or medium-sized city. Forty-five per cent of them would prefer to live in a rural community. The report offers recommendations for action for how municipalities in rural areas can deal with the challenges of the present in line with Baukultur. Since then, the federal government and the federal states have addressed public services in rural areas with a wide range of activities. In the program 'Rural Development', the Bundesministerium für Ernährung und Landwirtschaft (BMEL, Federal Ministry of Food and Agriculture) has been supporting model projects, competitions, research, and knowledge transfer with 55 million euros each year since 2017. Since autumn 2019, for instance, 260 projects have aimed to promote cultural activities and participation in rural regions. The number of applications for family housing grants also points to keen interest among the population to purchase and further develop existing buildings in the countryside. By the end of 2018, 56,435 applications for grants totalling 1.17 billion euros had been

approved. Every eighth one was for a new building project. Eighty-eight per cent of the applications concerned purchases of existing real estate.

Doughnut Effect in the Countryside Life flourishes in the centre – this was a self-evident statement for centuries. But it has not held true for a long time in many cities and towns. Shrinking locations are not the only concern. Many prospering municipalities are also fostering conditions for growth solely on the periphery. With this concentration on the edges, public spaces in the centre lose vibrancy and quality and their identity-forming power is thus lost.

From 2014 to 2017, 58 hectares of agricultural lands in Germany were converted into settlement and traffic areas every day. There is thus still a long way to the less than 30 hectares that the national sustainability strategy targets by 2030. The reasons cities and towns allocate areas on their periphery are multifaceted. With new, detached house and commercial areas, growing and shrinking locations court young families and businesses. Connected with this is the hope for additional revenue from income and trade taxes. The high costs incurred by development and additional technical and social infrastructure are frequently not considered. The new areas are created on the edge of settlements, without a direct link to the city or town centre. The consequences: municipal roads have to be upgraded or constructed, ever more surfaces are sealed, and traffic increases.

How much is being built in Germany?
Construction volumes for 2019 compared
Source: BMF 2019; BMWi 2017; DAT 2020; DIW 2020

Construction volumes in Germany

€430.2 M

Total government expenditure in Germany 2019

€356.4 M

Revenue from the new car market in Germany 2019

€121.1 M

Revenue from the tourism industry in Germany 2015

€287.2 M

The doughnut effect
Federal Foundation of Baukultur 2016
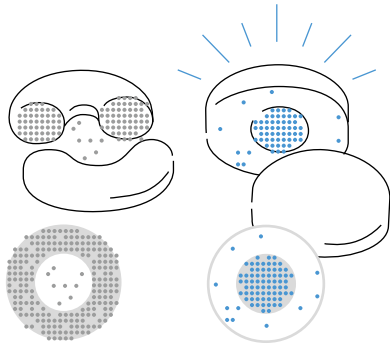
Dying municipalities
(doughnut effect)

Vital municipalities
(filled doughnut effect)

To produce public spaces in centres that are identity forming and valuable from the perspective of future Baukultur, the centres of cities and towns have to be the focus of planning attention. This applies to both shrinking and growing regions. Economic developments are drawing ever more people to urban centres. Cities and towns in prospering regions are being built up more densely. To maintain a high quality of life, parks, squares, and streets also have to be taken into account and upgraded as part of development. What is therefore crucial is a twofold inner urban development – of both buildings and open spaces.

Existing and Built Heritage

Resource-efficient Planning and Construction The Baukultur Report 2018/19, 'Heritage – Presence – Future', calls for the establishment of a new culture of conversion in line with sustainability. Already today, two thirds of building investments in Germany flow into renovating, converting, and expanding the existing stock. Building structures often survive for centuries. They thus shape people's lives long after they were conceived, planned, and built.

How society deals with finite natural resources has meanwhile become a topic everywhere – and in the building industry in particular. In the summer of 2019, the Bund Deutscher Architekten (BDA, Association of German Architects) drafted positions for climate-adapted architecture in the city and countryside in its position paper 'Das Haus der Erde' (House of the Earth). With its call to prioritize the existing stock of buildings over new construction, the BDA takes up a key insight of the Baukultur Report. All materials needed for construction should be reusable or compostable; the grey energy that has already flowed into existing buildings from building materials to their transport and the subsequent construction should be taken into account more intensively. The eleventh Ettersburger Dialogue of the Federal Foundation of Baukultur in 2019 focused on sustainability and resource efficiency. Under the title 'Building Materials, Systems, Sustainability: Resources for the Future of Construction', decision makers from planning, politics, and the construction, real estate, and housing sectors adopted a policy paper that shows ways to achieve climate-related goals when building. The three pillars of this strategy are the resource-efficient use of building materials, systematic consideration of the life cycle and building material cycles of buildings, and an integrated planning and realization of building projects.

On a municipal level, space-efficient action means concentrating on densifying existing districts. Instead of continuing to allocate settlement and traffic areas in newly constructed residential locations, cities and towns should utilize the instruments of twofold inner urban development in a clever way: activating vacant spaces, open spaces, or wastelands – including structural measures such as filling gaps between buildings, adding additional storeys, and extensions – is necessary in order to achieve the national sustainability strategy's goal of 30 hectares. Despite the scarcity of building land, there are still roughly 1,650 km^2 of wastelands and gaps between buildings in big cities. As a whole, the conversion areas in Germany comprise two times the size of Berlin.

Preserving and Mediating Heritage Positioning the importance of Bauku-ltur heritage and listed existing buildings more strongly in the awareness of society is an ongoing task. On a European level, this led to the Davos Declaration of 2018, 'Towards a High-Quality Baukultur for Europe'. In this declaration, the ministers of culture criticized the general loss of quality in the built environment at the beginning of the European Year of Cultural Heritage. This loss of quality is shown in the neglect of historical buildings, regional identities, and traditions, which is why the Davos Declaration calls for a Baukultur that utilizes, maintains, and protects the built cultural heritage of Europe. It is urgently necessary to devote greater attention to some million cultural monuments in Germany. Approximately one third are regarded as at risk or urgently in need of renovation. Preserving and further developing these Baukultur values for future generations continues to require great efforts by property owners, government, and society. The Federal Foundation of Baukultur has therefore further developed its work in education connected with Baukultur and strengthened the networking of stakeholders. Preserving this heritage requires more than a change of awareness in society. It also requires skilled crafts, which want to be communicated, learned, and practiced. It is easy to understand why UNESCO considers craft skills to be part of immaterial cultural heritage and addresses protecting and preserving it. At the end of 2018, there were 568,621 craft enterprises in Germany. This was nearly 34,000 fewer than ten years before. At the same time, the revenues in skilled trades have increased since 2008. But the number of employees sank by around 65,000 – to nearly 5.2 million by the end of 2018.

Circular economy: construction

Federal Foundation of Baukultur 2019

Raw material extraction
Primary raw material

Construction

Building material and building component production

Emissions

Use and operation

Completion
Maintenance
Renovation
End of life

Planning

Conversion planning

Dismantling

Return to the materials cycle

Recycling
Reuse
Processing

Reprocessing
Downcycling

Partial deconstruction Deconstruction

Demolition
Landfilling
Incineration

The full order books in the construction sector make the shortage of skilled workers in building trades visible. There continues to be a shortage of masters in building construction. One reason is the too low prestige of the construction-industry-dominated training in craft. When the Bauhaus was established 100 years ago, one central idea was bringing art and craft together at one educational institution. This significantly influenced the architecture, design, and art of the twentieth century. The educational reforms of the 1960s and 1970s, in contrast, signified a step backwards. For a long time, it cemented the split between design and craft in the German educational system. In the post-war period, schools for technical arts were integrated in the newly created technical colleges as design programs with an industrial orientation. Craftpersons without a high school diploma or higher education entrance qualification were denied access to design and artistic education. This was accompanied by a loss of reputation for training in the crafts, an aspect that has to be counteracted. Since the beginning of the 1990s, chambers of crafts and trades throughout Germany have once again established academies for design in handcraft, which is an important step in the right direction.

Work in the City and the Countryside

Workplaces and Baukultur While there has been a boom in residential construction in the past years, the demand today for attractive workplaces and commercial spaces is also growing. In many professions, the demand for specialists far exceeds the supply. According to the Deutscher Industrie- und Handelskammertag (DIHK, German Chamber of Industry and Commerce), nearly every second company has difficulties filling open positions. The building sector is affected most intensely. In the economic survey by the chamber of industry and commerce in 2018, 80 % of its companies reported such problems. The main reason: a lack of applications. The companies see the lack of attractiveness of locations as a cause: Well-trained specialists often have multiple offers and can thus choose. This holds true even more often in eastern Germany. Cities like Eberswalde in Brandenburg or Zwickau, Ebersbach-Neugersdorf, and the district of Bautzen in Saxony have meanwhile become active. They are trying to lure back specialists who have left the region by so-called exchanges for returnees. The Erz Mountain region has its own online specialist portal for this. To attract qualified employees, companies often favour locations with a high quality of life and good environmental factors. In Germany, these are primarily the big metropolises of Berlin, Düsseldorf, Frankfurt, Hamburg, Cologne, Munich, and Stuttgart. The real estate sector calls them A-cities. They account for 21 % of all office workers in Germany. This share is twice as high as that in the fourteen B-cities. This shows how focused the service sector is on urban hotspots. The supply of office spaces in such cities is becoming scarce; there are hardly any vacancies. Urban centres are also barely able to satisfy investors' strong interest in office real estate.

Industry in the City Industry is moving back to the city again, as shown by the number of industrial operations established between 2012 and 2016. Cities like Berlin, Munich, Leipzig, Dresden, and the Rhine-Main region have recorded

especially high growth. High-performing infrastructures and the proximity to research and educational institutions are gaining importance as location factors in some branches of industry. Meanwhile, the scarcity of space in metropolises slows down development. After the Second World War, the spatial interweaving of city and industry was unravelled; industry moved away. In the cities, former industrial sites became sought-after locations for housing, work, and leisure. With its digitized production and work processes, Industry 4.0 now offers an opportunity to return to the city. According to the Bundesministerium für Wirtschaft und Energie (BMWi, Federal Ministry of Economic Affairs and Energy), 83 % of companies already see a high degree of digitization in their supply chains in 2020. In Berlin, Siemens AG is planning its 'pact for the future': Siemensstadt 2.0. In the historical Siemensstadt, the future of work in connection with producing, researching, learning, and living will be designed on an area of 70 hectares.

New Perspectives for the Countryside Localities in structurally weak regions are increasingly at risk of entering a downward spiral, in which the decline in population and disappearance of supply offers reinforce reciprocally. People follow work and supply. Successful urban centres benefit from this, while regions of origin experience demographic and economic decline.

Employers: construction
Total workforce in selected professions relating to planning and construction in Germany

Source: Federal Employment Agency 2019;
Federal Chamber of Architects 2019;
Federal Chamber of Engineers 2018; DV, gif, IW 2017

290,355 Rental and leasing

220,388 Sales and management

16,496 Real estate business

12,430 Investment companies

539,669 Property and housing sector

34,934 Property developers

642,032 Construction materials industry

256,689 Trade in building materials

66,000 Building industry

39,000 Services for companies

22,000 Public administration

17,000 Other

161,787 Real estate financing

144,000 Structural engineers

4.22 M Employees in the German building sector

116,703 Structural architects

7,872 Landscape architects

6,909 Urban planners

6,547 Interior architects

138,031 Architects and planners

174,803 Gardening and landscaping

914,936 Main construction sector

1,211,986 Building finishing sector

Offer of public institutions and facilities in rural communities

45 % of the rural population surveyed is satisfied with the range of public institutions and facilities where they live. P4b

It is, however, possible to see the first signs of an opposing trend. Low costs of living and the offer of affordable workspace are drawing many freelancers to the countryside. People who work in knowledge-based and creative professions can often do their jobs from a computer, independent of location. The newcomers are testing how digital work can be combined with communal living in the countryside in innovative housing and work projects. This is giving rise in part to new public places; spaces and buildings unused for a long time are being revitalized.

Successful examples of such initiatives are shown by the study 'Öffentlicher Raum in Dörfern und Kleinstädten' (Public Space in Villages and Small Towns), which the Berlin-Institut für Bevölkerung und Entwicklung (Berlin Institute for Population and Development) conducted for the Baukultur Report on behalf of the Federal Foundation of Baukultur. Since 2016, for example, a group of dedicated individuals in Prädikow in Brandenburg has been rehabilitating an estate that stood empty for a long time. The aim is to develop it into a place for communal life and work. In addition to housing units for the roughly forty members of the association and their children, a co-working space, commercial spaces, workshops, and a food cooperative, a day nursery, and a café are also planned.

Public Spaces in Germany
The Starting Position

Public spaces are places that all people can access and use. They are where very diverse lifestyles and attitudes come together and people learn to interact. But conflicts of interests are arising with ever-greater frequency. The reasons for this are contrasting needs, fragmented responsibilities, and growing private demands on public areas. This situation is aggravated by an unequal development that can be observed throughout Germany: On the one hand, cities are becoming ever fuller. They are becoming denser, and spaces scarce and expensive. In other places, in contrast, an exodus is resulting in empty buildings and dereliction. What value society assigns to a location becomes visible in the condition of its public spaces. Baukultur can address people's growing need for freely accessible, consumption-free, and well-designed spaces. As a balancing factor, it supports fair allocation of space, ensures structural quality, and promotes democratic and trans-disciplinary processes.

Development

Streets, paths, and public squares shape the image of our cities. Since industrialization, cultural landscapes and energy and traffic structures have defined the impression of regions and countries. For the city and the countryside, such infrastructures, if well designed, are a reliable backbone and a striking calling card rolled into one. These aspects of Baukultur are already self-evident companions in urban development. But Baukultur must also play a more important role in the transformation of our landscapes. In line with a sustainable, integrated planning of space and city, it is necessary to focus on the genius loci – the atmosphere and specific characteristics of a location – to design public spaces in a future-oriented way.

Cultural Landscapes

Spatial Dimension of Open Spaces The Council of Europe comprehends landscape as an area perceived by people whose character arises from the interplay of natural and human influences. Seemingly unspoilt natural spaces are also part of cultural landscapes. Just 0.6 % of the total area of Germany is wilderness. The goal that the national strategy for biological diversity set in 2007 was to increase this share to at least 2 % by 2020. For practical reasons, the government-managed land-consolidation process of the 1960s and 1970s brought huge interventions in the cultural landscape along with it. A vibrant landscape of small-scale areas was turned into wide, open spaces. The spatial quality of the picture of the landscape was thus quite frequently sacrificed. Two thirds of Germany's landscapes have undergone major changes since the mid-1990s. Energy production, traffic, and population development bring about huge transformations of the landscape. Not even in the era of industrialization at the end of the nineteenth century has the landscape been altered so extensively in such a short period of time.

The Baukultur Report 2016/17 already shed light on the impact of the energy revolution on the appearance of the landscape. This transformation continues: lignite will continue to be mined for nearly two decades, while already decommissioned sites are being reforested or redesigned as lake landscapes. Wind power generation also shows how political processes and new legislation can have a direct impact on our landscapes. North Rhine-Westphalia's new regional development plan of 2019 thus envisions wind power stations having to maintain a distance of at least 1,500 metres from the next residential area. Something similar has applied in Bavaria since the end of 2014: there, windmills must maintain a distance of ten times their height from residential settlements. As a current study by the Federal Environmental Agency shows: with a flat-rate specification of 1,500 metres, only 15 to 40 % of the present area for wind energy remains.

From the perspective of Baukultur, structuring the cultural landscape using distance regulations is appropriate. In addition, the wind energy sector is also confronted with recycling the robust rotor blades. Many of the roughly 28,000 windmills in Germany must therefore be replaced. The Baukultur Report 2016/17 already referred to the design effects of positioning and integrating wind power stations on sites from the perspective of landscape planning.

Infrastructure and Engineering Structures The rail network results from the industrialization and urban growth in the nineteenth century that is still visible today. Most railway bridges were constructed at this time and have thus defined our landscapes for more than a century. Since their lifespan is 100 to 150 years, rehabilitations or extensive structural and spatial alterations are pending. Road bridges are also part of the built environment and hence also of Baukultur, but the design of bridge structures is nevertheless often regarded as secondary. Constructing new and rehabilitating existing traffic structures must satisfy not only functional but also aesthetic standards. Competitions, as are customary in building construction, thus offer a good prerequisite. The planning, maintenance, and preservation of engineering structures nonetheless remain in the shadows from the perspective of Baukultur. Quality also can promote acceptance and generate sustainability: The Ortenau Bridge in Lahr is a good example of the potentials of design competitions. The bridge was erected in connection with the Landesgartenschau (LAGA; State Garden Show) of 2018. It spans an intersection of federal roads, links two parks, and serves as an attractive landmark at the entrance to the city.

To deal with the challenges outlined, the conference of ministers for regional planning (MKRO) updated the guiding principles and strategies for action for spatial development in Germany in 2016. In the new version, the MKRO advocates for careful further development of the diverse cultural landscapes with all of their attributes and cultural and natural monuments. The goal is to achieve a balance regarding use and design between the preservation of regional values and new demands.

Competitions pay off

94 % of the municipalities surveyed regard competition processes as a tried and tested instrument. M41

Engineering competitions have not yet become established

82 % of municipalities have had urban planning competitions in the past five years; 76 % of them have organized design competitions. In contrast, less than 50 % of them have organized an engineering competition for public infrastructure buildings during this period. M38–40

Planning Public Spaces

Early Modern Period and Industrialization The German term for public space, 'öffentlicher Raum', first came into use after 1950. Until then, there was mostly talk of streets, squares, and public sites. Prior to industrialization, public squares were created foremost as stately, representative locations. The use of other open spaces, in contrast, was barely regulated. Commerce, the military, and other uses frequently overlapped – for instance, on market squares. There were no fixed lanes on streets, and traffic was thus unregulated. Starting in the mid-nineteenth century, this was changed by industrialization, migration to cities, and ever-denser construction – the uncontrolled growth of the city made it necessary to steer and regulate the planning of new areas. It was then that public spaces as we are familiar with them today first took shape. A rational system of traffic and other functions took priority over representational tasks. But it was above all protecting public health that altered urban planning and public space: streets were sealed and water cycles channelled. The electrical

**Historical structures
in urban planning**
Source: OpenStreetMap contributors 2019

Medieval old town and cathedral
(Freiburg im Breisgau)
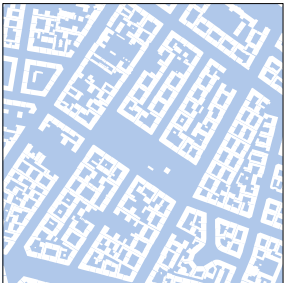
Wilhelmine-era perimeter block development
(Helmholtzplatz, Berlin)
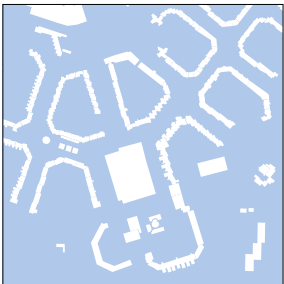
Large housing estate of post-war modernism
(Steilshoop, Hamburg)

0   500 m
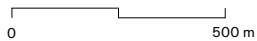
lighting emerging at the time also affected the design and use of public spaces. One example of this is James Hobrecht's city expansion plan for Berlin. The Hobrecht Plan was the first government plan since land ownership had passed into the hands of private owners. Public squares, traffic thoroughfares, and a hierarchical network of streets became crucial elements in structuring city expansions; simultaneously, their design gained in importance. The width of streets, pavements, grassy strips, and street islands – all of these shapes public spaces and determines the distribution of traffic.

The Twentieth Century Around 1900, public space also began to be comprehended as a separate task in connection with residential construction. Camillo Sitte is regarded as the modern founder of urban architecture. His works and designs are characterized by references to antiquity, the Middle Ages, and the Baroque. In his book 'City Planning According to Artistic Principles', published in 1889, he speaks out against the soberness of ostensibly technically necessary urban and public square installations. Urban planning was supposed to be understood not solely as a technical problem, but also as a work of art. For him, the squares or plazas of effective buildings should be closed spaces whose careful shaping of approaches to them and their spatial structure thus represented residents' pride in their district. Despite his credo of keeping the centre free, the designs of squares that he examined as good examples were generally compact. Attempts were made in various ways to counter the undesired consequences of industrialization. In dense cities pervaded by industry, Volksparks (people's parks) in which the population could relax were created. Today, these parks are valuable building blocks for developing cities sustainably. The English garden city movement promoted combining work, housing, and recreation in small, green cities far away from centres. But this idea did not prevail. Loose, green construction instead became the preferred approach in many city expansions after the First World War. This includes many residential areas that are still exemplary today, such as the UNESCO World Heritage Site of the six Berlin Modernism Housing Estates. Modern forms of housing estates began to redefine the public and private open space of cities. Playgrounds and places to relax were created instead of decorative squares.

The mass production of cars had a radical impact on the conception, design, and use of public space – and already did so as of the 1920s. Every sixth individual in the United States already had a private automobile in 1928, compared to one car per forty residents in Berlin. This altered mobility and the design of paths, streets, and squares. Public space played a central role in National Socialism. Particularly in so-called 'Führerstädte' (Führer's Cities) and regional capitals, the city centre and central axes were to be redesigned to give way. With marches and lighting shows at night, the aim was to create a setting for mystical communal experiences. Architecture and urban planning were thus used to fascinate and intimidate.

Reconstruction In the years after 1945, the cityscape dominated as a leitmotif. In newly constructed residential areas, there were no longer any clearly demarcated squares. The flowing spaces of the loosely structured city dissolved public space. In the years that followed, the economic miracle and the challenges of wartime destruction and reconstruction led to a profound transformation of

the cities. The car-friendly city concept won. Many public spaces in Germany still bear witness to this today. The 'Sixteen Principles of Urban Design' formulated in 1950 were decisive with respect to public space in the German Democratic Republic (GDR). The twelfth principle explicitly emphasized: 'It is impossible to transform a city into a garden. Of course, care must be taken to provide sufficient greenery, but the principle not to overturn is that in the city one lives urbanistically, whereas on the outskirts or outside the city one lives rurally.' The importance of the city centre as core and political heart was retained. The party and state fundamentally reconceived urban planning and public buildings in particular to heighten the symbolism of central public space.

As a consequence and reaction to conversions intended to produce the car-friendly city, many cities laid out pedestrian zones. The reconstruction projects with their redesigned city centres and shopping centres on the edge of the city were insufficiently embedded in the surroundings. This also applies for many large housing estates of the 1970s and 1980s. Although the new leitmotif of 'urbanity through density' countered the dissolution of cities and once again produced urban spaces, the open spaces offered too little quality for time spent. In the centres of large settlements, in contrast, (in part car-friendly) supply and consumption was paramount. The construction of settlements throughout Germany demonstrated that facilities, administration, and the upkeep of publicly accessible spaces had to be oriented towards cost-reducing factors. This often resulted in unattractive, mono-functional open spaces. Large residential estates on the edge of the city went hand in hand with the so-called site remediation of the old city through demolition. The invoking of the European Year of the Preservation of Monuments in 1975 marked a paradigm shift – and the end of this phase. City centres once again became the focus of attention. But stationary traffic continued to be allocated an immensely large amount of space. In the GDR, this process occurred roughly one decade later. A stronger focus on public space first came about starting in the 1990s. District squares in particular were regarded as valuable assets of cities. Ecology simultaneously assumed more importance in urban development. At the latest since this time, public space has also been considered from the perspective of urban climate and urban ecology.

Public Spaces in Transition

From Traffic Space to Living Spaces Public spaces fulfil a wide range of functions. They are used for traffic, commerce, or consumption. But their function in society is much more important: Public spaces are places for communication, social understanding, and education at the same time. They serve as a seismograph for how a society is conceived. Because society is constantly in flux, the demands on public spaces also change. The post-war years were characterized by a retreat into the private sphere.

The family idyll in its own four walls had greater value than social life in the city. This was reflected in how German cities were planned and reconstructed. Very much in the spirit of the time, functionality was paramount: the car-friendly city was the leitmotif of urban planning. Wide traffic thoroughfares were to link the separate spheres of life of work, housing, and leisure time. Today, people understand public spaces not so much as places that must merely be crossed

The bigger the city is, the more people feel stressed in public spaces

This principle applies, for instance, to disruptions resulting from rubbish, traffic noise, parked cars, or cyclists on the pavement. One exception: the individuals surveyed in cities with populations between 100,000 and 500,000 feel more disturbed by vandalism than people in bigger cities – at a rate of 76 %.

P10

Urban tourism is booming

Overnight stays in selected cities and in Germany as a whole

Source: www.hotel.de 2019; TourMis 2019

+70 %

+29 %

2008   2010   2012   2014   2016   2018

- Selected cities: Augsburg, Berlin, Bremen, Dresden, Hamburg, Hannover, Heidelberg, Cologne, Leipzig, Marburg, Nuremberg, Regensburg, Stuttgart, Würzburg

- Germany as a whole

safely and trouble-free to go from home to work. More and more people see them as a place to express themselves and experience a sense of home, and as a place where the self-image of society becomes visible. With the Leipzig Charter of 2007, the member states of the European Union took these changing demands into account. A sustainable, integrated urban development is intended to make people central to planning once again. The model is the European city developed over centuries.

Unabated Appeal The public spaces of our cities becoming more crowded. People are moving to urban centres to work and live there. From 2010 to 2016, the population of the sixty-six major cities in Germany grew by 5.9 % or 1.35 million people. This is shown by an assessment conducted by the Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR; Federal Institute for Research on Building, Urban Affairs and Spatial Development). This increase in people is accompanied by an increase in traffic volume. Parks and other open public spaces are being used more intensively. They offer space for all leisure-time activities for which housing conditions are too cramped and hence take place, in the best case, in the open air.

Residents are not the only people overstraining the public spaces of cities. Urban tourism is simultaneously experiencing an all-time high. The study 'Over-tourism in europäischen Städten' (Over-Tourism in European Cities) by Roland Berger Strategy Consultants identified a change of heart among European holidaymakers: away from classic trips to the countryside and towards city trips. While the number of overnight stays in Europe has increased by 25 % in the past ten years, it has increased in cities by over 50 %. This result is even more notable if one considers the fourteen German cities (from Augsburg to Berlin to Würzburg) that report their overnight stays to the TourMIS-Datenbank für Tourismusstatistik (TourMIS database for tourism statistics). From 2008 to 2018, there were 62 % more overnight stays in these cities. Travellers spent 287 billion euros in Germany in 2017 – a sum that has encouraged many cities to court the favour of visitors. But many cities are meanwhile backing away from aggressive marketing of city and tourism. Local residents in many places no longer accept high, spatially concentrated volumes of tourists. The city of Munich for instance is therefore focusing its tourism marketing on less popular seasons. Berlin is also trying to balance out the influx of tourists both spatially and temporally.
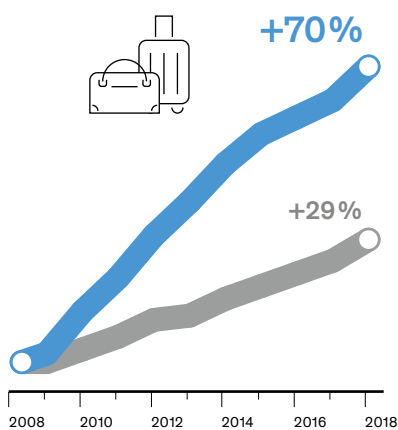
Business in City Centres Markets, trade, and commerce are inextricably intertwined with the history of the city. Cities have always relied to a similar extent on a thriving business life, just as businesses require a vital urban life to prosper. Commerce in city centres is positioning itself anew throughout Germany.

Even though online commerce and the expansion of chains has been generating growing sales and a comprehensive supply, of the 1,000 businesses in city centres that the Handelsverband Deutschland (HDE, German Retail Association) surveyed in 2018, only half, however, admitted that their business situation had deteriorated. In the past five years, 11,000 shops round Germany have already had to close. The HDE estimates that another 45,000 will follow by 2025. The Cologne-based Institut für Handelsforschung (IFH, Institute for Trade Research) examined consumer behaviour in a large-scale study and predicts that the frequency will decline by 20 %. Pressure on space and utilization due

to high land prices in city centres brings about a more monotonous spectrum of commercial offers. Since the first surveys of this were conducted, the textile trade was always the biggest consumer of retail spaces in Germany. In the first quarter of 2019, however, the textile trade lost this top position to gastronomy for the first time. This is shown by an examination by the consultancy Jones Lang LaSalle (JLL). From 2006 to 2016, spaces newly leased to gastronomy businesses increased sixfold. Commerce in city centres is thus becoming less mixed. The duration of use and diversity of uses are consequently decreasing in public spaces in city centres. Under pressure from online commerce and chain stores, owner-run stores are leaving the city centre in many places or ceasing their operations entirely. In places where this happens, public spaces increasingly become an item for commercial exploitation. These tendencies already emerged starting in the 1980s. Since then, pedestrian zones have been partially roofed over and private security services brought in to control the outdoor areas of neighbouring shops. Special use rights to operate outdoors have also been awarded or expanded with ever-greater frequency. Festivals and large events are regarded as an effective way to increase visitor frequency and facilitate a positive image. While all these measures promise to enliven and enrich the city centre and its public spaces, they also represent considerable quality displacements: spaces that could previously be used universally and consumption-free are now being oriented as an offer towards a paying public.

Mediterranization Since the turn of the millennium, it has been possible to observe a trend that is new for our latitude: Germans seem to spend more and more of their leisure time in the open air. The term mediterranization sums up a hotchpotch of phenomena and their consequences, which are an expression of changing leisure time behaviours. Public squares and green spaces are being used ever more universally. This is reflected, for instance, in open-air screenings and open-air cinemas. The advent of outdoor gastronomy and urban beaches also signals this. These developments testify to the growing significance that public spaces have for our society as places to meet and gather.

The increasingly warm summers and transitional periods encourage the desire to spend time out of doors. The extreme summers of years 2018 and 2019 especially showed how high temperatures can alter the daily lives of city dwellers. Spending the mild hours of the evening outside of overheated flats promises cooling off and company. For people who live on urban squares, however, this rarely takes place without notice. They also have a right to their evening and night rest. Reconciling this right with the desire of night revellers for outdoor leisure is difficult.

Conflicts in Nightlife In the European city – with its mixture of uses – living, leisure, and work go hand in hand. Some dwellers in sought-after and expensive city centre locations demand a quiet environment. Others, on the other hand, fail to understand why even moderate noise levels should require greater consideration. For many young people, a vital nightlife is what attracts them to the big city. A study by the HafenCity Universität Hamburg has concluded: Strains on the living environment do not result from the permitted use of public space, but from the large number of users. The conflict therefore cannot be addressed with regulatory measures, since it is frequently not possible to impose sanction

Commerce needs public spaces

Source: IHK survey for the Baukultur Report 2020/21

For what sectors are public spaces important?
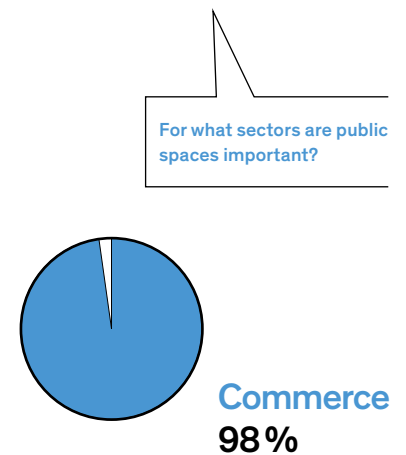
Commerce
98 %

Ever more events in public spaces

90 % of chambers of industry and commerce believe that events and festivals in public spaces have increased. Flea and antique markets, in contrast, have stagnated in the perception of the chambers, and weekly markets have noticeably decreased. IHK 3

violations. Municipalities are confronted instead with the challenge of negotiating a viable consensus with all those involved. But a round table discussion alone is insufficient to address such issues. Groups of users change, old conflicts subside, and new ones arise. Public spaces are always in motion; their use has to be renegotiated and managed on an ongoing basis. The so-called Phase Ten of ongoing operation management and good maintenance in public spaces is thus characterized by more than upkeep and repair, regular renovation, and structural adaptations. An active district management must also flank these activities with structural-spatial adaptations whenever possible. This then makes it possible to regularly react to the changing circumstances, particularly in public spaces used by diverse social groups.

Some cities have already addressed this topic successfully. In Munich, a working group in the office for living and migration is in charge of mediating conflicts in public space. At the Allparteiliches Konfliktmanagement in Munich (AKIM, Non-Partisan Conflict Management), five full-time employees and twenty freelance staff work according to the basic principle that everyone should be able to use public spaces equally. In dialogue with individual groups of users, they attempt to make the view of others comprehensible and can quickly contain peaks in noise through presence on site. In 2018, the group processed forty-three requests and was active at thirty-nine places of conflict throughout the city. Because of a dialogue with municipal administrators, members of district committees, and club and bar owners, there is a plan to soon establish a special department for night-time festivities. In a joint position paper, the Federal Foundation of Baukultur and the Bundesverband deutscher Wohnungs- und Immobilienunternehmen (GdW, Federal Association of Housing and Real Estate) also advocate for an urban development that comprehends culture as integral to enlivening districts.

Current Challenges for Public Spaces

Cities are becoming more crowded, and public spaces as places for exchange, recreation, and health for society are becoming ever scarcer but also increasingly important. More people also means more intensively used streets, squares, and green areas as well as more traffic. Usage conflicts are growing and making it necessary to allocate public areas anew. A new understanding of open space is necessary to reach consensus on how spaces are used. Central to this is thus the question of the criteria according to which the value of public areas should be measured.

Conflicts of Interest

Competition for Space The increase in open spaces is not keeping pace with the growth of the population in urban centres. Hamburg already analysed its need for open space in 2012. The analysis asked who has access to public parks and recreation areas within a radius of 500 metres from their home. The answer: For one third of people, the need for additional open spaces near their place of residence was high or very high. In dense, high-demand districts like Eimsbüttel, nearly half of people were undersupplied per the density values in the land-use plan. Future scenarios incorporating additional construction activities and a growing population also showed that deterioration can be anticipated in some districts.

If a municipality would like to activate new areas under the conditions of growth and infilling, a different understanding of open space is needed. Not only parks and green spaces are open spaces. Sports grounds, schoolyards, streets, roofs, private courtyards and gardens, among others also have to be taken into account. Based on its analysis of the demand for open space, Hamburg prioritized areas for action in which open spaces should be upgraded or newly created – for instance, by converting parking spaces into spaces for leisure. In cooperation with specialized bodies, district authorities, associations, and the housing sector, the city then developed an open space strategy entitled 'Mehr Stadt in der Stadt' (More City in the City).

The Value of Public Spaces In 1967, the Federal Constitutional Court noted that preserving public spaces is also a social question. According to the court, land is essential and irreplaceable: 'An equitable legal and social order instead makes it necessary to put greater emphasis on the interests of the public in connection with land than on other assets.' This also applies to public spaces where construction cannot take place. Based on this interpretation, they have

Many places lack public spaces

30 % of the population would like a bigger range of public spaces in their own city, town, or village. P3

Space allocation needs action

When developing, constructing, and operating public spaces, municipalities see the second greatest need for action in connection with the fair allocation of areas and utilizations (15 %) – only just behind ensuring maintenance costs (17 %). M43

Pricey pavement

Annual costs for residential parking
compared with the theoretical
purchase price for a parking space
based on the value of the ground
of neighbouring parcels

Sources: North Rhine-Westphalia 2019; Düsseldorf 2019;
Frankfurt am Main 2019; Hamburg 2019; Berlin 2019

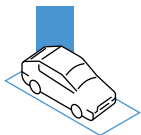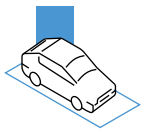| Theoretical purchase price 15 m² parking space	Resident parking permit per year

€540,000   €25
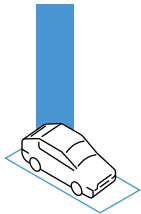
Düsseldorf – Königstraße

€255,000   €25

Frankfurt am Main – Neue Mainzer Straße

€229,620   €25

Hamburg – Altstädter Straße

€225,000   €10.20
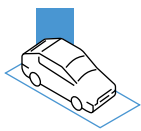
Berlin – Kurfürstendamm

to be publicly accessible to enable people to move, act, and communicate freely. They are the spatial dimension of freedom. The legal term common utilization is derived from this: All city residents should be able to use public spaces such as streets, green spaces, and parks; no one may be denied free access. Limitations only exist where restricted in their common use. Public spaces therefore have a prominent status under constitutional law. Many municipalities have meanwhile sold off large portions of their assets of building land to increase their budgets. Since the mid-1990s, cities have thus permanently curtailed their design leeway for their own development. The spiral of debt has not halted this process. Many municipalities are also still heavily in debt today, have no room to manoeuvre to invest, and continue to sell off land to consolidate their budgets. The municipal survey for the Baukultur Report indicates that the sale of space is part of the land policy in 76 % of cities and towns. But streets and traffic areas still belong to the municipalities. This opens up strategic and real design leeway that cities and towns do not have in other areas.

New Spaces for the General Public Public spaces are being exposed to growing utilization pressure throughout Germany. Ever more groups have to harmonize their respective interests in the same space. The Federal Foundation of Baukultur asked representatives of municipalities to provide an assessment of the situation regarding the supply of space for specific groups of users in their community. Seventy-four per cent find that the supply for young people is too limited. Based on the assessment of the municipalities, only car drivers are allocated too much space. This was the response of 44 % of those surveyed. Not a single representative of a municipality finds that too much space is allocated to children, families, and youth.

There are now clear signs of approval for measures that redistribute public space, and not only among city dwellers. A study by the Wissenschaftszentrum Berlin für Sozialforschung (WZB, Berlin Social Science Centre) and the RWI – Leibniz-Institut für Wirtschaftsforschung (Leibniz Institute for Economic Research) found that interventions that improve bicycle traffic and the public transport network are wildly approved throughout Germany – even if spaces for car traffic have to be reduced. Conflicts of interest in public spaces can no longer be resolved by organizing uses side by side. Instead, municipalities must tap new potentials by distributing uses temporally and organizing them sequentially. Instruments for doing so are already available. Using them appropriately presents new requirements for qualifying employees and requires a great deal of coordination between specialized authorities and with private stakeholders. The precondition is that public spaces become more universally usable and that specialists in part become generalists.

Hybrid Spaces That public spaces are planned, designed, regulated, and operated solely by the city is something of an exception today. The practice shows a much more multi-layered picture. Municipalities do not own many of the urban spaces used by the public. Upon closer examination, public squares, parks, and passageways often appear to be hybrid spaces – in the tense relationship between the communal and the private. Several factors influence such spaces: the person who owns a space can dispose of it de jure and enforce domiciliary rights. At the same time, the creation, maintenance, and design of

the space do not necessarily lie in the owner's hands. Third parties can also determine how a space is used, ensure safety in this space, or decide what groups have access. Hybrid spaces are part of day-to-day life in the municipal administration and also the norm in German cities. This phenomenon is not new. Many of these spaces have existed for more than one hundred years. In the era of industrialization, spaces or entire districts that could be used by the public were created, financed by businessmen or patrons. Nonetheless, no uniform approach to dealing with such spaces has emerged in municipal administrations. They are instead regarded and dealt with as individual cases. They are found in all locations, not only in the city centre, and come in many shapes and forms: from fruit meadows to university campuses and shopping arcades to the fore-courts of museums and railway stations. Where the boundary between private and communal property lies is barely visible for users. The spaces rarely have clear demarcations. But they are also not gated communities for select user groups, as expert discussions about the privatization of public spaces might lead one to assume. Hybrid spaces fit seamlessly into the city and the network of public spaces. In 1748, the architect Giambattista Nolli drew a map of Rome in which he marked all public spaces in white, including all accessible interior courtyards, roofed over passageways, and even the Pantheon itself. It is thus possible to recognize a sort of mental map of the city showing the spaces that were freely accessible for everyone at the time. The public squares of the city are not considered in isolation in the Nolli map, but as an interrelated overall system of public spaces. This corresponds to the perspective of users in daily use. The potentials of privately owned spaces thus became visible regardless of the ownership structure. Wastelands, for instance, appear as a useable part of the city. If they are not sealed off, children can use them to play, for example.
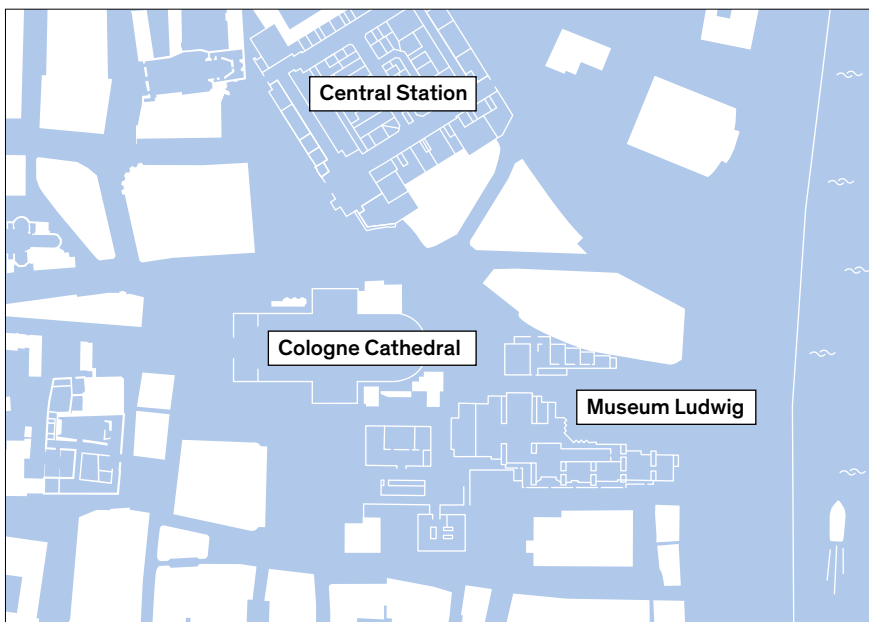
Public spaces in the centre of Cologne

In his plan of Rome published in 1748, Giambattista Nolli also presented the interiors of churches and important palaces as public spaces. Applying his principle to the centre of Cologne shows how important public spaces – shown in blue – are for our cities.

Source: Federal Foundation of Baukultur 2019;
basic map of Cologne: North Rhine-Westphalia 2019

If one considers the surroundings of Cologne Central Station through Nolli's glasses, a wide range of spaces are recognizable as accessible to the general public. They also have various owners and proprietors, who have different standards for the behaviour of users. Everyone can enter the Cologne Cathedral, but only in suitable clothing, as the Roman Catholic Archdiocese of Cologne stipulates in its house rules. The Bahnhofspassagen shopping centre and the railway station forecourt are subject to the rules of the Deutsche Bahn; the federal police force is responsible for safety and order. It has more far-reaching rights to intervene than the Cologne police force has in the rest of the city. The municipal Museum Ludwig is public property and publicly operated and admission is thus open for all. The private security service of the neighbouring shopping centre can enforce greater domiciliary rights with undesired groups. For most of us, these legal and ownership relations are not that important in daily life. In everyday life, all accessible public and private spaces on ground level appear together as public space and must be therefore considered together from the perspective of Baukultur.

Phase Ten So-called Phase Ten has crucial importance for public spaces. What is meant is the phase of operation which follows all nine service phases involved in the planning and erection of structures. Uses often change or unanticipated demands arise. Public spaces are always in transition. Phase Ten requires continuous reaction to changing circumstances with structural adaptations, regular maintenance, and management of uses and user groups. Whether as project developers or building contractors, private individuals can also play an important role in creating and maintaining public spaces, their planning and financing, and their upkeep and operation. Municipalities thus often find it simpler to raise money for construction from third parties than to finance maintenance in the long term. Within the framework of the research project 'STARS – Stadträume in Spannungsfeldern' (Urban Spaces in between Public and Private Activities), researchers at RWTH Aachen University concluded that hybrid spaces are in no way less well maintained – instead, quite the opposite. Privately funded maintenance often seems to be even more thorough and efficient. But this is not due to a lack of competence on the part of municipal authorities, but rather their financial and personnel resources. Scarce resources are often why municipalities are open to public-private partnerships and looser collaborations with private stakeholders. Many things have become casualties of stringent budgets in recent years, such as maintenance budgets and personnel of parks departments.

Ownership rights are a crucial criterion for whether a space is public or private. Yet the maze of competences and rights to dispose of and use spaces can barely be comprehended in everyday life. On what basis can users recognize what rules apply where? How can they know how they should behave in a particular public space? Owner-installed signs with rules and prohibitions often offer the sole orientation. Many municipalities have hence adopted a policy of denoting liability and upkeep obligations on site. Individuals who would like to know what is and is not permissible in a public space find good starting points in the free-of-charge 'Freiraum Fibel' (Open Space Handbook) by the Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR, Federal Institute for Building, Urban Affairs and Spatial Research). It outlines all the legal relationships in urban space and helps organize actions and projects safely.

Private service providers for public spaces

Only 17 % of the municipalities surveyed have a negative assessment of outsourcing public services like clearing snow or disposing of rubbish to private companies. [M26]

To safeguard public rights in privately created spaces, municipalities usually rely on development plans and urban development contracts. Once a municipality has enacted such regulations, they can only be adapted with considerable effort. That is why the more flexible instrument of property contracts is often used as a supplement. They make it possible to regulate rights and responsibilities between municipalities and private individuals or companies in detail. Public allocations such as public access rights, driving rights, and rights of way can be guaranteed in planning law as a construction obligation and entered in the land registry. This is also practical for ensuring public uses when ownership is transferred to another party. Legally secure conditions can thus be established at sites where private owners frequently change. For the municipalities themselves, this legal certainty first assumes greater importance in cases of conflict or damage. The strained budgetary situation does not allow many municipalities to create new open spaces and maintain them in the long term. Such problems are magnified as soon as purchasing space is necessary. At the end of the 1990s, the city of Leipzig developed the instrument of license agreements for urban redevelopment: The owner thus makes a free plot of land available to the city for a period of at least ten years. In exchange, the municipality waives the owner's property taxes for this period of public use and uses funds for promoting urban development to design the space. Existing building laws remain in effect. Today, the city has already made 300 such agreements. Many wastelands and gaps between buildings have been refurbished and activated and added value for society hence created. Once refurbished, they supplement public space and can have an influence on an entire city district.

Health

Cities and Health Six of ten Germans live in big or medium-sized cities. The percentage is even higher for children under the age of six. Cities shape the development of society to a great extent. Their effects on our health are increasingly a focus of research, since cities have an impact on the body and spirit. High density, heat, and stress from noise, air, and light pollution are conducive to illness. The risk of suffering from depression is 40 % higher in cities; for anxiety disorders it is 20 %, for schizophrenia 50 %, and, if a person is born and raised in a city, even as high as 75 %. Chronic social stress is an urban phenomenon. It results from social isolation in spite of social density. In Berlin, a working group established by the Charité, the Technical University, and Humboldt University is examining how urban stress can be prevented. The field of neurourbanistics is dedicated to the interrelationships between urban planning and mental health. The 'Charta der Neurourbanistik' (Neurourbanistics Charter), which was published in 2019, presents nine recommended thematic fields for municipal policy-makers and urban planners. They include quality characteristics for spatial density and designing public spaces for social cohesion, among other aspects. The relevance of urban vegetation has already been medically documented: greenery that is well distributed round the city can make a considerable contribution to minimizing stress and preventing psychological illnesses. This is confirmed by a study presented by the Zentralinstitut für Seelische Gesundheit (Central Institute of Mental Health) in Mannheim in 2019 in cooperation with the

Parks and green spaces are popular

One third of the population uses parks and green spaces (very) frequently. Another 40 % use them occasionally. P2

Public Spaces

- ■ Streets, pavements, squares
- Parks, green spaces
- Other sports, leisure time, and recreation areas, without allotment gardens
- Cemeteries
- ■ Forests and wooded areas
- ■ Watercourses, harbor basins, and standing waters

24.8 %
18.5 %
6.6 %

**Berlin
49.9 %**

22.8 %
16.9 %
4.8 %

**Cologne
44.5 %**

19.5 %
15.9 %
2.1 %

**Frankfurt a. M.
36.7 %**
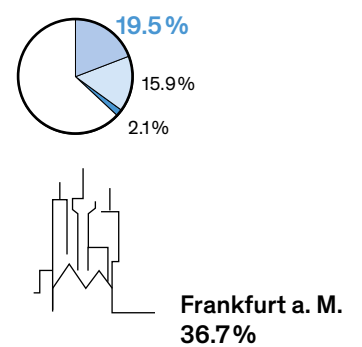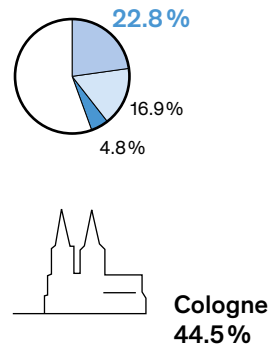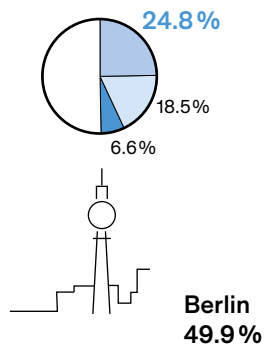
A broader look at spaces, areas, and elements of daily use provides a comprehensive picture: Public spaces are diverse, varied, and more plentiful than generally thought. They have an indirectly or directly formative influence on people. Conversely, people shape public spaces by means of their formative influence on the built surroundings and the appreciation or rejection that they show for them by means of their user behaviour.

Railway stations

Street spaces

Play and sports areas

Public squares

Parks and green spaces

11.8 %
22.5 %
2.1 %

26.5 %
6.9 %
1.4 %

16.9 %
7.9 %
7.6 %

17.9 %
7.5 %
3.9 %

One third to half of the areas are in municipal ownership
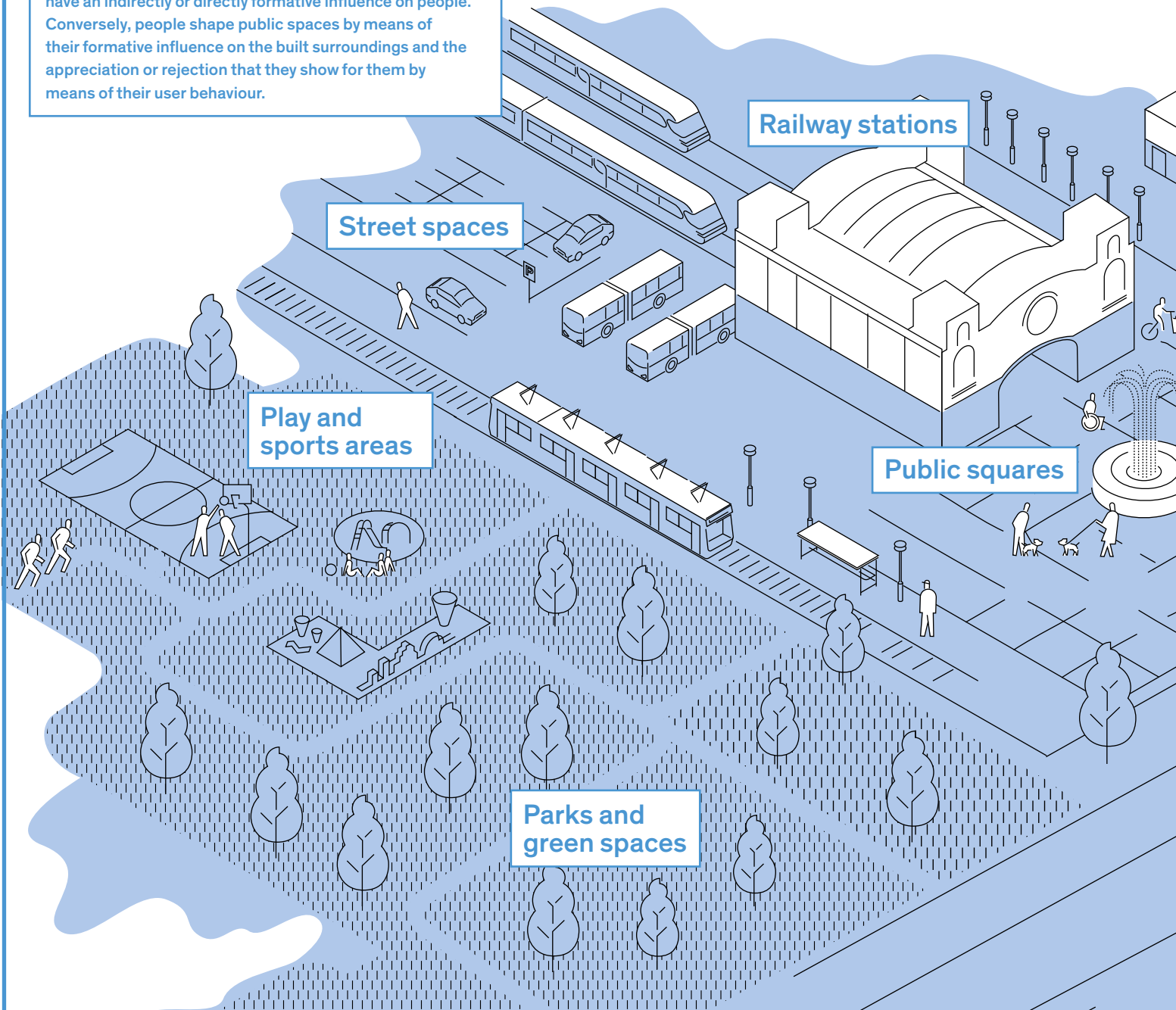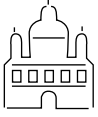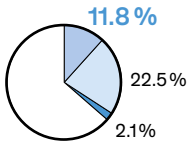
Dresden
36.4 %
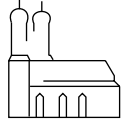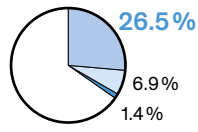
Munich
34.8 %

Hamburg
32.4 %

Leipzig
29.3 %

Publicly accessible interior spaces

Crossings, passageways, underpasses

Ground floors

Publicly accessible open spaces
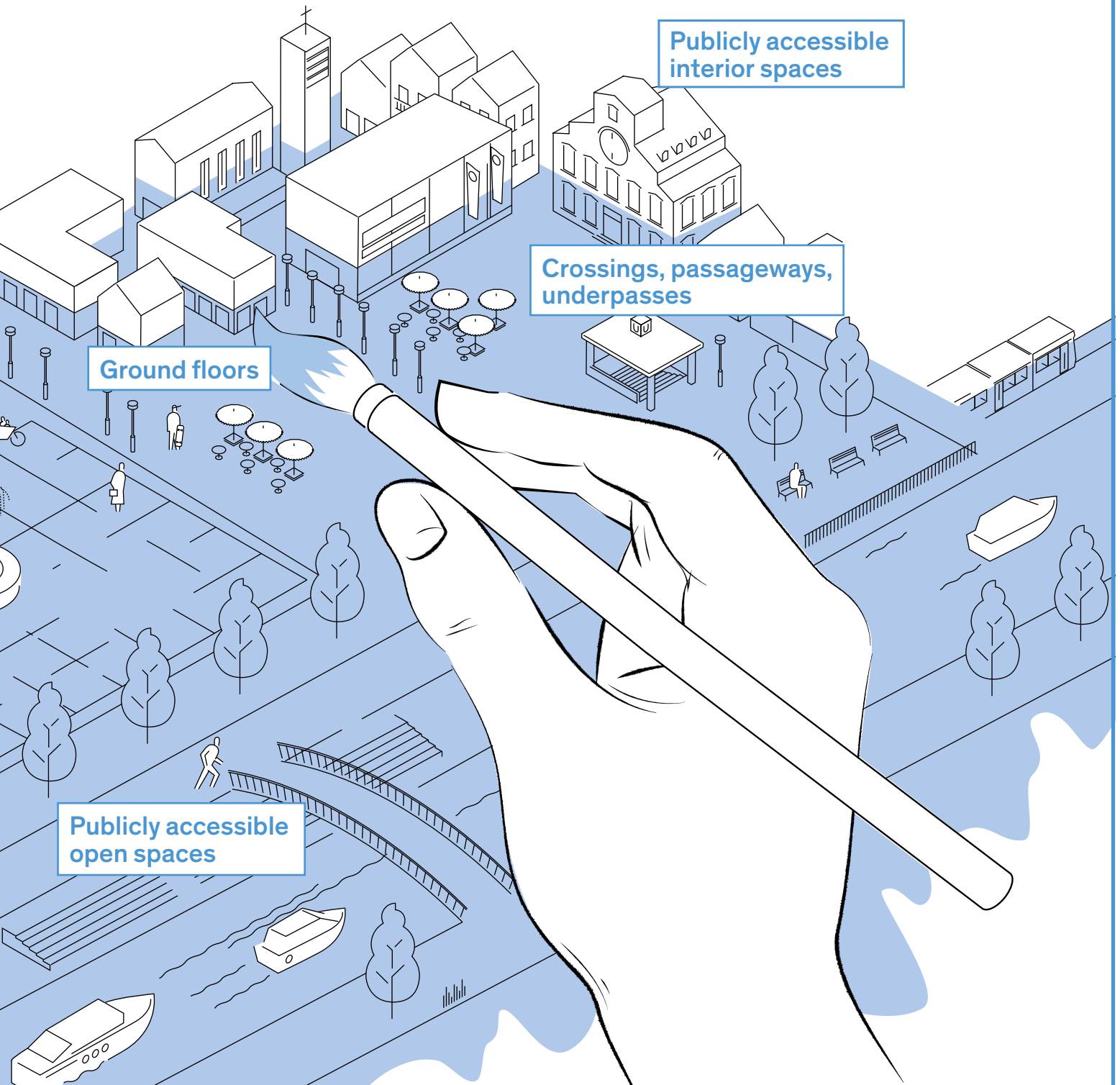
Mental mHealth Lab at the Karlsruhe Institute of Technologie (KIT), the Geographical Institute of the University of Heidelberg, and the Heidelberg Institute for Geoinformation Technology (HeiGIT). A further argument for more urban nature: according to a study by KIT in 2012, green spaces along city centre streets can reduce air pollution by up to 30 %.

In its current report on this topic, the European Environmental Agency describes air pollution as the biggest environmental health factor in Europe. It is the main cause of illnesses and premature death. The economic dimension of damage to health resulting from air and noise pollution is also huge. The nonprofit International Council on Clean Transportation has estimated the healthcare costs incurred in Germany in 2015 solely due to traffic emissions at 100 billion euros. Besides its effects on health, air pollution also damages historical building substance. It leads to corrosion, biological degradation, and the soiling of natural stone, metals (like copper), or glass, and also weathers and fades paint.

Most people suffer from heat stress

Heat stress is noticeable in more than half the municipalities surveyed. M7

Heat Stress In eighty years, the average annual temperature in Berlin will be 1.8 degrees higher than today. The summer will even be over 6 degrees warmer than today. This finding comes from a study by the Crowther Lab at the ETH Zurich, which examined 520 metropolises round the globe. Nearly 80 % of these cities must anticipate more intensive warming. Today, cities already heat up by up to 10 degrees more than their surroundings. So-called heat islands are characteristic of urban climates. They occur in heavily sealed, dense areas predominantly in the city centre, where there are very few areas with vegetation or water surfaces. The concrete, asphalt, and stone there store heat during the day and emit it at night. This results in tropical nights of more than twenty degrees. Emissions and exhaust heat worsen the problem.

This has consequences for health. The longer a heat wave lasts, the more heat-related deaths occur, according to an assessment by the Robert Koch Institute. Older individuals, the chronically ill, and care-dependent people are particularly at risk. In 2017, heat and sunlight resulted in 40,000 missed workdays – according to the federal government, two times as many as in 1998. These climate change phenomena affect the use and functioning of public spaces especially. Modifying them to adapt to the changing climate is already on the agenda today.

Light and Noise The rhythm of light and dark has a big influence on our health. Too little light during the day is as damaging as too much light at night. Light influences the body's hormone regulation – both positively and negatively. While daylight is necessary for life, too much artificial light can harm people, animals, and the environment: blue light components in white artificial light disrupt production of the sleep hormone melatonin. Illuminated advertising and modern street lamps, television, computers, and mobile phones all produce this light. There are approximately 9 to 9.5 million street lamps in Germany. The exact number has not yet been documented systematically, but ranges between 80 and 160 points of light per 1,000 residents. Cities are meanwhile up to 4,000 times brighter than the natural light at night. According to a study by the Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum (GFZ, German Research Centre for Geosciences), from 2012 to 2016, night-time brightness increased by roughly 2 % in terms of both space and intensity in most federal

states. LED lamps are one cause. Ninety-nine per cent of the population of Europe and the United States already lived under a 'light-polluted' sky in 2016, while the figure was 80 % worldwide. One fifth of the global population is meanwhile unable to see the Milky Way anymore. In Europe, this will hold true for everyone in the next generation. Initial approaches to countering light pollution have been made. In the brochure 'Nachhaltige Außenbeleuchtung' (Sustainable Outdoor Lighting), the Hessian Ministry of the Environment provides information on how light outdoors can be reduced. The right light sources, a warm colour of light, and the correct alignment can make a big difference: light should not radiate into the sky. In 2019, Fulda – as Germany's first 'star city' – pledged to deal sustainably with light outdoors based on a lighting guideline. Spotlights at ground-level are a nuisance not only for to the night sky but also for evening strollers. Such uplights, whose light sources illuminate special structures from below for instance, affect distant observers as well as blind people in direct proximity to them, and disrupt pathway relations. But it is not necessary to dispense with discreetly mounted, staged light for this reason. What should be ensured in all places instead is the glare-free footpath illumination stipulated of at least five lux, if possible using unobtrusive, well-designed, modern luminaires. Lux is the unit of illumination intensity and thus provides information about the intensity with which a surface is illuminated.

We spend 90 % of our time in enclosed spaces. This became clear in a study from 2018 by the roof window and skylight manufacturer VELUX. But according to a study by Michigan State University, too much time spent in dimly lit spaces negatively influences the ability to learn and powers of recall. The daylight coefficient indicates the amount of daylight in indoor spaces. Since March 2019, the German norm DIN EN 17037 has provided a benchmark for this, though only as a recommendation. When infilling takes place, it can have detrimental effects on the light exposure situation in existing buildings. On a blue summer day, bodies are exposed to up to 100,000 lux, while this figure is still 3,500 lux on an overcast winter day. The guideline for office spaces, however, stipulates 500 lux. Daylight is crucial for vitamin D production and helps improve performance. Sufficiently large windows and a free view outside can increase academic performance by up to 15 %. This is shown by a study by the Sorbonne in Paris. The 'Clever Classrooms' project of the University of Salford in Manchester even concedes that light has the biggest influence on the wellbeing of pupils, at a level of 21 % – even before factors like air quality, room flexibility, or room temperature. People who plan buildings should therefore take daylight into account. The goal: as much daylight as possible, and artificial light only where it is essential.

Noise consists of sounds that disrupt or pollute the environment. Loud and persistent noise pollution undermines mental wellbeing and leads to sleep disturbances, heart circulation ailments, and premature mortality. Children are particularly sensitive to noise, which can result in cognitive impairments. Noise level and other factors likewise determine our perception of stress. Decisive are the character of the noise source, the context, the duration, personal control over such factors, and whether the noise occurs at work or in private life. According to the German Federal Environmental Agency, 75 % of the population perceive street noise as disruptive, and 21 % of people even as very or extremely disruptive. Noise caused by neighbours is a problem for 60 % of Germans. It

Barely any time in open space in everyday life

Nearly two thirds of the population spends less than two hours in public spaces in daily life. At the weekend, this decreases to 42 %.
P1

Noise exposure in Germany

Source: Federal Environment Agency 2019

In the past twelve months, to what degree have you felt personally disturbed or annoyed by the following things?

Street noise

75%

Neighbourhood noise

60%

Industrial / commercial noise

42%

Air transport noise

42%

Train noise

35%

0   20   40   60   80   100%

■ extremely   ■ very   ■ moderately
■ somewhat   □ not at all   ■ don't know
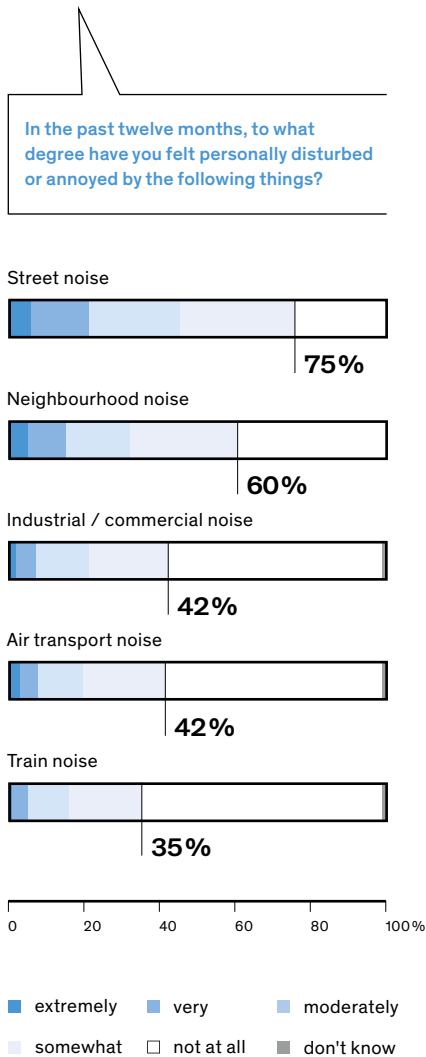
gives rise to two thirds of all disputes between neighbours. But what often irritates us is a combination of several sources of noise. The size of a place plays a role in the perception of noise. Noise nuisance is perceived most intensely in big cities. The reasons vary: in bigger cities, people feel more bothered by the noise of neighbours (28 %) and children (21 %), and in smaller cities more by street noise (34 %). According to the World Health Organization (WHO), at least 100 million people in Europe are exposed to street noise. Altogether, we are losing at least 1.6 million healthy years of life in Western Europe for this reason. According to the Federal Environmental Agency, traffic noise caused harm to health amounting to nearly 2.5 billion euros in 2016. Nearly 69 % of this can be attributed to the street, 24 % of it to the railway, and roughly 7 % to noise caused by aircraft. In 2018, the WHO published guidelines for environmental noise to protect human health. This includes traffic noise (from streets, railways, and aircraft), noise from wind power stations, and noise from recreational activities. Two and a half million people in urban centres and on streets with at least three million vehicles per year are exposed to levels of more than 65 dB(A) throughout the day. At night, nearly three million suffer due to levels over 55 dB(A). The WHO recommends reducing the average noise pollution resulting from street traffic to a maximum of 53 dB(Lden), while the figure should be below 45 dB(Lnight) at night. Big cities in Europe have to create a noise action plan every five years. But no legal requirements arise from this. Implementing the measures stipulated in the plans cannot place demands on citizens. Researchers at the University of Duisburg-Essen and the Technical University of Dortmund are examining how healthy urban sound landscapes might look. A project funded by the Mercator Research Center Ruhr aims to identify solutions for spatial and urban planning by autumn 2020.

Movement in the City Walking is healthy. People moving on foot enliven streets and squares and protect the environment. The public spaces of European cities were originally oriented towards a human scale. This changed with the car-friendly city: pedestrians became less important. In many places, there is now a lack of attractive street spaces for pedestrians. Because it considerably reduces noise and air pollution, foot traffic yet might provide a key to transforming traffic. Almost half of all trips in cars cover a distance of less than five kilometres, and every tenth trip is not even one kilometre long. Such distances can be easily covered on foot or by bicycle. The healthy movement connected with this is urgently needed, since physical activity in Germany has been steadily declining since 2010. In 2018, only 43 % of the population still attained the minimum level of physical activity that the WHO recommends while working, in transport, and during leisure time. Work aside, nearly 80 % of the population moves too little in their daily routes and free time. More than one quarter, namely 27 % of children and youth aged three to seventeen do no sports at all during their leisure time. This is also reflected in our health condition. In Germany, every second adult is overweight, and 16 % of them are obese. Over 15 % of children and youth aged three to seventeen are overweight. For low-income families, the number of overweight children and young people increases to nearly 24 %.

Club sports have traditionally been very important. In 2018, there were 89,121 sports clubs with nearly 24 million members. Volunteering plays a large role in this: 8 million people are involved and thus make a considerable contribution

to promoting sport for the next generation and to integration. In 2012, there were 231,441 sports facilities in Germany as a whole. This number will not change significantly in the future, but the range of sports facilities probably will. The spectrum of sports types is growing. The requirements for construction and equipment will thus be correspondingly diverse. According to the '11 Thesen zur Weiterentwicklung von Sportanlagen' (Eleven Propositions for the Further Development of Sports Facilities) by the Bundesinstitut für Sportwissenschaft (Federal Institute for Sports Science), smaller, multifunctional sports halls and spaces will be needed in the future: sports facilities for districts that are easy to reach and freely accessible. This development will be slowed down, however, by backlogs in municipal investments in sports facilities and swimming pools. According to the municipal panel of the KfW development bank, this backlog amounted to 8.8 billion euros in 2019. In addition to organized sports, self-organized sports activities are increasingly taking place in public spaces. Besides walking, jogging, and cycling, they include skating and longboarding, parcour, ball games, Nordic walking, climbing, table tennis, and frisbee tossing. The growth in informal kinds of sports makes a new form of cooperation necessary. In the publication 'Urbanes Grün – Konzepte und Instrumente. Leitfaden für Planerinnen und Planer' (Urban Greenery – Concepts and Instruments: Handbook for Planners), the Bauministerium (Ministry of Building) of the state of North Rhine-Westphalia recommends that urban and specialist planners encourage movement in urban space based on joint concepts and projects and consider informal kinds of sports in green spaces in doing so.

According to the WHO, a 'healthy, active city' is where people are supported in their physical activity by built and social facilities as community resources. Movement and sports offers make a cityscape more attractive; while, simultaneously, inequalities in public health are levelled out and social solidarity increases. Nearby leisure time and supply offers activate foot and cycling traffic. Attractive surroundings increase people's willingness to travel on foot by up to 70 %. The accessibility and catchment area for public transport stops could thus be expanded significantly. Location factors like a healthy living environment are increasingly important for society. Eighty-four German municipalities thus established the 'Gesunde Städte' (Healthy Cities) network. North Rhine-Westphalia published the 'Leitfaden Gesunde Stadt' (Healthy City Handbook) in 2016. Health awareness and a desire for a higher quality of life also in old age are decisive location factors. For environmental justice, municipalities should give particular attention to disadvantaged districts. Measures such as upgrading urban green spaces and bodies of water, activating open areas, or upgrading structures to provide protection against noise and heat not only safeguard health, but also increase the attractiveness and value of a location.

Safety

Freedom and Safety Living in the city promises personal development. This has held true at the latest since the advent of middle-class society in the eighteenth century. Urban diversity ensures exchange and friction – and thus lays the groundwork for flourishing arts and thriving commerce. Citizens, travellers, and merchants should be able to move in the city without fear for their body, life, or

Endurance resulting from attractive surroundings
Attractive surroundings increase acceptance of longer walks by up to 70%.
Source: H. Knoflacher 1995

+70%

0   200 m   400 m   600 m
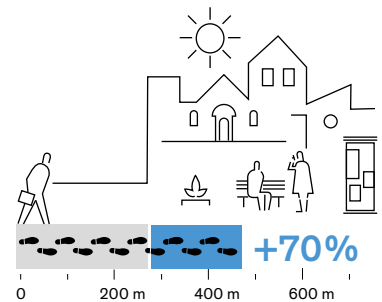
property. To facilitate this freedom, cities have to ensure safety on their streets and public squares. Back then, just like today. The topic of safety and security has been highly relevant to public debates of the past years. Terrorist threats contribute to feelings of insecurity in parts of the population. Labour migration from all over Europe and asylum seekers and immigrants from the warzones of the world make our cities visibly more multifaceted. But what inspires and enriches some people frightens others. A Forsa Institute survey of 2018 concluded that nearly half of the population feels less safe than just a few years ago. This insecurity is particularly widespread in medium-sized communities and big cities of up to 500,000 residents and – geographically – in North Rhine-Westphalia. Feeling safe and secure is a benchmark for quality of life. Policy-makers and administrators are confronted with the question of how they can fulfil the broad spectrum of safety and security.

Objective and Subjective Safety How safe we are and how safe we feel are two different things. Objective safety can be determined based on the number of crimes registered. Police crime statistics show: objective safety in Germany is basically quite good. The number of crimes in 2018 was the lowest it had been since 1992. This is also reflected in the results of surveys. In a representative survey by the social research institute Forsa, 58 % of those surveyed in 2018 indicated that they feel safe in the public spaces of their city or community. Another 29 % even felt very safe.

Actual safety and perceived safety do not go hand in hand. This is shown by studies of crime and fear of crime on a regional level conducted by the Berlin-based Deutsches Institut für Wirtschaftsforschung (German Institute for Economic Research). Among the sixty regions and cities examined, the fear of criminality is highest in Berlin – followed by the Stuttgart region. Objectively, this region is, however, among those with the lowest criminality. The opposite is shown in Cologne: even though the city has the highest level of crime, its residents' fear of criminality lies in the lower middle range. In spite of the good safety situation, fear of becoming a crime victim has increased. This is shown by victimization surveys conducted by the German Federal Criminal Police Office between 2012 and 2017. For the 2017 survey, 31,000 Germans were asked how safe they feel. More than one fifth indicated they felt unsafe in their neighbourhood at night. This is over 4 % more than five years before. Sixty per cent of women avoid particular streets, public squares, and parks in fear of crime.

Structural Measures Municipalities can improve subjective and objective safety with structural measures. Baukultur can contribute to integrated solutions. For instance, well-considered illumination can improve feelings of safety. Ninety-six per cent of those surveyed by Forsa indicated that it is important or very important to them for streets and bridges to be well lit at night. Light is given greater importance than the quick response of police officers or well-maintained streets (respectively 91 %). In contrast, only 53 % consider video surveillance in their city or town to be important or very important. Good illumination gives people the chance to quickly recognize and classify threatening situations and to ward them off. So that people can read and assess the facial expression and gestures of a person approaching them from a distance of at least four metres, public squares and paths should be evenly lit – without abrupt changes between

light and dark. The feeling of moving as if on an illuminated stage while darkness prevails all round increases insecurity or uneasiness in the built environment.

To improve the objective safety situation, and hence to prevent crime, many municipalities have drawn on concepts for crime prevention through urban planning. Their aim is to minimize opportunities for crime when planning public spaces. The foundation for this was laid at the beginning of the 1990s with the term 'situational crime prevention'. Such prevention is based on three principles: Firstly, the physical possibility for criminal action should be impeded. Secondly, the risk of being observed in the act should be elevated. And, thirdly, the possibility to profit from crime should be reduced. Ensuring informal social control is particularly important. The urbanist Jane Jacobs put this in a nutshell in 1961 in her work 'The Death and Life of Great American Cities': *Eyes on the street!* Streets and public squares that can be seen from lively buildings are used more intensively, invite urban diversity, and facilitate more contact between residents. This increases trust in one another and identification with the living environment. Residents pay more attention to their neighbours. Locations where criminals feel they are being observed and fear they will be prevented from acting provide the best protection against criminality.

Municipalities should therefore account for this in the planning process. Corresponding measures improve not only safety but also create added value for people from the perspective of Baukultur. Good urban planning succeeds in making it recognizable whether one is underway in a private, semi-public, or public space. It marks claims to ownership and use and clarifies: this area is subject to the control of its residents! This can be achieved, for instance, by orienting windows toward public space or keeping sight axes free in green spaces. The quality of maintenance is also important. Phase Ten, thus operation and maintenance, is therefore also crucial for safety. The 'broken windows' approach developed in the United States in the 1980s outlines a spiral of neglect and criminality. Its argumentation: Deterioration and neglect quickly give the impression of a place that no one takes care of. The location is increasingly avoided and social control vanishes. Vandalism and crime remain unnoticed, become more frequent, and are difficult to sanction. Individual user groups begin to negatively dominate the space, and criminal activities increase further. Stopping neglect at an early point in time improves more than just feelings of safety. It ultimately also pays off for the community – as a return on investment for the city, thanks to Baukultur. A series of leaflets helps cities and towns plan new and further develop existing districts from the perspective of safety. Checklists for critically examining a municipality's local planning have been developed by the city of Detmold (for development areas in rural space), the crime prevention council of the city of Augsburg, and (for urban areas) the Verband Norddeutscher Wohnungsunternehmen (North German Housing Association), among others.

Global Developments, Local Effects

Global challenges are negotiated in public spaces and can also be addressed in them. The ramifications of climate change have arrived in Germany and will change the city and the countryside. Solutions can only be found by taking a holistic view. Baukultur is a strong partner in doing so. The digitally organized daily life of many people affects both the city and the countryside. This thus raises questions not only of the extent to which new technologies steer our lives but also very concretely: How can transmission towers and other digital infrastructures, for example, be integrated locally in a high-quality way? The demographic turn likewise calls for new approaches to the design of our public spaces.

Climate change is already noticeable
The municipalities surveyed confirm the following occurrences today
Source: Municipal survey for the Baukultur Report 2020/21

Heavy rains

70%

Droughts

69%

Heat stress

57%

Storms

46%

High water / flooding

41%

Climate

Protection and Adaptation Throughout the world, the years from 2015 to 2019 were the five warmest since weather recording began. While climate fluctuations in the past occurred regionally and at different times, temperatures are currently increasing all round the world simultaneously. This was the finding of a study by the Geographical Institute at the University of Bern. The Paris Climate Agreement of 2015 calls for global efforts to limit warming to 1.5 degrees Celsius. The needs for action in connection with climate protection and climate adaptation that thus arise continue to be a big challenge – especially in the construction sector. With the manifesto 'Vernunft für die Welt' (Sanity for the World) of 2009, architects, urban planners, and engineers committed themselves to ringing in a transformation in planning and construction in cooperation with the building industry and developers. At the Ettersburger Dialogue in 2019, decision-makers from planning, politics, and the real estate and housing industry unanimously adopted the position paper 'Baustoffe, Systeme, Nachhaltigkeit. Ressourcen für die Zukunft des Bauens' (Building Materials, Systems, Sustainability: Resources for the Future of Construction). It focuses – as in the Baukultur Report 2018/19 –on resource consumption, material cycles, and respect for existing buildings and spaces.

The younger generation is currently dedicating itself to sustainability goals in the movement Fridays for Future. Many people in Germany agree. They want environmental and climate protections to play bigger roles in energy, agricultural, and traffic policy and to guide public action to a greater degree. This was shown by an ecological awareness study in 2018. The population has also taken a clear position in the policy dispute over incentives versus prohibitions. Only 15 % of those surveyed in the DeutschlandTrend segment of the broadcaster ARD in August 2019 endorse banning behaviours that damage the climate. Seventy-two per cent would prefer the creation of incentives for climate-friendly behaviour. Developing and expanding renewable energies is an important building block for
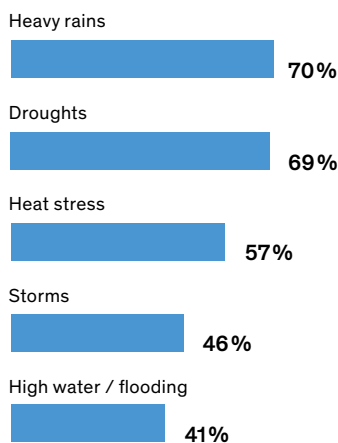
reducing greenhouse gas emissions and slowing down global warming. Architecture and urban planning can be decisive in climate change. Building in a resource-efficient way also holds great potential for coping with global environmental issues. It is thus necessary to make material cycles central and to establish a new culture of conversion. If we continue on a global level to build in energy- and waste-intensive ways, we will not meet climate goals. A large portion of grey energy is found in shell construction. This should always be considered when the question of demolition or preservation arises. Other key factors are how we use buildings and what demands we make on the built environment. In light of the great expenditure of energy in the construction sector, reprocessing building materials and entire buildings is increasingly important. This simultaneously strengthens Baukultur in the form of existing settlement structures.

Challenges for Cities Cities cover just 3 % of the earth's surface but consume more than 70 % of energy. They are therefore decisive in climate protection and climate adaptation – especially since, according to the prognoses of the UN, roughly three of four people will live in cities in 2050. Urban regions and conurbations have a different climate than their surroundings. The reasons for this urban climate are the development structure, the high proportion of sealed surfaces, the limited amount of vegetation, and thermal and material emissions by industry, traffic, and buildings. The heat island effect occurs increasingly in dense regions: streets, pavements, public squares, and walls absorb the rays of the sun, store heat, and heat up their surroundings at night. The effect is intensified where there is little greenery; water that might cool the air thus evaporates. The more extensively sealed a surface is, the less water it can store and gradually release into the air. Some buildings are positioned in such a way that wind can barely circulate; exhaust heat from industry, traffic, and buildings also has an impact – the city heats up. Building development that is too dense and dark – depending on the building material, design, and greening – can also store too much heat. The fact that this heat is then released again at night disrupts natural cooling. The average temperature in the city is consequently much higher than in the surrounding countryside. Heat waves and tropical evenings of over 20 degrees can make a difference of 8 degrees.

High fluctuations in temperature also facilitate heavy rainfall or storms. The sewer systems of most cities are not set up for such extreme rainfall. Drainage systems cannot cope with heavy rains. If the sewer system is overwhelmed, the water looks for a path aboveground. A lack of green areas and extensive surface sealing prevents water from seeping in. Flooding occurs. Without a significant amount of warning, this results in extensive damage to buildings, infrastructure, and the designed nature of the city. Such damage comprises half of all flood damage. A study by the Bundesverband Deutscher Baustoff-Fachhandel (BDB, Federal Association of the German Materials Trade) shows that heavy rain occurs in Germany predominantly in the summer. Residential and industrial buildings, infrastructure facilities, and traffic installations are all put at risk. Driving rain, hail, and storms afflict statics and building shells and shorten the lifespan of building components. Since canals and drainage systems cannot be enlarged universally, what are needed above all are more open green areas and more green on roofs and façades to bind water in the city and store it temporarily. Investments in efficient wastewater infrastructures are thus vital in extremely

Has your municipality already adopted measures to adapt to climate change?
Source: Municipal survey for the Baukultur Report 2020/21

No
15 %

Yes
85 %
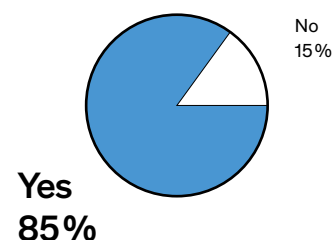
The following precautions have already been taken or are planned:

Flood protection systems

| 72 % | 28 % |

Seepage options

| 71 % | 29 % |

Tree planting

| 69 % | 31 % |

Rainwater usage

| 67 % | 33 % |

Roof and façade greening

| 52 % | 48 % |

Ground coverings to counteract overheating

| 28 % | 72 % |

■ extant   □ in planning
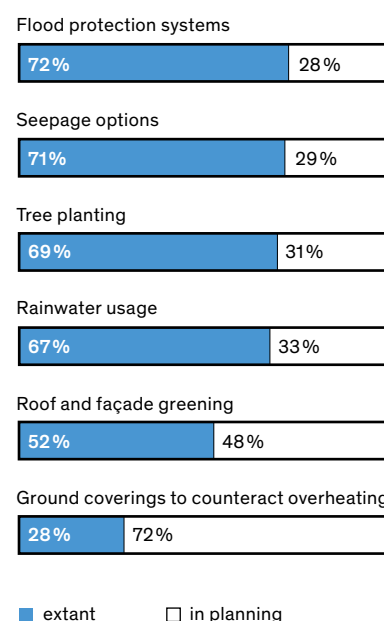
dense city centres. Cities like Berlin have been procrastinating for a long time on converting rain and wastewater drainage from mixing systems to separating systems. The possibilities for converting and upgrading public spaces connected with this have to be used. Cities, towns, and regions thus play an important role in adapting to climate change. More importance must also be given to regional planning so that it can safeguard space for these tasks in a timely and long-term manner.

Urban Greenery City green spaces serve living, recreation, and leisure time – and are increasingly regarded as natural space. Attractive open spaces close to housing that can be used in diverse ways and easily reached on foot or by bicycle are part of a liveable city. Urban greenery consisting of parks, wastelands, municipal forests, bodies of water, and other open spaces takes over these tasks to varying degrees. The federal government included the loss of open spaces per resident as a new indicator in the 2016 edition of the Deutsche Nachhaltigkeitsstrategie (German Sustainability Strategy). Between 2000 and 2014, roughly 470,000 hectares of open space (in city centres!) was lost across Germany. This denotes a decline of approximately 1.5 %. In big cities, the decrease

Added value through urban greenspace

Source: Federal Foundation of Baukultur 2019; ARUP 2014

€ Economic added value

☀ Social and ecological added value

€
+ Increase in retail sales

€
+ Tourism and local recreation infrastructure

€
+ Increase in land value
+ Increase in real estate value
+ Increase in prestige

€
+ Energy cost reduction
+ Sound insulation
+ Heat insulation

☀
+ Cooling
+ Fresh air production
+ Wind protection
+ Biodiversity

☀
+ Rainwater retention
+ Communal area

☀
+ Mental health
+ Physical health
+ Wellbeing
+ Sense of responsibility

☀
+ Water management /
reduction of the effects
of heavy rain events
+ Structure /
design of traffic zones

+ Noise reduction
☀

+ Increase in
productivity
€

+ Social solidarity and identity
☀

+ Clean water
☀

was particularly high at a rate of at least 5 %. Building plans and open spaces compete for the same, often scarce space. This does not work without compromises. Cities and towns should, however, take biological diversity and effective green structures into account to a greater extent in their planning, because urban greenery reduces particulate matter and cools the city, and because rainwater seeps in there. High biodiversity in urban and rural contexts is also necessary as an 'inert mass' for the continuing existence of a natural basis for life. Baukultur must have a supporting effect in this context. Population surveys indicate a growing desire for greenery and nature in the city. The federal government has therefore expanded its activities to include this. In 2017, it presented the Weißbuch Stadtgrün (White Paper on Urban Greenery). Urban greenery plays a superordinate role in the further development of urban development funding in 2020. Implementing measures in connection with climate protection and adapting to climate change within every overall urban development measure is a requirement for future funding. In addition, the federal government is planning a new funding program connected with urban nature. The Federal Environmental Agency meanwhile calls for anchoring the guiding principle of twofold internal development in urban planning law as soon as possible. The specific challenges differ from place to place. How they are dealt with must therefore be oriented towards the local situation. To preserve or redesign locations that shape identity and are future-oriented and interesting from the perspective of Baukultur, it is important to incorporate open space planning as a generator of impulses in all planning in an integrative way. Infilling and developing public spaces have to be considered in parallel – in line with structural and simultaneously green development.

The Digital Turn

Virtual Spaces Exchange, community, and policy formation have taken place for a long time in more than just the public spaces of our cities and towns. Paving new ways of communicating for all parts of society was the biggest democratic promise of the internet after the turn of the millennium. Web 2.0 not only opened up free and equal access to information. What was also characteristic was that users were no longer merely passive recipients of media content. They became broadcasters, shared their opinions on Twitter, networked with like-minded people on Facebook, or disseminated knowledge on Wikipedia. After the euphoria of the early years, disillusionment has now set in. The low-threshold possibility to express every thought has made communication less civilized. This brutalisation has not been reserved solely for the virtual spaces of chat forums and social media. It has also taken hold in analogue public spaces and social discourse. This can be seen in how people deal in public with individuals who have different interests or opinions. Many commentators and studies lament the current decline in civil social interaction. Even though virtual spaces are conducive to communication and create a public sphere, they follow rules that are specified in broad areas not by society but by companies.

Their platforms are designed to captivate as much of users' attention as possible. The success of Google, Facebook, and the like is based above all on collecting data, creating detailed profiles of users, and selling them to the

Real instead of virtual spaces
Source: Martini, Future Lab 2019; University of Pittsburgh Center for Research on Media Technology and Health 2017

> 2 hours/day social networks = twice as high a risk of social isolation compared to moderate use (0.5 hours/day)

55% of adults wish for more time with their friends

consumer goods industry for advertising purposes. Companies act as monop-olists in their lines of business. This means that they define the rules by which most people digitally communicate. As a future field of business, they have made inroads into the public spaces of cities and towns. In 2014, Facebook purchased Oculus VR, the biggest producer of virtual reality glasses, for two billion dollars. Since then, the company has been working on integrating the world of the social network within physical spaces.

With the Internet through the World With a smartphone, the whole world is in your pocket. The devices have transformed our everyday lives. They have changed how we communicate, consume, behave, and move in public spaces. In every situation today, a look at the display suffices to enter into exchange with friends on social platforms, check the news in real time, or navigate the city. What is seen on the screen is believed more readily than reality. Attention to the world beyond the screen occasionally falls by the wayside. In 2016, Augsburg was the first German city to have pedestrian lights installed in kerb edges. They are supposed to thus alert inattentive smartphone users to approaching trams. Smartphones also steer the routes and objectives with which we move through the city. The explore function of Google Maps recommends cafés and restaurants that match one's user profile specifically. This is one reason there is a concen-tration of a particular type of tourist and why public spaces are in part overused. The number of people who explore foreign places on their own has therefore decreased – at the expense of conscious interaction with the world and public spaces. For greater convenience, many people simply accept the loss of auton-omy, friction, and surprises.

Always having your social surroundings at your fingertips changes your view of the world. More than 40 % of young people choose their holiday location based on how well it can be staged in social media, surveys from England and Germany indicate. Whether a location is fashionable and good for taking photos has become more important than the personal experience. The ubiquity of social media does not necessarily lead to more community or more fulfilled relation-ships. As the Institut der Deutschen Wirtschaft (IW, German Economic Institute) learned, loneliness is increasing most significantly among twenty to twenty-nine year olds. Researchers abroad have arrived at similar findings: in an international survey for the BBC, 40 % of sixteen to twenty-four year olds indicated that they frequently or very frequently feel lonely. That is more than in any other age group. A study by the University of Pittsburgh discovered that the likelihood of feeling socially isolated is twice as high among people who spend more than two hours each day on social networks than for those who spend a maximum of half an hour. Conversely, happiness researchers agree that sociability, doing good for others, and shared experiences in analogue spaces are particularly beneficial to personal wellbeing. The deep relationships we need require face-to-face contact in built space.

Smart Cities What can be digitized is also being digitized. Barely any expert takes issue with this formula today. Our everyday life is already pervaded by sen-sors that measure our life to make it seem simpler and smarter way and to feed these data into digital networks. National and international technology companies chart their ideal of the smart city on the horizon in glowing presentations and

Mobile internet for rural communities

As far as improvements in public spaces are concerned, mobile internet is a top priority for 60 % of youth and 60 % of residents of rural communities – even before places to meet or local public transport.

commercials. The technologies that have become increasingly welcomed into our homes should now become part of our public spaces. In the smart city, traffic flows smoothly and naturally and street lamps only light up when pedestrians pass by. In the smart countryside, on-call taxis are organized by app, while tele-medicine applications improve medical care. At the old harbour of Toronto, Alphabet, the parent company of Google, is planning a smart urban district with 3,000 housing units. Robots dispose of rubbish in an efficient and resource-saving way via a system of tunnels, and cycling paths are heated in winter. Amenities like these come at a price. The residents pay for them by disclosing their data. Companies thus refine their business models and develop them anew. This scrutiny is meanwhile also encountering ethical reservations in the industry itself.

The degree of interconnectedness that the smart city requires necessitates huge data transfers – and they are wireless. This cannot be achieved with the cellular networks of today. The auctioning of licenses for the new 5G standard brought more than 6.5 million euros into Germany's federal budget in 2019. With 5G, data can be transferred one hundred times faster than in current networks. Fast internet is thus supposed to be available everywhere. This affects public spaces: According to the consulting company WIK, this will require three quarters of a million transmission towers across Germany. That would be more than two per square kilometre. There are approximately 75,000 transmission towers in Germany today, according to the Bundesnetzagentur (Federal Network Agency). Based on information from cellular providers, they can be retrofitted for the new standard, an option that is being tested. Visually, they are barely distinguishable from the transmission towers of today. It must be assumed, however, that considerably more will be needed. The effects of this on city- and landscapes, as well as the possible effects of electromagnetic radiation on people and the environment, must be considered and resolved. The federal government's 5G strategy notes that small cells in a radius between 20 and just a few hundred metres will have to be set up for intensive use of 5G on public squares or pedestrian zones. One additional prerequisite is the comprehensive development of the fibre-optic network to bring fast internet to base stations.

Digitization can undoubtedly assist in coping with social challenges like climate change or the mobility transformation. The challenge with which not only German municipalities are confronted is designing the digitization based on their own values and setting limits to its spatial effects. The insight that data are the raw material of the twenty-first century is catching on in more and more municipalities. In the OB Barometer of 2019 by the Deutsche Institut für Urbanistik (Difu), 55 % of those surveyed indicated that digitization is becoming more important for municipalities. In the opinion of mayors, it is thus the most important topic for the future – even before mobility, housing, and sustainability.

This is not by chance. Municipal decision-makers in Germany who want to implement digital initiatives, such as digital parking space management, frequently find themselves sitting opposite industry representatives who want to use the accrued data to further develop their business models. This is why the city of Ludwigsburg had general terms and conditions for the transmission and use of municipal data developed by a law firm in 2019. The city administration wants to provide transparency and clarity regarding what happens with the data of citizens. It also establishes the legal foundations for using the gathered data as a bargaining chip in contract negotiations with companies. The city is planning

to make the terms and conditions available to other municipalities as soon as they enter into force. To steer digitization, many municipalities and rural districts have started to develop a municipal digital strategy. Its objective must be enabling people to use technology and not, conversely, providing citizens' data for digital marketing strategies. This basic stance directly affects public spaces and traffic areas.

Demographics and Society

Many Youth, More Elderly The population in Germany will continue to grow – at least in the medium term. The Statistische Bundesamt (Destatis) anticipates a slight increase to over 83 million people by 2030. Afterwards, growth slows down and reverses: under moderate increases in birth rates, deaths, and immigration, only 78.2 million people will live in Germany in 2060. This will result in a shift in relationships between the generations: the share of people of working age will sink, declining by nearly 10 million by 2060. The total number of those aged under eighteen is declining. However, their proportion of the entire population remains stable at 16 %. In contrast, the proportion of over sixty-seven-year-olds will increase from the current figure of 19 % to 27 %. This development proceeds differently depending on the region and the population of a city or town. Young families are being drawn to urban conurbations again. Between 2005 and 2015, the number of children in rural space in western Germany decreased, while it increased in urban centres in western and eastern Germany. This is shown by a study by the Friedrich Ebert Foundation. Educational migrants who leave their home to train or study are not drawn back to their homes again. The good labour market situation prompts many to remain in the city and start a family. Rural spaces can score points with families above all when there are good care offers located nearby and both parents can then work. The relatively low real estate prices and living costs make many small towns and rural communities attractive for families – especially those near big cities. Since 2014, more people have actually been moving out of big cities to the countryside. The Cologne-based Institut der deutschen Wirtschaft (IW) ascribes this in particular to the fact that young families are turning their backs on the big city and its high prices.

The baby boomer generation of the 1950s and 1960s today makes up 30 % of the population. The so-called baby boomers are now reaching retirement age. They also decided where they wanted to live based on recognizable patterns. Since the fall of the Berlin Wall, young people have turned their backs on rural regions in eastern Germany in particular. Not the baby boomers: they continue to live there. Municipalities in Germany are thus affected by demographic shifts to different degrees. Many baby boomers fulfilled the dream of having their own home in green surroundings when starting their families in the 1970s and 1980s. They thus frequently built in less mixed, new districts that are not well connected to local transport and supply. Where children have long since moved out and a multi-storey detached house is too big and poorly laid out for self-reliant life at an advanced age, many houses might soon be up for sale. Vacancies are impending in less-sought-after regions. A study in 2019 by the research institute Empirica and the real estate advising company CBRE found that 600,000 flats in Germany stand empty. In the study, they only considered

Population development scenarios until 2060
Moderate growth until 2030, then a continuous decline

Source: Destatis 2019: 14th coordinated population forecast – lowest, moderate, and highest development

Inhabitants
(in millions)

87.5

moderate
increase **78.2**
(2060)

83
(2018)

71

2020 2030 2040 2050 2060
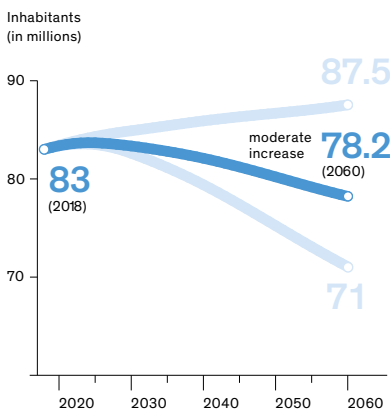
blocks of flats without private homes that can be rented immediately or in the medium term. The last national census, in 2011, also showed the same number of empty, unoccupied private homes. Today, nearly one third of fifty to sixty-five year olds live without a partner, are single or widowed, and growing old without a family. Public spaces and social facilities promise community and contacts, and are becoming more important in preventing social isolation in old age.

Growing Centres, Shrinking Peripheries The prognoses for shrinkage and growth do not hold true for all towns and cities to the same extent. That villages are shrinking and cities are growing is also not accurate. According to statements by the BBSR, 32 % of residents in Germany lived in big cities of more than 100,000, 29 % in towns of 5,000 to 20,000 inhabitants, and another 29 % in mid-sized cities with 20,000 to 100,000 inhabitants in 2017. Ten per cent lived in rural communities. Not only prospering big cities are growing. Villages and small towns in their surroundings are also attracting more people. Places far from urban centres, in contrast, are losing more and more residents. In a study, the Institut der deutschen Wirtschaft (IW) in Cologne identified nineteen regions in Germany that will be confronted with massive structural problems in the near future. Eleven of them are located in the east of Germany. They are suffering in particular from the demographic development. Eight of them are located in western Germany and have to struggle foremost with a desolate budgetary situation. Every one of these problem regions has a great need to invest in its crumbling infrastructure. There is barely any leeway for investments in schools, streets, and public spaces. When residents leave, supply also vanishes. When few people live in a municipality, fewer people shop in local stores, fewer travel by bus, and ever fewer children attend the local school. Supply and infrastructure are forced to close. In nearly one third of the 478 towns examined in a current study, the supply offer has declined since 2001, while not even every tenth town has expanded its supply offer. Public spaces are also used less and less. When the next school is located in a neighbouring town, children simply make their way to the bus or are driven by their parents.

Migration to Cities When the baby boomers enter retirement, business and craft relies above all on the next generation of workers from abroad. Births and deaths can be projected with relative accuracy in population prognoses. With migration, in contrast, uncertainty prevails. No one can accurately predict wars or climate crises. The migration policy of the federal government is reacting but cannot predict the decades ahead. What is clear: the population of Germany is not only becoming older, it is also becoming more international. In 2017, more than two thirds of migrants came from Europe – primarily from EU countries. Since the financial crisis of 2008, many young people have moved to Germany due to high unemployment among young people in their home countries. They also prefer big cities. There, they find not only good employment opportunities but also often a community from their country of origin. Such a safe harbour facilitates arriving. Newcomers experience the new society in the public spaces of the districts where they arrive. This is where they learn how people move and deal with one another, what rules life together follows, and what society expects of them. A lot of funds from the federal program 'Soziale Stadt' (Social City) have flowed into the public spaces of such districts, the majority of them with the

Population forecast for the year 2060

Source: Destatis 2019: 14th coordinated population forecast for Germany – moderate development of birth rate, life expectancy and net migration
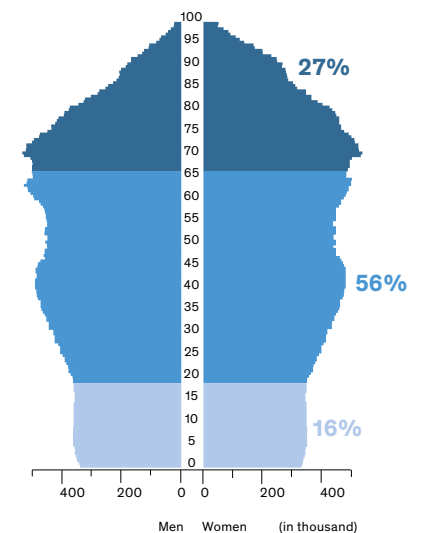
Age	Million	Percentage
67+	21.4	27%
18–66	44.1	56%
<18	12.7	16%
Total	78.2	100%

involvement of residents. Parks, city forests, greened public squares, and playgrounds are used for recreation but also fulfil a social function. They should invite encounters and promote social togetherness.

The immigrant society is already a reality in many places. In 2018, 60 % of people with a migration background lived in urban regions, 13 % in rural ones. This can be traced back to previous waves of immigrants: labour migrants from southern and southeast Europe, late emigrants from the former Soviet Union, or refugees from the Balkan War. As in London, Paris, or Amsterdam, more people with a migration background also live in some German cities than do people without such a background. In Offenbach in 2019, it was 63 %. Other cities with strong industry in the south of Germany are on its heels, including Frankfurt am Main, Heilbronn, and Sindelfingen. The nurseries and schools of big cities shows how future urban society will look. In practically all big cities, most children under the age of six have at least one parent who was born without German citizenship. Studies by the Osnabrück-based Institut für Migrationsforschung und Interkulturelle Studien (IMIS, Institute for Migration Research and Cultural Studies) show that young people with a migration background do not differ from those of their peers in their attitudes to democracy and this country. The contribution of nurseries, schools, and public spaces to integration can be assessed as extensive.

Observing the happenings on a district square reveals how productive cooperation and coexistence is spelled out in the everyday life of an urban society. Researchers at the RTHW Aachen thus turned to Rehmplatz in Aachen to conduct such a spatial observation. The 0.5-hectare-large district square is surrounded by a multi-storey block periphery development, framed by a sequence of trees on the southern side, free of cars, but surrounded by four streets with parking spaces for private cars. Within the framework of the 'Soziale Stadt' urban development funding program, differently designed small-scale areas were created to divide the square into various, merging use spaces. Rehmplatz is a square for spending time and for passing through, and offers diverse user groups protected situations that facilitate 'seeing and being seen' in urban space and can be used freely. Over the day, urban diversity is reproduced on the district square: a bottle collector resting on a bench, young people playing with their smartphones and talking, while children are especially attracted to the water fountains and creatively integrate them in their play. This gives rise to situations for children to come into contact, and frequently brings their parents into conversation, too. Many elderly residents meet regularly at the chessboards. What facilitates this wide range of activities is the openness to various uses of the square, which is separated from spaces used purely for traffic.

The Society of Tomorrow The public spaces of tomorrow will have to meet new needs. According to prognoses, the working-age population will decline by 10 million by 2060. Even though not all of those of working age will also actually work; nonetheless, millions of people will be less likely to commute each day and will rely on correspondingly developed streets and bus and railway connections. People who are near to retirement today are healthier and more active than previous generations. In 2014, nearly half of fifty to sixty-year olds were active on a volunteer basis – above all in the social sector, but also in sports and movement. The number of the aged (over ninety years of age) is forecast to more than triple by 2060. Seniors of increasing age rely on an age-appropriate

design of public space. Their opportunities to participate in society are directly dependent on the quality of their closer living environment, particularly if they cannot drive. Publicly accessible locations and an attractively designed public space mitigate loneliness in old age. If places for encounters are lacking or cannot be reached, older people are at risk of losing access to community. Municipalities can actively counter this by creating public places for encounters and mobility offers for older residents.

Digitization opens up the opportunity to organize life and work differently. A new trend that the Berlin-Institut für Bevölkerung und Entwicklung (Berlin Institute for Population and Development) identified in its study 'Urbane Dörfer' (Urban Villages) is that workers in the digital sector are moving together to the countryside – provided there are broadband connections and a link to the public transport network. Evidently, the use of public spaces will fundamentally change. Spaces purely for transit and traffic are things of the past. Designing this shift brings great opportunities along with it. Public spaces that function to the same extent for young and old mean more quality of life for society as a whole. Interweaving the needs of both groups is not difficult: better structural integration of traffic spaces, framing public squares from the perspective of urban development and making them barrier-free, and ensuring seating options protected from wind and sun at regular intervals – this is how public spaces that accommodate everyone are created. It is thus necessary to listen more closely to the needs of both younger and older people when planning and designing public spaces.

Places to cultivate and maintain social contacts are important for older people

Older individuals regard parks and green areas (65 %) and gastronomy offers in public space (83 %) as places that are particularly suitable for shared leisure time activities. Public spaces are thus more important for people over sixty than for all other age groups. P7

Baukultur for Public Spaces
The Focus Topics

To design public spaces in a future-oriented way, a paradigm shift is needed. The environment, technology, and social needs are changing and developing, and space for new ideas arises in this ongoing field of tension. Baukultur is thus one of the most important levels for action and decisions. How innovative and exemplary solutions look is shown by the focus topics of 'urban development and open space', 'designing infrastructures', and 'democracy and process culture'. They all contribute to giving more attention to the communal areas of our society. Public spaces need a lobby!

Urban Development and Open Space

Urban development is the decisive level of action for public spaces. The development of guiding principles necessitates interdepartmental discourse that, besides administrators, also involves citizens, businesses, and policy-makers. Municipalities can bring together the topics of mobility, green and open areas, urban development, infrastructure, and climate protection in master plans. This paves the way to permitting various uses on public areas. New mobility concepts can contribute to a more up-to-date use of land. And municipalities can make sure that ground floor zones remain vibrant and cultural exchange is ensured.

Guiding Principles and Strategic Formats

The positioning of buildings makes a defined area into an enclosed space. This is why urban development is so relevant for the creation, utilization, and design quality of public spaces. They are the backbone of every urban district. Municipalities should therefore develop them early – just like the technical infrastructure. Public spaces shape a city district even before it has taken on a complete form. In the case of city expansions, land-use planning continues to speak of 'residential area facilities' – and with this means, for instance, schools or green areas. But what are instead called for today are 'facilities conducive to living', such as small shops, social locations for education and care, and public squares as meeting places. The starting point for the planning of new urban districts should therefore be utilization offers in the community's interest.

The 4.4-hectare Lohsepark opened in the eastern part of HafenCity in Hamburg in the summer of 2016, while the neighbouring districts were still being developed or under construction. Public spaces were also foremost in the Havenwelten district in Bremerhaven. The new urbanistic, ecological, and technical design of the port area became the core of the new district. All equipment elements were developed in a new, identity-forming design. And the new steps next to the riverbank on the Rheinboulevard in the Deutz district of Cologne offer more than an impressive view of the panorama of the old city. They also link the part of Cologne on the right of the Rhine with the city centre in a hitherto unfamiliar way and upgrade the previously less attractive riverbank. Public space likewise plays a central role in developing what already exists. The large housing estates of the twentieth century are one example. Post-war estates that were created based on the leitmotif of the dispersed city offer vast green spaces and thus potential for infilling. When doing so, it is necessary to achieve a balance between the original conception of the estate and the potential of a double internal development with green spaces framed by urban development. In city expansion planning, central squares have frequently been given dimensions that are too large. The relationship between buildings and space is lost, just like the

human scale. One example of this is Willy-Brandt-Platz in the new Riem district of Munich. Twice as big as Marienplatz, it was considered over-dimensioned and incorrectly aligned. The open flank leading towards the trade fair grounds and the autobahn arises from its function as a cover for the car park beneath it. It was first possible to frame the square spatially with the construction of a 20-metre-high colonnade in 2018. With this colonnade – an intervention intended purely for the purpose of beautification – the square seems more inviting and atmospherically more comfortable.

Conversion Culture in Urban Development Urban expansion into the open countryside has become an exception in large, growing cities. Climate goals, the conservation of resources, and demographic changes suggest reacting to changed needs rather than further developing the building stock. However, the principles of conversion culture described in the Baukultur Report 2018/19 do not apply only in the case of individual buildings or plots of land. Rehabilitation, material cycles, infilling, and new construction within the historical context are also the precept on the level of a district or an entire city.

In the future, it will no longer be only vacated military sites and freight depots that will need conversion. Where needs change, municipalities must adapt the use of individual locations again and again. Today, these also include more recently erected business locations and office complexes, such as the former Thyssen Trade Center in Düsseldorf, which has been converted into the Living Circle housing complex. The Werksviertel (factory district) in the Berg am Laim district of Munich is no longer an industrial site, but instead a multifaceted district with cultural institutions, office and living space, restaurants, businesses, and sports facilities (see p. 54). Still recognizable relicts from its time as a production site give the district its distinctive appearance today. Changes in the work world are one factor shaping urban development and public space. Mobile telework, flexible working hours, and the turn away from the 40-hour week have already dissolved the separation of working and living. Co-working spaces offer an opportunity to react flexibly to small-scale demand. Such utilization concepts also enliven neighbouring public spaces.

Structural Potentials Cities and towns must give development in the centre priority over growth on the periphery. The research and the professional public have agreed on this point for decades. Continuing residential development on the outskirts has immense impacts on ecology, urban planning, the economy, and social affairs. The leitmotif of the compact, mixed-use, and green city takes this circumstance into account. It has long since found its way into urban development planning and the Baugesetzbuch (BauGB, Building Code). The aim of dealing with land and soil providently and carefully was introduced with the addition of the 'land conservation clause' to the BauGB in 1987. Bigger cities and conurbations have given priority to internal development for years. Small-scale additions to what already exists represent most construction activities. Many building projects are approved based on the neighbourhood insertion rule of § 34 BauGB or are created in areas for which development plans exist. But this approach is increasingly reaching its limits in administrative practice because of the scarcity of building land. Smaller cities and towns still have a lot of potential for infilling. Conversion areas and wastelands, gaps between buildings and

Baukultur Preserves Mixtures

The Werksviertel at Munich East Station – From Production to Productive District

Potato dumplings, lubricants, clothing, and motorcycles were produced in the 'Werksviertel' (factory district) near Munich's East Station (Ostbahnhof). Then came street art and nightlife – for instance, in the Optimol factory or at the 'Kunstpark Ost' (later the Kultfabrik) on the grounds of the Pfanni company, which closed in 1996. Werner Eckert, the company heir, was apparently less interested in selling the site than in further developing unconventional ideas. Steidle architekten, which designed the neighbouring 'Medienbrücke' (Media Bridge), a three-storey slab over the courtyard – also had unconventional ideas. Eckert and the then seven other property owners commissioned the planners to create a comprehensive urban development plan. This untangled a Gordian knot, since there was no consensus on the city's structural plan, especially because it ignored the owners' concerns and largely envisioned a tabula rasa.

Especially in the 'Werksviertel-Mitte' (Pfanni site), established institutions – such as the 'Nachtkantine' (Night-Time Canteen) or the 'Tonhalle' (Concert Hall) – were supposed to be retained.

Another existing building became a business incubator and the potato hall became the musical theatre 'Werk 7'. A several-storey production building, which already had interim users, was given an extension and an additional storey. Over fifty quite diverse businesses, including media agencies, open studios, restaurants, and shops for artists' supplies and children's furniture, have today leased areas between 8 m² and 4,000 m² in 'Werk 3', with large companies paying a higher price per square metre. Shops enliven the earlier loading ramp; passageways with gastronomy businesses lead from one side to the other. Sheep live on the roof: here at the 'Almschule' (Alpine Meadow School) city children can experience a farmyard atmosphere.

Next door in 'Werk 12', a fitness centre with a pool designed by architecture firm MVRDV has been open since 2019. The lift from the underground car park ends on the ground floor, which thus forces people to enter the public space. Additional access is provided externally on the façade, which is enlivened by circumferential galleries. 'Werk 4' also makes

a spectacular impression as a tower with a hotel and hostel, with the former potato flour silo as its basis. The interior of the silo can also be used as a climbing hall, and there is an additional climbing wall on the exterior. Thus here as well: visible activity in the third dimension.

The history of the district can be recognized in the outdoor spaces with their industrial concrete paving (planning: Jühling & Partner, WGF). Trees grow in potato crates next to rolling seating furniture on the still extant railroad tracks – an idea that does not correspond to municipal standards and was thus easier to realize here on a private property. Graffiti and striking signage – typical for industry and nightlife – also characterize the open spaces. Where there is currently space, there are interim uses: Several bars, a hairdresser, and a bicycle shop, among other businesses, have opened in a village of overseas shipping containers. A Ferris wheel has been set up as an interim use in another location. This is where Munich's new concert hall will be created. It will not only strengthen the Werksviertel as a place for music, but will also expand the circle of users to include fans of classical music.

Even though it was not possible to rescue all the cherished institutions, with the Werksviertel-Mitte, an industrial complex has been made into a public location – for diverse target groups, day and night. Based on the existing buildings and many interim uses, an urban redevelopment that thrives based on a certain disorder was begun while the site was still in active operation. Overlaying the linear industrial structure with the block structures has given rise to diverse public spaces: open, narrow, straight, curved, high, low, stone, and – in the future – more green. The primacy of mixture continues to apply, with as many public ground floors as possible. A hypermarket can exist next to residential buildings and a primary school next to a concert hall. Where else can that be found?

BAUKULTUR AT A GLANCE
- Preserving and establishing in part informal uses
- Urban development based on what already exists rather than a tabula rasa
- Permeable public spaces with vibrant ground floors
- Work, commerce, culture, and housing next to one another
- Committed individuals as driving forces, 'real' private project developers

Facts

Planning and construction: since 2009
Project developers: OTEC GmbH & Co. KG (Werksviertel-Mitte) and eight other building contractors
Planners: steidle architekten, Munich; Jühling & Partner Landschaftsarchitekten, Munich; WGF Objekt Landschafts-

architekten, Nuremberg; other planners of individual buildings
Planning area: 38 ha.

underutilized building areas take priority. They offer an opportunity to develop the city further. Studies conducted by the Technical University of Darmstadt and the Pestel Institute on behalf of construction industry associations in 2015 and 2018 questioned how much living space could be created in Germany by adding additional storeys. The answer: throughout Germany, more than one million housing units with a living area of 84.2 million m^2 would be possible solely by adding storeys to suitable multi-family buildings from the 1950s to 1980s in growth regions. An additional 420,000 flats with a living space of 31.8 million m^2 could be created on top of pre-1950s buildings.

So that this mathematical calculation tallies up and city centres remain liveable, twofold internal development is imperative. Structural infilling must not take place at the expense of public spaces or urban greenery. This greenery must be preserved or created where appropriate by repurposing traffic spaces. It creates quality of life, improves the local climate, is conducive to recreation, and also allows city dwellers to experience nature. What is therefore called for is internal development in a double sense. Proportionate structural infilling must go hand in hand with the qualification of green areas, the creation of new areas, and the interlinking and upgrading of them. The term 'double internal development' was first used at the end of the 1990s in connection with the Internationale Bauausstellung Emscher Park (IBA Emscher Park). Its aim was to revitalize decommissioned industrial sites in the Ruhr region through urban development and ecology.

New Mixed-use Spaces   To obtain areas for the general public, it will be absolutely essential to question functional and time-related specifications and to revise them when necessary. Different interests and changing requirements can be taken into account in a flexible way. In the arena in Schierke (see p. 98), for instance, sports areas and facilities should permit various uses. The ice stadium

Dense city centres in Europe

Population density in city centres
(inh./km^2)

Source: AfS BB 2019; cbs 2019; Insee 2019;
Munich 2019; ONS 2019; Frankfurt 2019; Statistics
Austria 2019; Northern Statistical Office 2019

Inh./km^2							
13,241	10,844	6,698	6,570	5,417	5,273	4,468	3,002
Paris	Berlin	Munich	Rotterdam	Vienna	Frankfurt a. M.	Hamburg	London
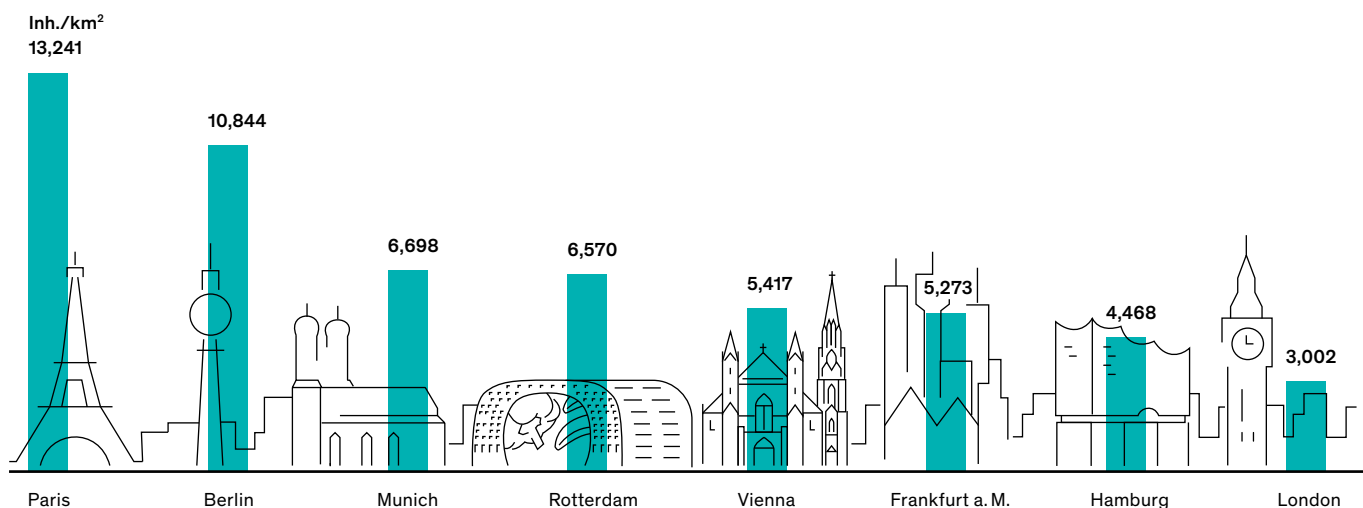
in Schierke –originally constructed for winter sports – has been used for other activities from spring to autumn since its modification and reopening in 2017. School buildings and schoolyards also hold huge potential for public uses when schools are not in operation. But safety concerns often prevent this added value for a city district. In the educational landscape of Altstadt Nord in Cologne, however, the neighbouring Klingelpützpark is also an open schoolyard for the secondary school. No fence surrounds the grounds of the school, and the school sees itself as an urban building block that interconnects and integrates neighbourhoods. Another solution can be reserving the open space and ground floors of a school building for public uses and moving self-contained school operations to the upper storeys. Even privately owned spaces and areas can be made available to the public without problems. There has been a 3,500-m²-large football field on the roof of a building supply store in Berlin-Kreuzberg since 2013, for example, and the flat roof of a large market in Berlin-Friedrichshain has been used as a 9,000-m²-large football field since 2006.

To implement guiding principles for urban development, cities and towns have a wide range of options within the framework of their constitutionally guaranteed planning sovereignty. Besides preparatory and binding urban land-use planning (land-use plan and development plan), the Baugesetzbuch explicitly refers to urban-planning development concepts and other urban-development planning that representatives of municipalities can specify (§ 1 para. 6 no. 11 BauGB). Public space is a network that touches on many areas and knows many user groups. It is a virtual focus for municipal framework planning: under this umbrella, it is possible to think in particular about green and open spaces, mobility, urban development, and technical infrastructure together. Based on its urban development master plan for the city centre, the city of Cologne, for instance, developed a handbook for the public space of the Via Culturalis, a site in the city centre. It provides concrete recommendations for action on design and communication, which should upgrade the district south of the cathedral and ensure its quality in the long term.

Building Exhibitions and Garden Shows International building exhibitions (IBA) and state (LAGA), federal (BUGA), and international garden shows (IGA) are important instruments for urban development from the perspective of Baukultur. They create an exceptional situation temporarily and are connected with a fixed date. A clear timescale for planning, constructing, and opening up a strategic urban development process is thus defined from the very beginning.

The possibility to initiate urban development and infrastructural developments simultaneously or to realize them in a piggyback process often arises. The BUGA of 2015 in five municipalities on the Havel River interconnected the entire Havel region across administrative boundaries in a new way. For the IGA in Berlin in 2017, the park grounds between the districts of Marzahn and Hellersdorf were developed further. The cable railway constructed for it is still in operation today. Based on the local transportation plan of 2019, the Berlin Senate is examining whether it will be integrated permanently within the public local transport system. In Schmalkalden, a riverbed was renatured for the LAGA in Thuringia in 2015, while the LAGA in Bamberg in 2012 revitalized a decommissioned cotton mill site. The already mentioned Ortenau Bridge in Lahr in Baden-Württtenberg also belongs here. Its pylon – similar to a city gate – created a permanent, dominant urban

development feature at the entrance to the city. With the BUGA in 2019, Heilbronn went a step further and made one part of the grounds of the garden show into a city exhibition. The first phase of the construction of the Neckarbogen district became a model project and was finished by the time the BUGA opened (see p. 122). The format of an IBA gives municipalities or entire regions and federal states an opportunity to devote themselves to individual aspects of urban development over a longer period. Building exhibitions provide space for experiments and have a laboratory character. They require a pertinent topic, a concrete space or location, and innovative planning and building projects. Thanks to their national, in part even international radiance, they can bundle knowledge from many areas. Real laboratories for public spaces have played a major role in many IBAs. The Interbau Berlin in 1957 once demonstrated the then new understanding of a cityscape in the reconstruction of the Hansa district of the city, in which high-rise and flat buildings are arranged in the surrounding greenery. The IBA Emscher Park gave the Ruhr region decisive impulses for structural transformation. Between 1989 and 1999, landscape planning and urban development projects for the ecological, economic, and cultural conversion of the industrial region were created on more than 800 km². The goal was to approach structural transformation in a fundamentally different way: with the help of land conversion. Entire industrial ensembles have thus become identity-forming sites. Today, they are hallmarks of the urban landscape on the Rhine and Ruhr Rivers.

From 2002 to 2010, the IBA urban restructuring in Saxony-Anhalt looked for answers to the decline in population in eastern Germany. It extended across an entire federal state for the first time. With the concept 'Urbane Kerne und landschaftliche Zonen' (urban cores and landscape zones), the city of Dessau responded to the increasing vacancy rate with a landscape corridor in the city centre, which makes the city greener and also more attractive for coming generations. Individuals, clubs, and associations could become sponsors of and design defined subplots. The IBA in Hamburg (2006 to 2013) occupied itself with the topics of education, climate change, and the inner peripheries of the metropolitan region with the 'Sprung über die Elbe' (leap over the Elbe) on the Elbe island of Wilhelmsburg. The IBA team developed the contemporary design of open spaces in cooperation with residents. Since the end of the building exhibition, the IBA Hamburg GmbH has remained an important stakeholder in the urban development of Hamburg as a municipal company. From 2012 to 2023, the IBA Thuringia (likewise in an entire federal state) is examining the interplay between city and countryside. It also addresses demographic changes. Ninety per cent of the federal state is rural space, and vacancies and the exodus of the younger generation are big challenges. Reactivating and repurposing church and railway station buildings can preserve and improve the local quality of life. The IBA format can open the eyes to hidden potentials and strengthen local identity – and thus extend beyond the duration of the show.

Green and Open Spaces

Green Infrastructures People often talk of open space or open spaces when they mean public green spaces. Open spaces – as the term already suggests – offer a lot of scope for design. That municipalities are responsible for public

greenery also presents them with a big opportunity: they can reinforce the identity-forming effect of bustling open spaces and improve the quality of local life. Based on the EU strategy of the same name, the term 'green infrastructure' has become established since 2013. It aims to comprehend green and open spaces as a part of the city that is just as essential as its technical and social infrastructure. Public green spaces simultaneously filter particulate matter, store rainwater, and cool the city with their shade and evaporation. Their vegetation is crucial for health and quality of life. They are important in adapting cities and towns to the consequences of climate change. When they are designed and equipped in a contemporary way, they also contribute to preserving the biodiversity of the flora and fauna of our cities.

When developing structural concepts for adapting to the climate, what is crucial for planning on a municipal level are analysing and mapping building structures, topography, the exchange of cool air, and the microclimate. Only in this way is it possible to assess where and with what scope adaptation measures are necessary and sensible. The principle of internal development prior to external is anchored in the Baugesetzbuch and should not be abandoned. The structure and orientation of new development should thus allow as much circulation of air as possible. Open spaces in the city should be well linked with one another and form a network that suits the urban structure. Green spaces should therefore be integrated as cool spots and be ensured for the neighbourhood above all as effective green areas. Safeguarding, expanding, or creating new green areas and bodies of water are among the most important adaptation measures – in public space and, naturally, also in private areas.

Measures Climate change is making new demands on public spaces. Heat islands decrease the quality of life in the city. Greening built and asphalted areas more intensively and watering green areas are proven countermeasures. A lot of greenery, natural materials, and permeable ground reduce thermal absorption, increase the exchange of water, and hence improve the urban climate. For streets, paths, and public squares and other sealed areas, surfacing materials that reflect a lot of light and store a limited amount of heat are ideal. When surfacing roadways, this can be supported by means of admixtures that maximize reflection and prevent heat storage. This so-called albedo effect can also be harnessed for cities in the form of light façade colours. The practical guidebook 'Klimagerechtes Bauen – Mehr Sicherheit und Wohnqualität bei Neubau und Sanierung' (Climate-friendly Construction – More Safety and Housing Quality in the Case of New Construction and Rehabilitation) by the Deutsches Institut für Urbanistik (Difu) provides municipalities with good tips for how they can become active themselves.

Multifunctional green and open spaces can flood temporarily in heavy rain. This prevents flooding in other places in the city. Independent of this, it is important to not build on the natural flooding areas of rivers and streams. Where there are already settlements in such places, it is necessary not only to construct flood protection systems but also to create new flooding areas in the form of accessible green areas. Measures from water management systems can thus have positive effects for the settlement structure and the view of a place from the perspective of Baukultur. Green façades and roofs absorb noise and protect building surfaces from weathering and mechanical wear. Walls protected by

People wish for well-maintained greenery

94 % of the population surveyed regards the condition of parks and green areas as important or very important. `P4a`

Baukultur Changes Perspectives

State Garden Show in Burg –
Open Space as a Connective Element

While the Federal Garden Show (BUGA) in Heilbronn in 2019 laid the foundation for further urban growth, the State Garden Show (LAGA) in Burg near Magdeburg in 2018 contributed instead to consolidating a hitherto shrinking town. Burg, which has both a well-preserved historical old town and a visible industrial history, had lost round one third of its inhabitants since reunification. With the application for the LAGA in 2011, this development was accepted and a change in paradigm initiated. The insight was articulated 'that the future of the majority of municipalities will no longer be driven by growth. … The question that should be answered is how qualitative development is possible without growth'. The demographic development of rural areas will be further reinforced by the current success of online shopping, meaning that small towns in particular will also lose their significance as commercial locations. Other attractions must be found: for example, the town centre as a place for leisure time and recreation.

In Burg, based on the successful competition concept of 2013 by relais Landschaftsarchitekten in Berlin, the initial focus was on the two existing municipal parks. West of the centre, the railway station forecourt was refurbished as the entrance to the city (and to the LAGA), and the adjoining, listed Goethepark was revitalized. The planners interpreted missing elements and structures anew and the city established not a structural, but rather a green backbone – by means of new plants or a pavilion at a site where a monument had previously been situated. A play-forest for all generations was created on the neighbouring former building yard and a soldiers' cemetery was refurbished.

On the eastern edge of the old town, the historical Flickschu-park forms the opposite pole. As a 'gateway to the landscape', water is the central focus here. The pond was made accessible on one side with flat, natural stone steps, while the other shore was intentionally left in a scenic state as reed zones.

A 6-metre-high outlook and playing hill were created in the park's meadow areas.

A green corridor through the old town was created along the Ihle River as a link between Goethepark and Flickschupark. In the process, an historical vineyard was reconstructed and developed into a town balcony. Fruit trees and other useful plants here bring the topics of an 'edible city' and 'urban gardening' into small-town surroundings. The open historical wine cellars and a water tower (with an exhibition on the history of the town) were retained by the city as event locations after the garden show. The industrial character of the wasteland of the Samuel Aston machine factory was accentuated around the still-standing chimney by means of planted gravel areas and a thematic playground. The neighbouring Ihle Gardens were created by converting a longstanding wasteland. Its small-scale, urban structure calls to mind the parcelling of the residential buildings that had been demolished here. The historical tanning museum was also integrated. These different scenarios – historical town park, garden and wine tradition, industrial culture, small-town backyard gardens, open landscape – give rise to previously hidden 'urban images' in a literal sense. Integrating structures enabled LAGA guests to experience the town's multi-layered character – also outside the areas for ticket-holders (Goethepark, the vineyard, Flickschupark), because the promenade ring around the old town, central Schartauer Straße, and gaps between buildings and courtyards were deliberately included in the renewal measures. Thus, the best prerequisites for enduring stimuli: for urban development, for tourism, but also for the residents of Burg, who can experience and – above all – use their town, thanks to their constructive approach to shrinkage.

Facts

Planning and construction: 2013–2018	Cost: 15.47 MM euros
Project developer: City of Burg	
Planner: relais Landschaftsarchitekten, Berlin	More information in the project description in the appendix on p. 137
Size: 13.9 ha	

**BAUKULTUR AT A GLANCE**

- **Constructive handling of shrinkage**
- **Open spaces instead of retail as an attraction in the town centre**
- **Renewal of existing green areas and a link with the new**
- **Thematic 'urban images' facilitated by landscape architecture**
- **Integration of historical building substance and historical uses**
- **Inclusion of the old town as an admission-free zone**

Cities with green lungs

Source: Interactive team of the Berliner Morgenpost 2016

Percentage of public and private urban greenspace in German metropolises of 500,000 inhabitants or more*

approx.
70 %

Hamburg
Dortmund
Stuttgart
Dresden
Bremen
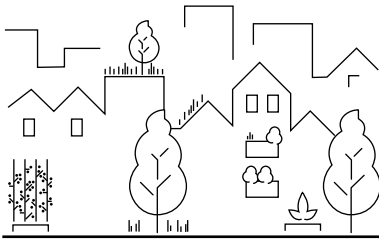
Percentage of public and private urban greenspace in all big German cities*

approx.
85 %

Siegen
Göttingen
Bergisch Gladbach
Salzgitter
Pforzheim
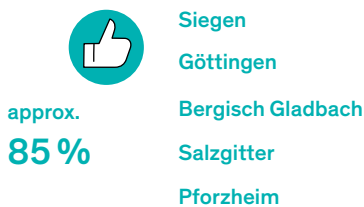
* Assessed on the basis of 185 satellite images

plants warm up to a maximum of 30 degrees Celsius in the summer. Unprotected walls reach a temperature of up to 60 degrees. The output of large air-conditioning systems could thus be reduced significantly. In the summer, cooler building surfaces along with cooling by evaporation demonstrably reduce the temperature in the surrounding urban space. From the perspective of Baukultur, the greening of façades and roofs should not be additive, but should be integrated within the design as an architectural component. Studies have shown that this even results in higher real estate values. For these reasons, Hamburg has developed a comprehensive green roof strategy. The city wants to plant a total of 100 hectares of roof area. Of it, 20 % should be accessible to residents and employees as space for recreation — as sports fields, parks, or community gardens. Another good example is Utrecht. The Dutch city greened the roofs of 316 bus stops in 2019. The plants are a source of nourishment and nectar for bees and other insects. The project is intended, however, to sensitize the population and inspire engagement: the city has made financing assistance available for private initiatives and projects.

Greening tram routes is a proven method for supplementing green areas that relieve the strain on urban space. In Stuttgart, 50 km have already been converted into green tracks, in Munich 43 km, and in Karlsruhe 37 km. In a project called 'Kühle Meile Zieglergasse' (Cool Mile Zieglergasse), Vienna has already begun redesigning an entire street in a climate-appropriate way. More trees, lighter coloured paving, and water withdrawal points are intended to ensure cooling and make time spent there more comfortable. Cooling arches that are activated automatically as of 27 degrees are supposed to produce a spray mist. In addition, as part of the redesign, 48 of the 311 parking spaces will be turned into green areas. On the Rathausplatz in Ludwigsburg, a 'green room' with temporary greenery was erected in 2014. Such projects can inspire, provide impulses and food for thought, and create spaces for experimentation.

Allotment garden colonies are access-restricted public spaces, but they make a valuable contribution to the urban climate and to leisure time and recreation. If the paths between gardens are opened up, they also supplement publicly used spaces. The Am Kienberg allotment garden colony in Berlin, which was refurbished as part of the IGA in 2017, won a prize in the federal competition 'Gärten im Städtebau' (Gardens in Urban Development). What stood out are the social components: children from the neighbourhood can also use the playground in the colony. The town of Eschwege published the 'Eschwege den Hof machen' (Courting Eschwege) in 2015. It is meant to inspire a rethinking in dealing with unused private courtyards and property areas and to motivate owners to use their partially hidden areas differently and make them accessible to the public.

City Trees The urban climate and Baukultur benefit from trees and plants in multiple ways: they provide shade, filter dirty air, produce oxygen, absorb radiation, store rainwater, and emit it into the atmosphere again after a certain time. By evaporating water, they cool the air. They are also important as a spatially effective backdrop for urban development. Designing open spaces well contributes to high-quality urban development and climate adaptation.

The warming of the earth causes problems for city trees in particular. More and longer periods of drought, storms, and heavy rains afflict the tree population and alter its composition. Drought damage is fatal not only for trees; it also

becomes a danger in public space. Municipalities must ensure that no one is harmed. So-called 'fear cutting' is the consequence: afraid of being made liable for harm or damage, authorities often have much more removed than potentially dangerous branches, namely also healthy, big trees. This loss, however, changes the entire appearance and spatial effect of our streets, public squares, and parks. Preservation measures or, if possible, quick replacement planting with climate-resistant tree species are necessary. Plane, lime, maple, and chestnut are the most popular city trees and comprise roughly half of the inventory of city trees. For such species, it may soon be too dry. To keep the tree inventory healthy and well-functioning, cities must use trees that are not yet indigenous, but can cope with drought as well as frost and snow. The Bayerische Landesanstalt für Weinbau und Gartenbau (LWG, Bavarian Regional Office for Viniculture and Horticulture) has been testing alternatives at several sites for over ten years. Among the suitable species identified are the silver lime from Southeast Europe, the Japanese pagoda tree, trident maple, purple and manna ash, the Persian ironwood, turkey oak, ginkgo, Hungarian oak, and Italian maple. That trees from other regions are less attractive for indigenous insects has been refuted by a study by the LWG. Municipalities should, however, avoid planting only one species of trees along avenues. Mixed avenues prevent the spread of pests and illnesses and are therefore more robust.

Blue Infrastructure   Analogous to green infrastructure, it is becoming increasingly important to make water a visible element of the city again. Fountains and pools of water are traditional function carriers and ornamental elements in public spaces. Many have been decommissioned for cost reasons, while others are in operation thanks to sponsorships. A program to reactivate fountains pays off not only for urban design but also for the microclimate; and the burbling of water masks

Relevance of urban trees

Source: Municipal survey for the Baukultur Report 2020/21

80% of municipalities perceive trees as formative for the appearance of cities.

74% of municipalities have tree preservation statutes.

In every 2nd municipality, trees have been removed as a precaution in order to prevent tree failures.
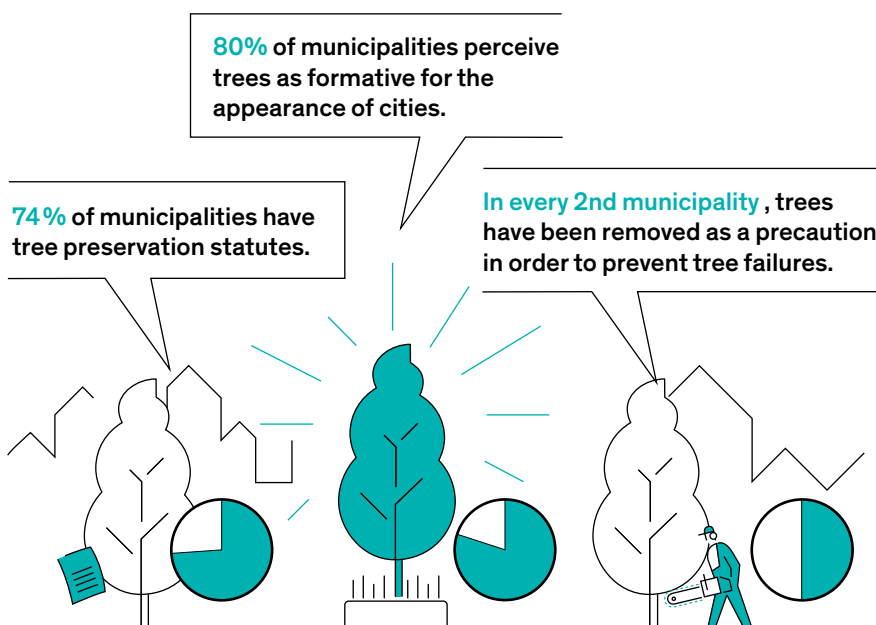
Baukultur Pays Off
Baakenpark in Hamburg – Open Spaces Activate a New District

Baakenpark rises up like a volcanic island from the long basin of the former Baaken Harbour in the eastern part of HafenCity. Its appearance is that much more impressive because it is still surrounded by open areas. Here, the mistake of beginning building construction before public spaces was not made. The park is already in use because accommodations for refugees are located nearby. It is planned as a centre of a new district on both sides of the harbour basin, which will also provide housing for low and average earners. The expressive Baakenpark bridge (gmp Architekten, Knippers Helbig Tragwerksplanung) creates a link for pedestrians and cyclists and has supply lines on its underside.

The poetic park design by Atelier Loidl of Berlin was already convincing in the 2012 competition as a 'place of yearning', as a playful wilderness with a succinct topography that breaks up the straight lines of the quay walls. On just 1.6 hectares, which are distributed on plateaus of different heights for flood protection purposes, there is an astonishing variety of landscape spaces and offers for use. On the western plateau, the large wooden furniture of the 'Inselsofa' (island sofa) invites people to spend time. The playground behind it was designed based on workshops on the topic of flotsam for children, in which wooden beams and crates were utilized. It surrounds a small field for playing football and basketball, which can also be used by the future neighbouring primary school – just like the 100-metre running track, from which protrudes a round streetball field. Here, the overlapping and simultaneity of uses becomes particularly apparent: differences in elevation are used to demarcate the running track and playing field from the meadows or for arranging half-spheres that create the option for an informal seating arena.

The central, somewhat-landscape-oriented plateau offers a picnic meadow with old varieties of fruit trees, tall 'Himmelsschaukeln' (giant swings), fitness equipment, stands with a view of the harbour basin, and an optional area for events. The eastern plateau by contrast encourages contemplation. Here, one can climb the 15-metre-high 'Himmelsberg' (sky mountain) via incised steps of pre-rusted steel, which call to

mind the materiality of the quay walls. As a greened frustrum of a pyramid, the mountain seems almost surreal, an effect that is achieved by means of mats of grasses held in place by steel reinforcements.

The green area, which is situated in front of the old quay wall of the harbour basin, saves costs for rehabilitating the quay walls. Backfilling the site as a whole, as planned by the Hamburg-based firm Grundbauingenieure Steinfeld und Partner, was technologically demanding – above all due to the constantly changing water levels. Reinforced concrete edges on the base, gabions, and several layers of mesh inserts ensure stability (also in the case of a ship collision). 350,000 cubic metres of Elbe sand, which accrued upstream when the shipping channel was dredged, were used as filler. The short transport by ship saved over 10,000 truck trips and a considerable sum of money. The planners, however, only heard about the work of the Hamburg Port Authority by chance – which makes clear how important communication between municipal stakeholders is.

A band of reeds was planted above the circumferential rock fill and gabions, which can be populated as an artificial reef, were positioned under water. With its more rugged and flatter shorelines, Baaken Harbour is thus an ecological gain in comparison with the straight quay walls, which fall off vertically to a depth of 11 metres. Because older trees were planted, it appeared to be a natural location from the very beginning, which seems bigger than it is due to the concentration of atmospheres. Each plateau opens up new perspectives. Baakenpark can barely be grasped as a whole, instead it yearns to be discovered.

Facts

Planning and construction: 2012–2018	Ingenieure mbB, Hamburg
Project developer: HafenCity Hamburg GmbH	Size: 1.6 ha
	Cost: 15 MM euros
Planners: Atelier Loidl Landschafts-architekten, Berlin; Grundbauingenieure Steinfeld und Partner Beratende	

BAUKULTUR AT A GLANCE
- New location created from scratch
- Public space before building construction
- Structural engineers and landscape planners as partners
- New natural environment near and in the water
- Cost savings by linking two building measures
- Design with strong symbolism and emotional appeal
- Flood protection integrated with respect to design and technology

Parks are an important municipal field of activity

More than half of the municipalities surveyed are currently planning new parks. M11

noise and thus reduces stress. It therefore makes sense to think in an interconnected way and to plan holistically. Open and moving bodies of water in particular prevent heat. Holding back precipitation relieves pressure on the drainage system. This precipitation can also be used to supply water to green areas. All of this can be connected with good design and social functions. In Wiesbaden, two canalized streams were separated from the mixed sewer system. They now flow again in open channels – along streets and on public squares – at various places in the city. This demonstrates the synergy of design and climate protection. On Regenspielplatz in the Hamburg district of Neugraben-Fischbek, excess precipitation is routed on the surface in a controlled manner and used for play. The playground has a spillover into an adjacent protected well area.

Baukultur Works on Every Scale

The Open Areas of Gropiusstadt – Living in a Park Landscape

The green areas of Gropiusstadt in Berlin were planned in 1964 by Walter Rossow in coordination with The Architects Collaborative, Walter Gropius's firm, as a flowing residential outdoor space. Short distances to pre-schools, schools, and everyday amenities can be traversed on foot or by bicycle – away from the street. Today, more than 37,000 people live in the district. Densification, demographic change, and the changing needs of the population make it necessary to adapt the green and open spaces. Support by the 'Zukunft Stadtgrün' urban planning program since 2017 has included the development of an integrated green and open space concept. A barrier-free design and health-promoting, socially equitable, and ecological measures are the focuses. One big milestone was the repair of the fountain on Lipschitzallee, which had been dry for twenty years, in the summer of 2019. Equipped with new seating options, it invites the residents of Gropiusstadt to once again spend time there. Movement and health offers for children, young people, adults, and seniors, for instance along the Gropiusmeile, are being redesigned and developed. The good collaboration between the district management, housing associations, and other stakeholders, and the creation of a network and an educational association has strengthened Gropiusstadt. The high leisure time quality of the district is ensured by the further development of the spacious and park-like urban landscape.

Facts

Planning and construction: since 2017
Project developer: Neukölln District Administration
Landscape planning: Fugmann Janotta Partner mbB – Landschaftsarchitekten and Landschaftsplaner bdla

Planning area: 266 ha
Cost: 200,000 euros for the creation of the open space concept

More information in the project description in the appendix on p. 137

BAUKULTUR AT A GLANCE

- Increase in the quality of time spent by young and old
- Elimination of barriers
- Successful collaboration between the district management, landscape planners, the district administration, and housing associations

New Ground Floor Zones

Importance Ground floors mediate between inside and outside. They lie at people's eye level and thus in their direct field of vision. When walking, we tilt our head downwards by ten degrees to pay attention to where we are walking. But we nevertheless sense everything that happens nearby on a horizontal level and process it – particularly the façades and display windows of the ground floor. They are interfaces between public and private interests and show what a place has to offer in terms of supply, leisure time, and mobility. Because they have great importance for public spaces, the use and design of ground floors demand particular attention. Research findings by the neuroscientist and experimental psychologist Colin Ellard of the University of Waterloo in Canada verify the effects of façade design – especially of ground floor zones – on the state of mind and walking speed of passers-by. Monotonous surfaces without design qualities become burdensome on longer routes and decrease attention and people's willingness to spend more time.

A street becomes lively when the ground floor zones are also public. The urbanist Jane Jacobs already made reference in the 1960s to how important shops, cafés, and restaurants are in this connection. Merchants and proprietors find it expedient to keep their street attractive, safe, and clean for business reasons. This ultimately attracts people and hence clientele. People enjoy spending time in places where there are already other people. Public spaces and ground floor zones thus interact with one another. With one accord, chambers of industry and trade attach great importance to public spaces for trade, gastronomy, and commerce. The Danish urban planner Jan Gehl already made use of this insight at the beginning of the 1990s when reactivating the emptied out spaces in the centre of the city of Melbourne, Australia. The people of Melbourne coined the term 'doughnut city' at that time. A significant factor in the success of Gehl's work was converting the ground floor zones of narrow side alleyways, which had previously served merely as functional areas. Gehl opened up the façades on a large scale for retail and cafés and restaurants with outdoor areas. The transparent design has an advantageous effect on the interaction between inside and outside. The city's laneways are today popular meeting places for residents and tourists.

Negative Tendencies In many city centres, ground floors stand empty or are used in a mono-functional manner. Based on an assessment by the Handelsverband Deutschland (HDE), 10 % of retail premises are vacant. The phenomenon is not limited to structurally weak places and has numerous causes: with rising commercial rents, tenants are often no longer in the position to use shops on the ground floor economically. The growth of online commerce is also having a noticeable effect on shopping promenades. Sales areas play a subordinate role for mail order businesses. Global brands have the financial means to set up showrooms for their digitally conscious clientele in city centres. The same globally active chains are thus always encountered in pedestrian zones across the globe. Nearly half of retailers are meanwhile suffering from the loss of attractiveness of city centres. And nearly two thirds are concerned by the sharp decrease in the customer traffic in stationary retail. Neuhauser Straße in Munich might be the most popular shopping promenade in Germany, but even such main

Design and attractiveness

The attractiveness of city centres is (very) important for 89 % of the population surveyed. The design of buildings, streets, and public squares also holds great importance for 86 %. `P4a`

Problems for stationary retail

In 77 % of the municipalities surveyed, shops and businesses are vacant on streets in the centre. Central public squares (57 %) and pedestrian zones (48 %) also have a high rate of vacancy. M5

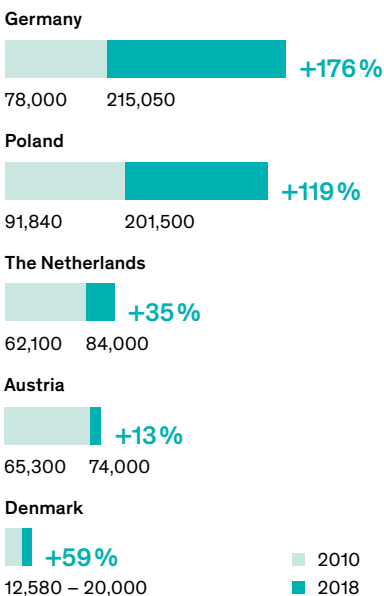## Quality of new ground floor uses

Over 60 % of the chambers of industry and trade surveyed have occupied themselves with qualifying ground floor zones in new residential districts. Additional activities include general information and communication (56 %) and directly advising suitable trade and service businesses (48 %). IHK 7+8

Comparative growth of Germany

Development of the total area of factory outlet centres in m²

2010–2018

Source: ecostra basic research; trade data 2019

Germany

+176 %

78,000   215,050

Poland

+119 %

91,840   201,500

The Netherlands

+35 %

62,100   84,000

Austria

+13 %

65,300   74,000

Denmark

+59 %

12,580 – 20,000

◻ 2010
◻ 2018

business locations in the city centre are recording declining customer numbers. Three fourths of retailers have already observed this tendency.

Owner-managed businesses are concerned by more than competition online. Sectors like the apparel trade, which occupies roughly 40 % of sales areas, are undergoing radical changes. Every third fashion shop has given up since 2009. The effects are already visible in city centres. The IFH Köln has been conducting the nationwide survey 'Vitale Innenstädte' (Vital City Centres) since 2016. In 2018, over 59,000 visitors to city centres in 116 cities were surveyed. In terms of attractiveness, they gave German city centres a score of 'average' (2.6) for the third time in a row. The expansion of the floor space of city centre shopping centres and the competition from factory outlet centres increase the pressure on small shops. According to a study conducted by the Initiative für Gewerbevielfalt (Initiative for Diverse Commerce), consumers regard their own shopping behaviour very critically. Over 80 % consider not only municipal policy but also themselves as bearing heavy responsibility for the state of their shopping promenades. In their opinion, the landlords of retail premises also have a significant influence.

The urban development funding of the federal and state governments wants to strengthen urban centres and core areas and their public spaces. The program 'Aktive Kernbereiche in Hessen' (Active Core Areas in Hessen) thus supports measures for an urban mixture of retail, services, small-scale commerce, craft, culture, gastronomy, and housing. Novel approaches also come from merchants themselves. The digital initiative 'Ebay City' emerged from a pilot project in Mönchengladbach. In it, businesses present themselves on a joint platform and offer both shipping and pick-up on site. This form of multi-channel shopping is surely part of the future. Herein lies the opportunity for stationary retail.

Qualification To stem the loss of significance of ground floors requires new approaches to district development. Municipalities should give the topic uppermost priority: those who activate ground floor zones can thus qualify entire city districts. Copenhagen, for instance, made ground floor zones a central part of its urban planning. The city regards itself as a 'city for all scales' and promotes transitions between inside and outside in a targeted way. This is enshrined in the guideline 'Copenhagen City of Architecture', which was published in 2010. The paper emphasizes the architectural and political importance of the municipal administration as developer and planning authority as well as its will to cooperate with architects and private building owners. Four quality characteristics were defined as objectives: character and identity, architecture, urban space, and process. Sluseholmen, a residential district in Copenhagen's South Harbour is a successful example. Copenhagen thus also includes public open space in its considerations. In individual cases, a design guideline is supposed to simplify the decision to adhere to the general appearance of Copenhagen with respect to furnishings, the design of pavements, and the choice of plants or to instead underscore the local character of a district with an individualized design.

To curb cost and market rents, ground floors could be omitted when calculating the floor space index. As a result, they would not be included when in the calculation of a plot of land's degree of structural use. In return, this easing of conditions could be linked to increasing the attractiveness of ground floors. In new construction, there are meanwhile tendencies to leave out basements and

to shift their functions to ground floor zones. Mobility trends like sharing offers or electromobility also present new technical and spatial requirements. Another possibility to ensure the quality of ground floor zones is to award plots of land based on tendering procedures. The report on the findings of a research project by the BBSR makes this clear. Its title: 'Baukultur für das Quartier. Prozesskultur durch Konzeptvergabe' (Baukultur for Districts: Process Culture through Concept Tendering). In nearly all the projects examined in the BBSR's project, the ground floors are used commercially or collectively. Municipalities are increasingly accounting for local requirements in their tendering procedures. The diverse interests of administrators, users, and the real estate sector must be taken into consideration when doing so.

When developing districts, guidelines that already specify quality characteristics prior to the sale of a plot of land have proven themselves. Besides structural specifications, it is thus possible to influence urbanistic developments in the long term. In the Seestadt Aspern in Vienna, a specially established public-private association has initially rented the commercial areas on the shopping promenade at a fixed price for twelve years. The association can consequently steer further leasing of spaces based on a mixture of uses and lines of business that enhance the district. Paris – to name another example – makes use of a pre-emptive right and through the not-for-profit development company Semaest purchases shops that are then leased to retailers at a reasonable rental price. When allocating shops, Semaest focuses on a mixture of uses that correspond to the respective district. But tenants can also buy their shops at a price below the conventional purchase price. This model might set an example for Germany. According to information from the Handelsverband (HDE), 74 % of retail spaces are rented, but retailers only own 26 % of them.

'Quartier' (district) has become a fashionable term in the German real estate industry. According to the consulting company Bulwiengesa, the planned construction volumes that are designated as a 'Quartier' will have increased sixfold in German cities between 2011 and 2021. In 2021 alone, 1.2 million m² of district project developments will be completed – but a functional and social mixture is not always a topic. The special requirements of ground floor zones are still a challenge for real estate developers. The simple formula 'ground floor = trade' has long since ceased to hold true. Added to this are high and further increasing construction costs. New financing and operation concepts are therefore needed. Collaborations in which project developers work together beyond their own properties promise success. Project developers have considerable influence on its architectural quality and future mixture of uses. In cooperation, developers can specify framework conditions for commercial spaces such as minimum or mixed rents or shared opening hours. Graduated and turnover-linked rents support small businesspeople in the initial phase. A variety in the supply of space ensures a balanced, attractive mix of small, owner-managed shops and large anchor tenants. Pop-up stores and an exclusive offer of space for residents and neighbours further enliven the location and heighten people's identification with their neighbourhood. Ground floor management can ultimately also steer the dynamics of supply and demand in the longer term. In 2011 in Berlin, plots of land round the former wholesale flower market were awarded based on concept-related tendering. The developers thus committed themselves among other things to a balanced mixture of commercial uses of the ground floors at a reasonable

Building activities in objects with the label 'district'

Source: Bulwiengesa AG 2020

Thous. m² multi-family buildings

■ Residential   ▢ Commercial (offices, retail, hotels, other)
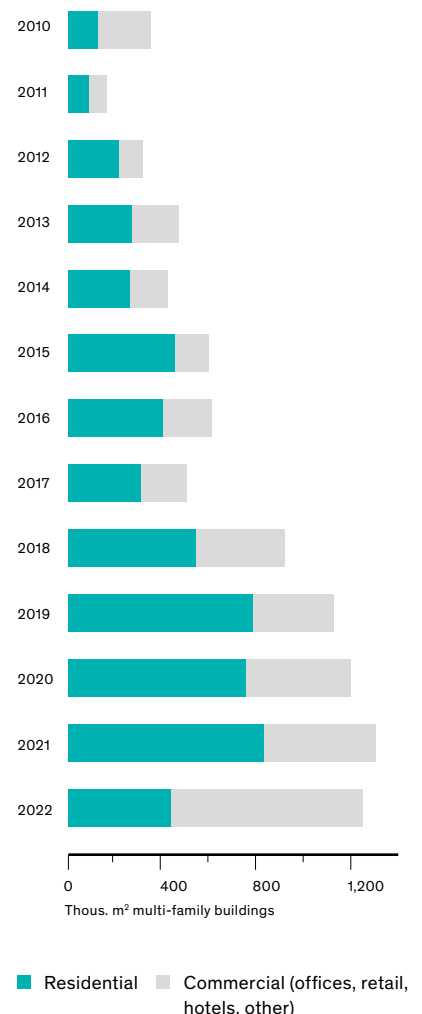
Assessment based on the object database of Bulwiengesa AG; no claim to completeness

price. In the 'Metropolenhaus' there, a cultural platform curates 40 % of the 1,000 m² ground floor area as temporary project spaces for a rent of a maximum of 6 euros per square metre. Design regulations are also helpful for newly constructed areas. For the open space in HafenCity in Hamburg, there is a design guideline for outdoor gastronomy and ground floor sites with a focus on the public. It specifies structural qualities such as storey height and a flexible spatial layout, and design qualities like colour, materiality, and the positioning of sun and weather protection or advertising facilities.

Urban Design as Visual Communication

Design and Orientation Public spaces must be designed in such a way that everyone – regardless of origin or status – has access to and feels comfortable in them. They should invite use and offer the possibility to spend time in them without any compulsion to consume. Well-designed façades and well-proportioned buildings are stimulating for pedestrians. They not only enliven a neighbourhood visually but also encourage more people to travel on foot. Mental health also benefits from surroundings that are visually stimulating.

Planners and designers of public spaces should keep in mind that more and more children and older people will spend time in them in the future. Sufficient clean, public toilets and seating areas make it easier for the elderly and people with limited mobility to partake in public life. Lippstadt in Westphalia has empirically calculated how many benches the city needs: residents and the

Perceiving public spaces

Federal Foundation of Baukultur as per Jan Gehl 2010

1–7 metres

22–25 metres

50–70 metres

Above 100 metres
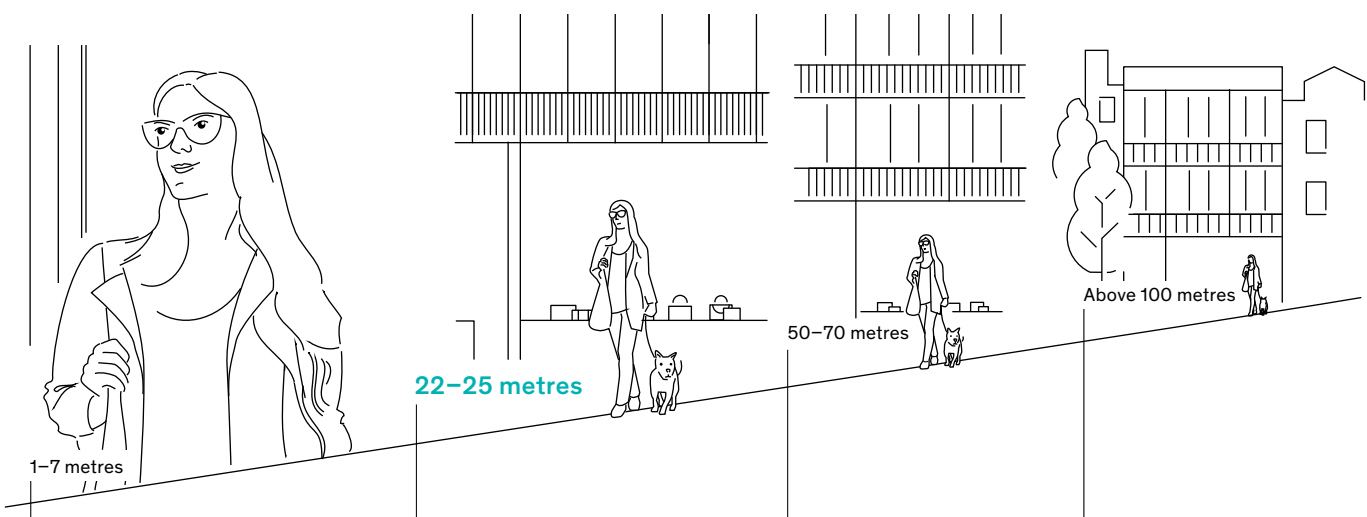
Baukultur
Details like windows, doors, and façade elements

Baukultur
Façades, balconies, and ground floors

Baukultur
Buildings, volumes, structure

Baukultur
Ensemble, urban development

People
All senses are active and details are perceived. Exchange and conversation are possible. The smaller the distance is, the more intensively communication can take place.

People
Recognizing emotions like facial expressions and feelings is facilitated. Slightly raised voices can be heard.

People
Typical movements and characteristics like gender, age, and hair colour are recognizable and loud calls for help can be heard.

People
People's movements and body language are perceived indistinctly.

seniors' advisory board have discussed where seating areas are lacking and should be added on walks together through the city. Public toilets have served as a cultural asset since the introduction of the sewer system during the expansions of the city in the Wilhelmine era. Since the 1980s, however, many have disappeared for cost reasons. Commercial providers have partially taken over operations. The 'nette Toilette' or nice toilet helps close this supply gap. Such toilets are meanwhile found in 270 cities and towns. The city of Aalen developed the idea in 2001 – on the initiative of a city manager. Restaurant proprietors make their toilets accessible for free, identifiable with a sticker at the entrance. In return, they receive compensation for the costs of cleaning the toilets. The sticker also provides information about whether a changing table is available and whether a toilet is equipped for disabled individuals. Municipalities thus save money on service and maintenance while ensuring that residents have a basic network of clean toilets.

Design statutes and guidelines are important in improving the quality of public spaces with respect to Baukultur. Advisory boards and panels of experts can support the public sector in formulating and calling for all projects to have a high design quality. More and more municipalities already have a design handbook for public spaces or are working on one, frequently with the involvement of citizens. The handbook should adhere to the basic principles of inclusivity and design for everyone. People with poor eyesight, for instance, need consistent guidance and signposting systems, recognizable barriers, and tactile elements. Spaces that accommodate the needs of children are spaces that are suitable for all. Design should enable as many people as possible to participate in social life and to cover distances on their own.

'When you design a building, imagine a city' is the well-known aphorism of the Swiss architect Luigi Snozzi. The responsibility of building developers does not stop at the boundaries of their property. Open spaces on building sites should always be considered in connection with public spaces. Many people and politicians perceive design rules that include open spaces on private property as an unreasonable encroachment of the law. This results in many irreconcilable and problematic situations in street spaces. Poorly secured parking spaces on gravelled front gardens and carelessly designed waste collection areas with overflowing bins are an annoyance for passers-by. Some municipalities like Munich and Lindau (Lake Constance) have enacted statutes for the design of open spaces. Bonn has had a statute for the design of front gardens since 1980. The aim of such statutes is to ensure the quality of the design of open space on building sites for particular construction projects. Statutes for the design of open spaces provide a legal basis for principles elaborated in the open space development plan, but also make individual solutions possible. In the statutes, good examples and expert support should take priority over obligations and prohibitions. Just as buildings in public spaces first make spaces out of areas, the spatial effect is also dependent to a great extent on the colour scheme. Local design statutes that include colour among their contents have a positive effect. Atmospheres can be enhanced with a well thought-through colour scheme. For example, the town of Iphofen only permits plaster to be painted in shades of colour from the spectrum of mineral and plant colours, prohibits gaudy colours, and thus creates a harmonic urban landscape.

Lighting in public space fulfils two purposes: it increases safety and simplifies

Older individuals in particular are dissatisfied with seating options

55 % of the population over 60 years of age surveyed are not satisfied with the supply and design of benches and street furniture. P9

Design regulations

59 % of the municipalities surveyed have guidelines for the design and procurement of urban furniture, surfacing materials, or street lamps. M37

orientation. Considered from an artistic perspective, it also helps stage space. The illuminated railway underpasses initiated in twenty-four German cities by the foundation 'Lebendige Stadt' (Vibrant City) are one example of this. Lighting can underscore identity from the perspective of urban development as well as the beauty of the surroundings, and thus have a positive psychological effect. It is most effective when civil construction and urban planning authorities, parks departments, monument preservation, urban and open space planners, lighting designers, and experts from municipal marketing jointly develop an interdisciplinary lighting concept. This concept should bring together design-related and functional tasks and take energy consumption, maintenance costs, light emissions, and the desires of residents into account. When lighting is awarded to private companies, the municipality can make such a lighting concept a contractual precondition. Bright and friendly colours should be used in public spaces with no daylight – such as underground stations, car parks, or pedestrian tunnels. Light emissions from advertising and display windows should be restricted, while architecture can be staged more intensively. Such a shift should, however, always aim to reduce light emissions.

Façades are the interior walls of public space, since they frame and define it because of the structural situation. With their colour scheme, they also shape our impression of streets, public squares, and, ultimately, the entire city. Buildings always have an urban development context: they are integrated within the existing development or stand on their own as solitaires. Fixed points and features that dominate due to their height assist orientation and give city districts their identity. Spatial boundaries which, for instance, make clear whether spaces are public or private, clarify the function of a location and guide us through the city. In line with the change in mobility, the façades of buildings should be oriented towards slow traffic and the eyes of pedestrians and cyclists, offer interesting details, and even address tactile perception. Locations with great expressiveness have a lasting effect by drawing attention to themselves and touching us emotionally.

Public spaces should offer people the possibility to choose between distance and closeness to others. Society expects that such spaces provide both possibilities to withdraw and opportunities for social exchange. It must be possible to experience differences in society, but this should not lead to exclusion. Locations that Toni Sachs Pfeiffer called 'Zwischenräume' or interspaces in the 1980s offer support and a view forward. The spatial design and structuring – for instance, by means of recesses or niches – make them manageable. But access to the goings-on in the space must be guaranteed. From this perspective, corners, entrances to buildings, and even poles and signs on which one can lean offer an opportunity to use the space, but also to delimit oneself from others a bit at the same time. Public squares that are framed on the sides like a room and give the feeling that one is able to survey a space function better than those that are not clearly framed or are over-dimensioned. Reflective and smooth façades have an unapproachable effect – just like ground floor zones with no windows or barely any entrances, or whose windows are covered up and not oriented towards interaction with passers-by. The abovementioned Canadian neuroscientist Colin Ellard speaks of closed façades, which demonstrably put passers-by in a dejected mood.

The fountain at Karl-Marx-Allee 70 in Berlin-Friedrichshain shows that the repair and maintenance of public spaces influences the perception of them in the

There is a lot of scope for design

Only half of the population considers the design of objects in public spaces to be successful. Street lighting received the highest approval with 19 %. In contrast, the fewest individuals, only 5 %, regard rubbish bins, fences, benches, and street furniture as particularly well designed. P9

long term. Residents campaigned to have the three fountain basins, which had not functioned for twenty-seven years, returned to operation. Water has flowed there again since the summer of 2019. The site now invites leisure and is intended to improve the microclimate. Funding for the revitalization of the fountain and the surrounding green space was provided by the federal government's urban reconstruction program. The Berliner Wasserbetriebe (BWB, Berlin Water Utilities) was responsible for the project steering for the water technology and the basins. By 2028, the state-owned company is supposed to take over the operation of all decorative public fountains, waterfalls, and water playgrounds in Berlin as a pilot project. The fountains were managed for many years by private companies, which could install advertising facilities in public street space in exchange. Now that the contracts have ended, the operation of city fountains is once again in municipal hands and requires a responsible commitment.

Improvisation makes public spaces lively and invites users to identify with a location. Too much improvisation, however, clearly indicates that something is missing or has not been considered. Foot trails show where a connection is lacking or where people prefer a different path than the one provided. Sometimes, planning has difficulty in anticipating this. The two American universities Virginia Tech and the University of California, Berkeley, only paved the campus paths trodden by students afterwards. This approach of not specifying paths at the beginning, but instead surfacing traces in the grass or snow after a certain period of time underscores how important Phase Ten is. It entails ongoing, good upkeep, evolving maintenance, and optimizing buildings or sites while they are in operation.

Advertising In public spaces, oversized advertising or advertising that is too loud can dominate entire streets. This can make orientation more difficult, intensifies the general sensory overload, and can distract road users from what is occurring on the street. The building regulations of the federal states therefore prevent advertising systems from accumulating in a disruptive way. But the ban is not always respected.

Advertising and lettering on storefronts have to be approved under the relevant building regulations. It is thus necessary to make use of discretionary powers to support quieter and more discreet shapes and colours, even if this seems counterproductive to many applicants. Freedom to advertise ends where it overloads public spaces and disrupts the urban landscape. It is not bad for business if design statutes in historical city centres set conditions for advertising messages and compel reserve. Quite the contrary: even chain stores with a standardized appearance can find good ways to adapt.

Another lever for municipalities are design statutes and a time limit for large-format advertising on scaffolding. In Aachen, advertising systems with a size of over 20 m^2 are not permitted in the city centre or in historically and culturally valuable areas. Cities like Bremen, Leipzig, or Munich also prohibit sexist advertising on municipal spaces and structures. In 2007, São Paulo in Brazil already enacted the Clean City Law that prohibits advertising panels as 'visual pollution'. The law has meanwhile been eased again, but there is less posted advertising than in the past. The view of the city is obscured less frequently by gaudily coloured surfaces and the residents are exposed to advertising messages less intensively.

Presence of advertising spaces
No municipality without advertising spaces, despite an adverse effect on appearance
Source: Municipal survey for the Baukultur Report 2020/21

96% of municipalities lease advertising spaces in public spaces.

96% of municipalities perceive private advertising systems as having an adverse effect.

33% (very) frequently
63% in individual cases
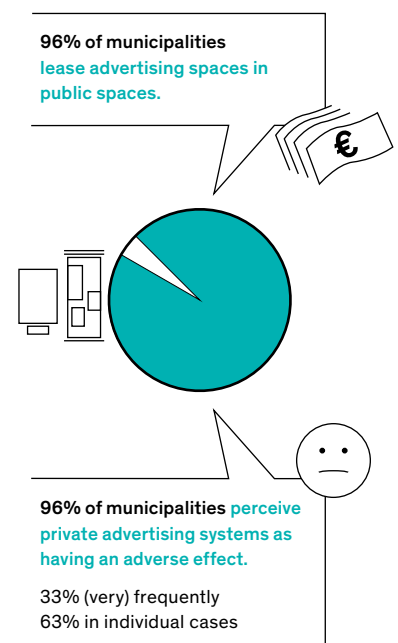
Art   Art in public space can stimulate, provide impulses, and forge identity. But it can also annoy and deliberately alter the cityscape. The boundaries between per cent for art projects and art in public space are fluid. Besides public contracting authorities like the federal government, states, and municipalities, private companies can also design their buildings and open spaces artistically. Munich is regarded as a good example of how per cent for art projects can be utilized in a targeted way: the city divides up the art budget and funds per cent for art projects that are supposed to endure long term in the 'Quivid' program. The cultural department uses the rest of the budget for projects that can only be seen temporarily in public space and then vanish from the cityscape once again. The advantage: art forms that (as frequently participatory and cooperative strategies) would not be funded as per cent for art works are given an opportunity. Moreover, a presentation for a limited period of time often has greater visibility. Mediation offers can stimulate an examination of the design and value of public space. There are therefore guided 'StadtKunstTouren' (Urban Art Tours) in Mülheim an der Ruhr, strolls and bicycle tours for art in public space in Dortmund, and the series 'DDR-Kunst im Kontext' (GDR Art in Context) in Potsdam. The web app 'Public Art Trier' provides everyone who would like to explore the city on their own with information accessible by smartphone about the artworks in urban space.

The StadtLabor (Urban Laboratory) in Cologne has taken a different approach with the project 'Der urbane Kongress' (The Urban Conference). It began with a field test in 2012. In a planning zone in the centre of Cologne, art in public space was temporarily marked with signal colours to raise awareness of its existence. The sites were then discussed on tours and at public events, and some works were then restored, repositioned, or removed. Another idea from the urban conference was not implemented, but did provide new impulses for the discussion of art in urban space: works that are no longer contemporary were supposed to be collected in an archive for unused art and thus removed from urban space on a temporary or long-term basis.

It is good for cities and towns to anchor responsibility for art in public space in one place or even to bundle it for several municipalities. What thus comes about is art direction for this art that – even though various departments may be responsible – coordinates and is in charge of all activities: from competitions to consulting services or convening an art commission to involving residents. Artists are supposed to be fundamentally involved in the planning: The Wehrhahn line in Düsseldorf (p. 76), a new underground with a length of 3.4 km, was jointly planned from the very beginning by engineers, urban planners, architects, and artists. The six stations, which were designed by various artists, speak a uniform architectural language and are free of advertising. The extremely successful result is based on the good collaboration between the different disciplines and their willingness to compromise.

Besides municipalities, the federal government also supports art and culture in cities and towns. The guidelines for carrying out building tasks for the federal government (RBBau) regulate artistic involvement in the federal government's construction measures. In addition, the former Bundesministerium für Verkehr, Bau und Stadtentwicklung (BMVBS, Federal Ministry of Transport, Building, and Urban Affairs) developed the 'Leitfaden Kunst am Bau' (Handbook for Per Cent for Art) in 2005 and revised it in 2012. This handbook provides recommendations

Investments in art

71 % of the municipalities surveyed invest in per cent for art projects or art in public spaces. M32

for how funding for per cent for art projects can be used optimally. Such projects should have a suitable relationship to the construction costs: for construction costs of up to 20 million euros, 1.5 % of the orientation value; for buildings of over 100 million euros, 0.5 %. The German Bundestag recommended spending a fixed percentage of the estimated construction costs on per cent for art projects in 1950. The 1 to 2 % of the construction costs that were stipulated in 1950 was raised to 2 % in 1960 and then reduced to 0.5 % in 1982. The owners are responsible for maintaining the artworks. Artists are thus instructed to furnish reliable information about the level of maintenance costs anticipated and the lifespan of their works. An overview of the widely scattered artworks is provided by the 'Museum der 1000 Orte' (Museum of 1000 Locations), which has been online since 2017. Construction-related art from the GDR is included in the steadily growing collection provided it was originally created for government institutions or buildings that are federal government facilities today.

Construction-related art in the GDR – the term used here – was also sponsored by the state. An ongoing cataloguing of architecture-related art in the GDR on an official level has so far failed to take place. That these artworks have nevertheless not been forgotten, but instead captured photographically and archived is thanks above all to private initiatives and citizens associations. There is also a lack of a clear strategy for dealing with works that might safeguard works on site or in a depot or have them brought to a new location, or for extensively documenting works that have not been preserved.

Public Spaces as Galleries Urban Art has developed beyond the illegality of spontaneously sprayed signatures (tags) and larger text pictures (graffiti/ style-writing) to picture-oriented presentations (street art) and large-format wall paintings (murals) created as commissioned works. In 2013, Mannheim invited national and international artists to design the façades of buildings with murals. While initially planned as a one-off action, the many positive reactions led to 'Stadt.Wand.Kunst' (City.Wall.Art) taking place on an annual basis. The city has developed a 'Mural Map' as an 'open urban art gallery'. A graffiti festival with great appeal also takes place each year under the title 'Meeting of Styles (MOS)' in the Wiesbaden district of Mainz-Kastel. In 1997 – still under the name 'Wall Street Meeting' – the city of Wiesbaden opened up surfaces at the former Wiesbaden Slaughterhouse to be designed artistically. Sprayers wanted, among other things, to prevent the demolition of the site under the motto 'Jugendkultur braucht Platz' (youth culture needs space). The festival, which was awarded the city's cultural prize in 2017, has become one of the biggest cultural events in the region and strengthens the identification of many Wiesbaden residents with their city.

The urban district of Freiimfelde in Halle an der Saale registered a vacancy rate of 43 % in 2008. In cooperation with residents and owners, as of 2012, the team of the Freiraumgalerie (open-space gallery) has been organizing participatory actions, workshops, an all-you-can-paint festival, and artistic works on façades to make the district more colourful. Of the over 100 artworks that have been created, some of them have vanished again because buildings have been demolished or renovated. The organizers of the Freiraumgalerie do not see anything negative in this. The primary goal of the artistic design was to enliven the district. As an impulse generator, the initiative has initiated further projects throughout the city and also strengthened residents' identification with their

Baukultur Coordinates Experts
Traffic Infrastructure in Düsseldorf –
With the Wehrhahn Line through Art Spaces

When investment is made in a new underground line, it must be more than merely a transport route. Such considerations must have guided the city of Düsseldorf when it wished for a collaboration between architects and artists – Düsseldorf is after all a city of art – in the competition to design the new Wehrhahn line in 2001. It was won by netzwerkarchitekten from Darmstadt in cooperation with the artist Heike Klussmann. A big surprise, back then as today: a young team actually received the planning contract.

The tunnel, which was finally begun in 2007, replaces a tramline on 3.4 kilometres between the Wehrhahn and Bilk regional railway stations. Because the entire route is situated beneath an important shopping street, it was necessary to minimize the adverse effects. In the area of the stations, work was thus done as soon as possible under a cover and otherwise by shield tunnelling. At the Heinrich-Heine-Straße railway station, the route intersects an older underground tunnel, so that the new station is situated beneath a large department store. On the suggestion of the building consortium, work

took place here by means of pre-freezing the substrate – an expensive process, but one that protected the surface.

The concept of netzwerkarchitekten and Klussmann regards the tunnel as a 'subterranean continuum' with the stations as wider open spaces. For the tunnel walls there, the planners oriented themselves conceptually based on the reinforced concrete segments with which the tunnel tubes are produced. Klussmann developed an inner shell with a grid structure consisting of a total of 6,700 rhombuses, which calls snakeskin to mind. The pattern becomes narrower or wider so that the 'continuum' is visually compressed or elongated. The production of the in part irregular, non-reinforced concrete slabs was complex – due to the surface quality desired and the accuracy of the angles, but also because the slabs have the standard resistance to vandalism and are supposed to be reproducible. Larger panels were first produced in a casting process and then cut to size. As part of larger panels, very small rhombuses are only separated from each other by dummy joints.

At the stations, the vertical 'editing spaces' leading to the surface encounter the horizontal space of the tubes. By means of incisions, daylight arrives in the stations situated at a depth of 14 to 18 metres and visual connections and orientation between levels are created. The depth can be experienced without being perceived as a place of anxiety. For the editing spaces in each station, five other artists (in addition to Klussmann) were selected by means of a competition in 2002. Their works all deal with the topic of movement but with different materials: as an abstracted path network in the floor, as cryptic word snakes, as a (computer-aided) processing of occurrences on the surface, as wavy lines on glass, as a video work with a view into outer space, or as a sound installation.

The fact that the Wehrhahn line was broadly accepted and even admired when it opened in 2016 also has to do with the information campaigns for residents and the general public that started early. The structure was announced with a high-quality catalogue, on Instagram, and in press releases. 'The new metro represents a rare moment when people who never usually interact – city bureaucrats, engineers, architects, and artists – create something bigger than themselves.' The Guardian summed up the achievement thusly: Coordinated by the municipal offices for traffic management and culture, structural engineers, architects, and artists could learn from one another in planning discussions, workshops, and 1:1 samplings and create a true architectural masterpiece in which the tunnel structure, architecture, and art form a single unit. The result is that much more consistent because it is free of advertising in both the stations and on the trains. That it has so far only been necessary to get rid of very little graffiti and no vandalism can implicitly be understood as praise.

Facts

Planning and construction: 2001–2016
Project developers: State Capital Düsseldorf, Office for Traffic Management
Planners: netzwerkarchitekten, Darmstadt; Heike Klussmann, Berlin; IGW Ingenieurgemeinschaft Wehrhahn, Düsseldorf
Size: 3.4 kilometres of track; 21,000 m²

gross floor area of the stations
Costs: 928.9 MM euros (entire project), of it 428 MM euros (cost group 200–700) for the stations and 3 MM euros for art

More information in the project description in the appendix on p. 138

BAUKULTUR AT A GLANCE
- Transport structure that invites spending time instead of being a place of anxiety
- Integrally related structural engineering, architecture, and art
- Collaboration coordinated by municipal authorities
- Young architecture firm received a big contract
- Absence of advertising
- Respect for the structure, no vandalism

district. In 2017, the vacancy rate had declined by more than half. In western Saxony, the 'ibug' has taken place on the last two weekends in August every year since 2006. The name of this festival for urban art is an acronym derived from 'Industriebrachenumgestaltung' (transforming industrial wastelands). The temporary exhibition incorporates the location, its history, and its architecture, and enlivens a wasteland with graffiti, painting, illustrations, media art, and performance each time. In 2019, approximately 100 international artists transformed the former railway maintenance depot in Reichenbach in Vogtland into a temporary gallery. Open-air exhibitions of sculptures, objects, and installations such as the 'Blickachsen' (Visual Axes) in Bad Homburg and the surrounding Rhine-Main region, and the 'Skulptur Projekte Münster', which take place at regular intervals, or irregular shows as are found in Heilbronn examine the cityscape as an exhibition venue. Beyond their own power as objects, sculptures and artistic interventions in interplay with their built surroundings lend public space a new quality. The artworks can be experienced outside of institutional exhibition venues and enliven the cityscape.

The 'Ruhr Ding' is an interregional exhibition of art in public space. In 2019, it was possible to view twenty-two art projects in the cities of Bochum, Dortmund, Essen, and Oberhausen free of charge for the first time. Under the superordinate topic of 'territories', the artworks examined their respective location and the formation of local identity – also at unusual places like the residents' registration office in Oberhausen or on a football field on which three goals were positioned on a hexagonal playing field. Jack-o'-lantern tours led to the art projects on foot, by bike, or with local public transport and were intended to open up new perspectives on familiar places. In the coming years, the 'Ruhr Ding', a format created by the cultural institution Urbane Künste Ruhr, wants to link other cities in the Ruhr region, to examine public space with the support of artists, and to address current topics. All of these formats focus on the exhibition location, interrogate future uses, or inspire people to think about the city, society, and types of public spaces that we need or wish for. The unusual perspective in part kindles new engagement, brings about ideas for forgotten public squares or wastelands, and supports people's identification with their cities and spaces.

Designing Infrastructures

The overall picture of a public space comprises many elements: buildings, technical instal-lations, traffic, gardens, landscape, art, and commerce. How they interact defines the genius loci, the special atmosphere of a place. The population puts great importance on the upkeep and maintenance of their living surroundings and the accessibility of facilities for everyday needs. This is fostered by the compact city, which facilitates living, working, and supply in a limited space. Converting traffic areas into communal spaces and designing spaces based on the principle of design for everyone creates future-oriented public spaces. They are essential for equivalent living conditions in the city and the countryside.

Mobility and Space

Traffic and Urban Development We are mobile almost exclusively in public space. The transport policies and mobility concepts we pursue directly influence the design, use, quality of time spent, and the appreciation of such spaces. The best example is the conversion to the car-friendly city in the 1950s and 1960s. During the reconstruction activities after the war, entire districts were demo-lished, streets moved and widened, and motorways built. This changed the public spaces and thus the appearance and structure of many cities in a much more far-reaching way than the destruction of the Second World War. While urban development was oriented towards cars and their speeds until into the 1960s, the focus today is on the human scale. The most well-known representative of this view is Jan Gehl. His projects across the globe focus on people, their move-ment on foot and by bicycle, and the quality of life in public space. Gehl makes clear: if a city is liveable for eight and eighty year olds, it will satisfy the needs of all age groups in between. The development of bicycle infrastructure is called for and promoted particularly in big cities. The concepts of shared space or the Swiss zones for encounters, in contrast, focus on mutual consideration and attempt to harmonize the different speeds more intensively. Safety and quality of time spent benefit from this to an equal extent. The Marktplatz in the old town of Schönebeck (Elbe) or Tübinger Straße in Stuttgart show how the principle of shared use as well as a different allocation, use, and design of public space can provide impulses and lead to a new togetherness.

Increasing Levels of Traffic Mobility means moving from A to B efficiently and based on one's personal wishes and possibilities. This need is growing and traf-fic along with it. The volume of traffic in Germany continued to grow in 2019 – by 1.1 % in comparison to the previous year. The degree of private motorization is also rising despite the broad discussions of sharing options. While there were still 532 vehicles per 1,000 residents in Germany in 2000, in 2018 it was already 568. Over 80 % of the kilometres covered by passenger transport in Germany in 2018 could be traced back to motorized personal transport. The consequences are obvious: traffic and parked cars affect urban life on streets and public squares.

Increase in new registrations of SUVs and caravans

SUVs
+282 %

Caravans
+197 %

| 2010 | 2012 | 2014 | 2016 | 2018 |
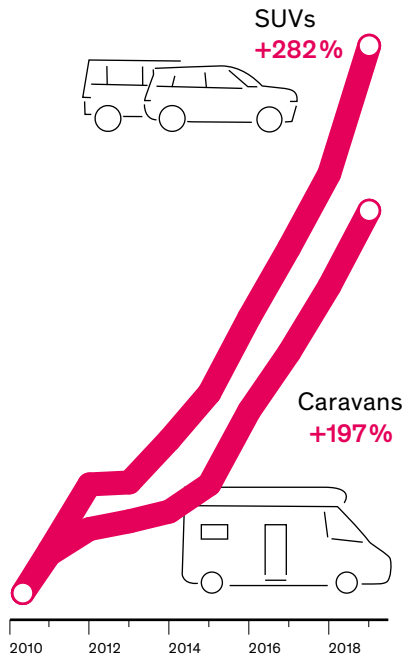
Greater space requirements and restricted views
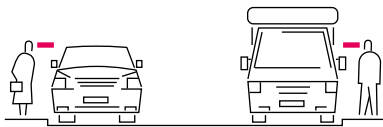
Stationary vehicles

94 % of the municipalities surveyed see a great demand for parking space for cars. But, at 51 %, the utilization pressure for bicycles is also high. M20

Many wish for car-free weekends for community activities

Those surveyed consider district festivals (86 %), weekly markets (80 %), flea markets (71 %), or play streets (70 %) to be good or very good occasions for car-free areas on weekends. P11

A transformation of mobility culture offers the opportunity to allocate traffic areas in public space anew. The shift in traffic is already in full swing in cities. It ranges from the creation of new bicycle streets, more intensive management of parking space, and considerations of city congestion charges to districts with limited car traffic. But mobility by car continues to hold great importance: more and more Germans over the age of eighteen have a driving license. In the biggest cities in Germany, however, the use of private cars has been declining for roughly ten years. More distances are thus covered on foot, by bicycle, with public transport, or with other mobility options. Car sharing is also increasing. Growing cities must find solutions for the increasing competitions for scarce open spaces. Many streets and traffic routes once created for the car-friendly city have to be remediated. This offers the chance to achieve more quality of time spent by means of conversion. Traffic planning and traffic policies that focus on the weakest participants in traffic – namely children, older individuals, and people with disabilities – create not only mobility for everyone, but frequently also more attractive and diversely useable public spaces.

The compact city of short distances (unlike the car-friendly city at its time) focuses on the interplay of living, working, and supply in a confined space. This helps reduce traffic, without forcing people to do without mobility. Shorter distances mean less traffic and fewer traffic areas. This creates space for foot- and cycling paths and new urban greenery and improves the quality of time spent in public space. The approach reduces car traffic more and more and upgrades the urban space of city centres. Increasingly, municipalities have been closing large traffic arteries to car traffic temporarily to enliven commerce and public togetherness in the city centre. The removal and conversion of car-friendly structures is growing.

One example of how traffic spaces for everyone can be reclaimed is the remodelling of the old city of Ulm. The corridor of the four-lane Neue Straße there was created in the 1950s. This led to an upsurge in traffic; the traffic load grew. Urban society already criticized the inhospitableness of the city centre in the 1970s. The reorientation of traffic and urban planning in Ulm began in the 1990s with a dialogue that included all participants. This led to an expansion of the public transport network and the calming of traffic in the city centre. Following an urban development idea competition, by 2007, Neue Straße was made into a two-lane street with a speed limit of 20 kilometres per hour. The roadway and pavements are barely separated, and the street makes do without traffic lights or pedestrian crossings. Harmonizing the speeds of all modes of transport makes it possible to cross the road at any point, and participants in traffic come to an agreement through eye contact. The togetherness of pedestrians, cyclists, and car drivers in this mixed space has resulted in mutual consideration and more safety for all participants in traffic. This, however, has barely affected the operational performance of Neue Straße: prior to the conversion, it accommodated 20,000 to 22,000 vehicles per day; today, traffic flows just as well with 16,000 to 17,000 vehicles, but with much more mutual consideration.

Municipalities are introducing a speed of 20 or 30 kilometres per hour in the city centre or throughout the city. The goal: motorized personal transport, which is only perceived as faster, is becoming less attractive because traffic is generally slowing. The feeling of safety and the quality of public space is growing, and more people are switching to bicycles and public transport. In 2014, the Federal

Environmental Agency (UBA) calculated that cars and bicycles are equally fast on routes of up to four kilometres. People on foot even cover one kilometre the quickest – and they see more of the city. The experience of the city, retail shops, and public spaces enjoys this.

Spaces for All The current development of electromobility aims to reduce toxic emissions in road traffic. But too many cars needing too much traffic area in our cities is not resolved by new propulsion technologies. What occupies public spaces in particular is stationary traffic. To reduce traffic and make it more efficient, integrated mobility concepts hold promise. They are meanwhile regularly developed in new planning and ever more often for existing districts as well. Paris shows how motorized personal transport can be reduced. The city has expanded its network of cycling paths from 282 to 738 km. The number of private cars declined by 18 % between 2003 and 2014. This can be traced, especially, to the reduction of designated parking spaces by 14 %. At the same time, investments were and are still being made in transforming transport hubs into green areas. Munich has been focusing on a combination of parking space management and promoting cycling for ten years. This has resulted in 14 % less car use, 61 % more foot traffic, and 75 % more bicycle traffic. Calming traffic on a large scale or converting street space are two possibilities for a municipality to reduce the spatial dominance of cars.

In Berlin, street and traffic areas comprise 15 % of the surface area. An examination of the allocation of street spaces in Berlin, which assessed 200 streets, found that 39 % of street space is reserved for car traffic. Another 19 % is dedicated to parking. Nearly half of the parked cars in big cities stand on the edge of the street; a car is parked an average of twenty-three hours per day. The

Better on foot
En route from Wenigermarkt to Domplatz in Erfurt: faster arrival and more impressions of the city
Source: Federal Agency for Cartography and Geodesy 2019

9 min
750 m

13 min 3.7 km
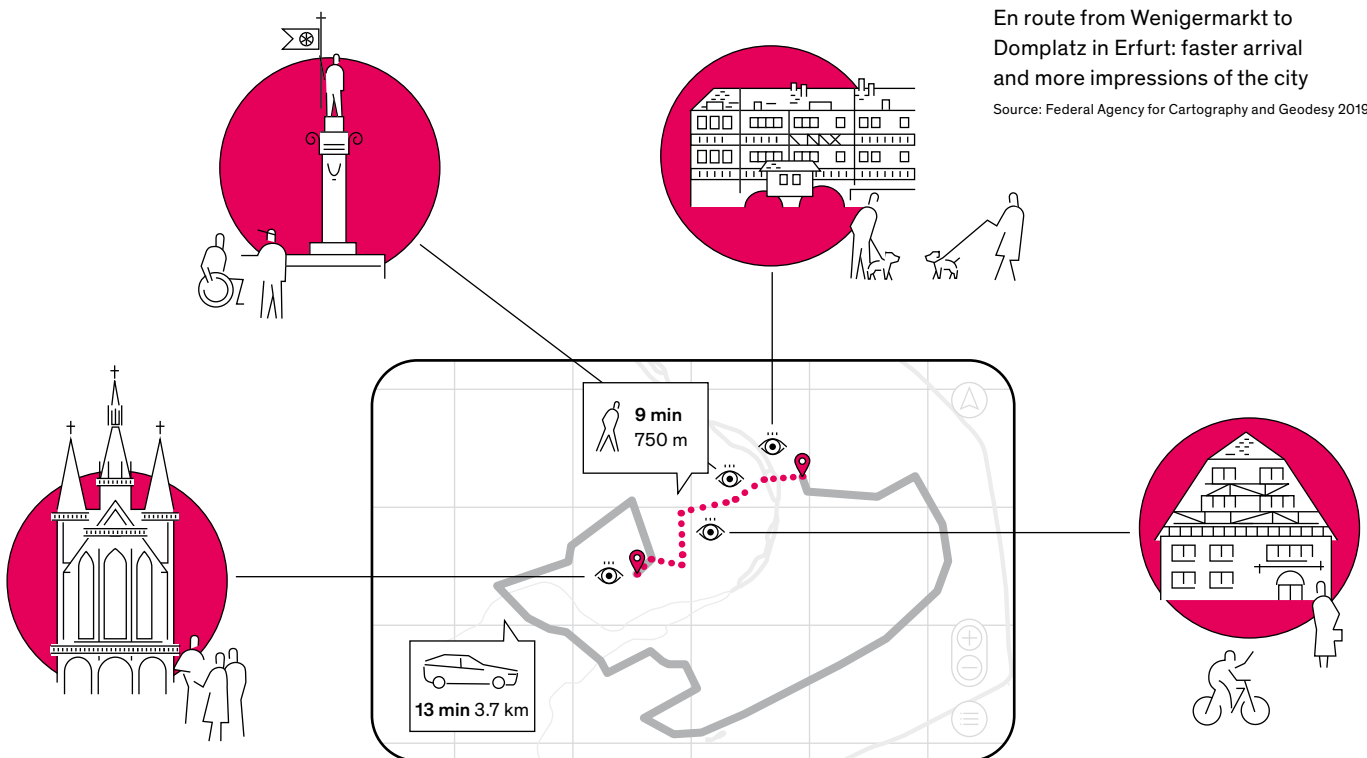
Development of playground areas per inhabitant and number of private vehicles in Berlin

Source: Office for Statistics Berlin-Brandenburg 2008–2018; Senate Department for Health, the Environment, and Consumer Protection Berlin 2019

Number of vehicles
+12 %

Playground area per inh.
±0 %

The number of inhabitants increased by 11% in the same period.

2008   2010   2012   2014   2016   2018
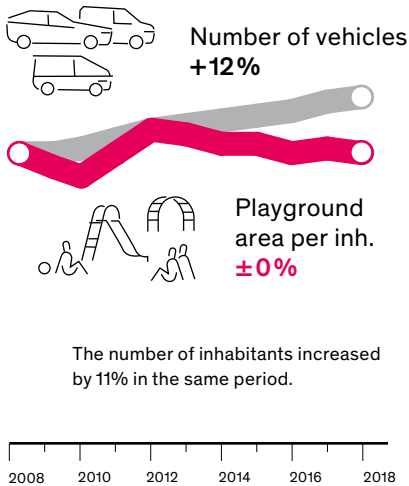
management of parking space is trying to put a price on the private use of public areas. Policy-makers decide on the level of fees and thus on the effectiveness of this approach. Commercial pricing derived from the value of the land would be considerably higher than the parking fees that are common today. For a resident parking permit, residents of Berliners pay less than 10 euros per year. In Amsterdam a permit costs 583 euros and in Stockholm 827 euros. Comparatively, Berlin has an acute lack of playground areas, although it is the only federal state to have its own playground statute. It already entered into force in 1979 and specifies a value of at least one square metre of play area per resident. At the beginning of the 1990s, there was still an average of 1.3 m^2 per person in West Berlin. Since 2000, playground area has decreased by 25 %: from 0.8 m^2 per resident then to 0.6 today. By contrast, the number of vehicles registered in Berlin grew by 13 % from 2008 to 2019 to over 1.4 million. Another phenomenon of the scarcity of public space in big cities – particularly on pavements – are the growing number of (also often haphazardly parked) rental e-scooters and rental e-bicycles. Some cities have already taken measures to regulate such offers and to clear their pavements. They include speed limits and age stipulations. In San Francisco, the oversupply of rentable e-scooters and e-bikes resulted temporarily in a complete ban. The utilization pressure on public spaces is rising in big cities especially. There, traffic spaces are once again becoming a focus as places to spend time and have encounters and as possible places for the new. Depending on the situation and time of day or season of the year, streets can be used in different ways and temporarily become spaces for encounters again. Renting parking spaces temporarily to gastronomy can be a small, effective intervention. Cologne and Bonn have been testing this approach for a few years. A reorganization of cities makes it possible for restaurant proprietors to rent parking spaces in front of their businesses. This simultaneously creates more space on pavements again.

When planners speak of 'multi-coding', they mean that the same area can be used for various purposes. This facilitates overlapping uses of buildings, infrastructure, streets, public squares, and green areas. When interests and uses are coordinated, traffic space can become a place where people enjoy spending time. Streets are then open to car traffic during peak periods; at other times, some lanes can be reserved for logistics and bicycle traffic. Other streets and public squares serve temporarily as market places. In Barcelona or Gent, there are successful projects for intermittently closing districts off to car through traffic. Large plant containers, benches, and table tennis tables signal that these streets belong to playing children, pedestrians, and access traffic. In Berlin, an

'Stronger, faster, heavier, bigger'

Source: Federal Motor Transport Authority 2019

1974
VW Golf I
790
50 PS
1.39
3.70   1.61

1997
VW Golf IV
1050
75 PS
1.43
4.14   1.73

2019
VW Golf VIII
1205
85 PS
1.45
4.20   1.8
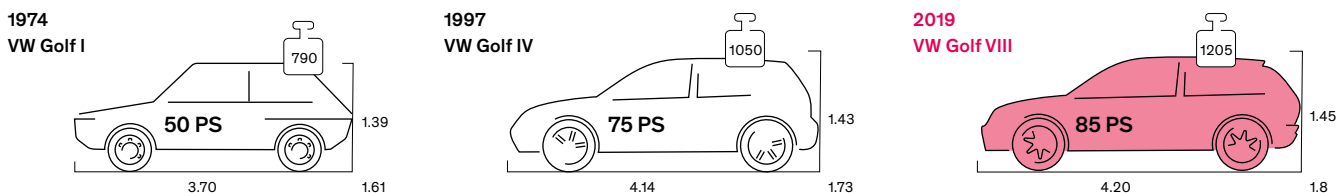
initiative that wants to make streets into play streets on a temporary basis formed in 2019. It thus follows an example from London, where more than 100 such temporary play streets have been created. In Hamburg, two streets in the Rathaus district remained car free for three months, also with strong approval from the commercial tenants of neighbouring ground floors. They placed tables and chairs in front of the door or even a table tennis table on a parking space in front of the building. From 11 a.m. to 11 p.m., solely pedestrians and cyclists were permitted to use the two small streets. They were only opened up at night for logistics and delivery traffic.

Transport Networks of the Future Public transport networks in big cities are facing a dilemma. They reach their limits in peak periods particularly. Investments are absolutely essential. According to the Verband Deutscher Verkehrsunternehmen (VDV, Association of German Transport Companies), the public transport network in Germany transported 10.4 billion people in 2018. That is an increase of 0.6 % – and the twenty-first increase in a row. According to the VDV, the capacities must be developed in the coming years. This necessitates investments in the infrastructure: in stops, railway stations, and routes. The backlog, according to the VDV, amounts to five billion euros. The aim of mobility concepts is a differentiated interplay of offers of environmentally friendly modes of transport and newer forms of mobility, such as car sharing. But the growing number of passengers on the public transport network gives rise to density pressure. According to the Statistisches Bundesamt (Destatis), passengers in buses and trains increased by 0.6 % from 2017 to 2018. Jointly useable mobility offers like car, ride, or bike sharing can contribute to relieving the strain. They also reduce the use of private cars. According to the UBA, one car-sharing automobile can replace fifteen private cars, which would also create up to 99 m^2 of parking space. A study on car sharing in 2019, however, shows that the model has paid off to date in only eleven big cities in Germany. Such offers – in part with e-power – lead to a new demand for space that has to be incorporated within public space, since a multi-modal approach to traffic is first made possible by charging stations or parking facilities for bicycles.

Due to its low traffic noise pollution, e-mobility can improve the quality of public spaces and the quality of life in residential areas. Because they are emission-free and have a low noise level, more and more e-buses are also being used in city centres and residential areas – a measure that leads to more attractive and higher-performing local transport. Altering the modal split in favour of the public transport network also helps cut down on the competition for space in public spaces. The project 'autofrei wohnen' (living car-free) began in Munich-Riem in 2017. There, open, aboveground parking spaces are reserved for guests and sharing offers (based on an index for parking spaces per resident). This is not only sustainable; it also reduces costs because underground car parks are no longer necessary. The mobility concept of the Lincoln estate in Darmstadt is moving away from private car ownership towards the compact city. Mobility management integrates space-saving and traffic-calming development for cars within a dense network of foot- and cycling routes. New public transport network offers are also being created. This corresponds to the wishes of participants in traffic. In the population survey conducted by the Federal Foundation of Baukultur, 57 % of those surveyed wished for a better coordination of public transport network offers.

Twice as wide, three times as good
Source: FSV, RVS 2012; Vienna 2011

2 m
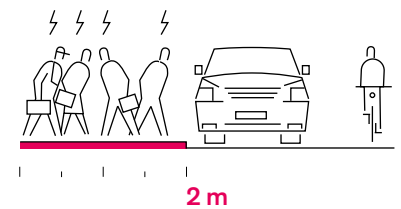
As of 400 persons / hour

Confined foot traffic. Conflicts hard to avoid

4 m
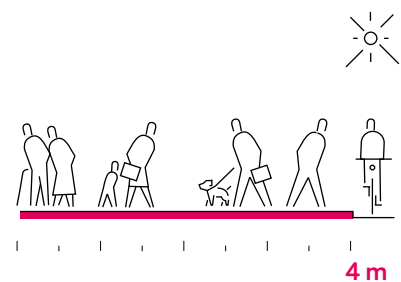
Up to 1,500 persons / hour

More comfortable foot traffic. Barely any to few conflicts between pedestrians

Baukultur Bridges Distances

The Kienlesberg Bridge in Ulm –
Engineering Architecture over a Field of Tracks

A field of tracks branching off in three directions in urban surroundings; in the middle of it, the construction site for the entrance to the Kienlesberg tunnel of the new ICE line between Stuttgart and Ulm. And, nevertheless, a new link and even a public location have been created specifically here.

The city of Ulm was already active with respect to Baukultur with its dismantling of a main transport artery through the city centre. Another step then took place with the construction of a new tramline connecting the science park and university area in the Eselsberg district with the centre. To do so, the field of tracks in front of the central station had to be crossed over 270 metres diagonally to the Kienlesberg. The nearby listed Neutor Bridge of 1907 – an Ulm landmark with its riveted steel framework construction – would not have permitted this increase in function. It was necessary to accommodate the two tram tracks in one lane, which would also be used by replacement buses, as well as a foot and cycling path on the southern side. Despite the consideration duly afforded the Neutor Bridge, the new Kienlesberg

Bridge was also a design task due to its exposed situation (visible from the Kienlesberg, the neighbouring road bridges, and trains).

Constraints also resulted from the restricted building site as well: Because neither the tunnel construction site nor the train operations could be interrupted for a longer period of time, launching was deemed a suitable construction method. The good coordination with the Deutsche Bahn, which already had to be informed about interruptions in operation two years in advance, was thus a success. In addition, the tram route required a slight curve in the southern segment of the bridge and a difference in elevation of some 15 metres had to be overcome. At the same time, it was also necessary to take into account the clearance gauge from the overhead lines of the tracks so that, viewed from the south, there was a change in ascent from 7.35 % (because this is more than the 6 % required for barrier-free accessibility, the tram was defined as a 'lift') to 6.0 %, and then a slight descent of 1.2 %. Occasionally, only 1.5 metres were situated between the tram

track and clearance gauge, which denotes a low construction height for the bridge.

The realization competition in 2012, which was organized by the Stadtwerke Ulm (Ulm Municipal Works) as the project developer, was won by Krebs + Kiefer Ingenieure GmbH from Karlsruhe, in cooperation with Knight Architects from High Wycombe, England. Their interdisciplinary solution did not capitulate to the technical and logistical constraints but instead developed a complex geometry that is asymmetrical in every dimension and became a design motif. The solution, which was executed as a steel construction starting in 2016, consists of a trough for the tramline, whose flanks are designed as waves. Because the eight columns could only be positioned irregularly, span lengths between 14.8 and 74.5 metres result and an intriguing offset of the two lines of waves is created in the horizontal section. On the southern side, where the 4-metre-wide cycling and footpath further intensifies the asymmetry, the waves had to be taller. The two central ones were designed as framework construction – by all means a reminiscence on its historical neighbour, whose height is, however, not exceeded. The planners designed the openings in the framework construction as seating options so as to give the long route added value as a lookout point. In addition, the foot- and cycling path was widened in layout by 6 metres to create two 'pulpits', analogous to the waved lines of the supporting structure. Tram passengers also can see the city panorama through the framework structure.

Inaugurated in 2018 with a christening, the Kienlesberg Bridge is convincing because it visualizes the flow of forces as an engineering structure; as an architecture that is suitable as a landmark as a result of its individual manifestation; and as an urban planning measure that takes visual connections into account and activates the third dimension: a place of paths and a place for spending time has been created over a previously completely inaccessible traffic area.

Facts

Planning and construction: 2012–2018	Length: 270 m
Project developers: Stadtwerke Ulm, SWU Verkehr GmbH	Cost: ca. 20 MM euros
Planner: Knight Architects, High Wycombe (GB); KREBS+KIEFER Ingenieure, Karlsruhe	More information in the project description in the appendix on p. 138

BAUKULTUR AT A GLANCE

- Exposed traffic structure with consideration for urban development and monument protection aspects
- Functional, structural, and logistical constraints become a design topic
- New public space over inaccessible tracks
- Building task solely for public transport, pedestrians, and cyclists
- Structural engineers and architects as important partners

Desire for better traffic infrastructure

Traffic participants wish for:

improved condition of streets and cycling and foot paths

67%

better coordinated public transport services

57%

more frequent public transport connections

53%

more cycling paths

50%

more parking options for cars

45%

more pedestrian-friendly pavements

37%

better traffic management

36%

more parking spaces for bicycles

30%

On Foot and by Bicycle All participants in traffic are also pedestrians. Travelling on foot is the most common form of locomotion in many big cities. In Berlin and Hamburg, 27 % of all routes are covered on foot. This was shown by the 2017 study 'Mobilität in Deutschland' (mobility in Germany). Foot traffic, however, only plays a subordinate role in planning. Parked cars, e-scooters, and rental bikes are taking increasing space away from pedestrians. The 2018 UBA concept paper 'Geht doch!' (Walking Works) proposes consistently making roadways into routes to be covered on foot. Based on the mobility law of 2018, Berlin is planning measures for pedestrians in particular. They include, for instance, longer green phases for traffic lights. Pavements should be wider and be developed into continuous networks of paths that offer pedestrians more comfort and safety. In the Vordere Westen district of Kassel, several important transport connections were modified to make them pedestrian-friendly. Two separate roadways with an unusable band of green between them were merged to create one roadway, which is now also used by the tram, with two lanes in both directions. Parking spaces are now in the centre of the street. In place of two pavements with a width of 2.25 m each, a 16-metre-wide promenade with trees and benches was created. The Kienlesberg Bridge in Ulm (see p. 84) shows how quality of time spent for pedestrians can be integrated within new infrastructure projects. The new bridge for trams, pedestrians, and cyclists spanned over a railway junction links the city centre with the city districts of Eselsberg and Michelsberg. The bridge also provides seating options and views of the city.

In 2018, 4.18 million bicycles and e-bikes were purchased in Germany. That is 8.6 % more than in the previous year. The Copenhagenize Index lists Europe's most bicycle-friendly cities. In the past years, German cities have been trending downwards. Berlin for example still occupied the fourth position in the Copenhagenize Index of 2011, while Hamburg ranked in eleventh place. The index of 2019 now sees Berlin in fifteenth place and Hamburg in twentieth place. There is a need to catch up on expenditures for infrastructure to develop the bicycle path network in an attractive way. Copenhagen invests 35 euros per person per year in bicycle traffic. German cities only spend an average of 2 to 5 euros – adjusted for price, that is less than one fifth. In 2019, Karlsruhe was chosen for first place among big cities in the bicycle monitor of the Allgemeiner Deutscher Fahrrad-Club (ADFC, German Cyclist's Association) – even before Münster and Freiburg. Karlsruhe already began a twenty-point program in 2005. For it, the city brought all stakeholders round one table and focused on the interconnectedness of various forms of transport. One can now travel on main routes from the edge of the city to the centre, where there are sufficient parking options for bicycles. Streets for cars have become streets for bicycles. In 2017, this resulted in a share of cycling in Karlsruhe of 23 %. It had been 16 % in 2005.

Planning the urban traffic in public spaces with a view to the traffic itself alone does not suffice. Planning has to be tackled structurally and based on the entire network. This is shown by well functioning cities like Karlsruhe, Ulm, or Erfurt. Linking new mobility offers with the public transport network and small services (like vending machines for inner tubes for bicycles or air pumps that can be used free of charge) promotes bicycle traffic. Sufficient benches and toilets make it easier for older individuals to be under way. Many city dwellers wish for a public space that serves all participants in traffic. Their ideas can be explored together in real laboratories. This can be, for instance, a provisional transformation of a

street with small parks. Allocating the scarce public space in a high-quality way means taking the needs of all users into account and doing the following with greater frequency: making the effectiveness and efficiency of modes of transport the measuring stick. One of the most important prerequisites for the change in mobility is safety. Sight lines should be unobstructed when crossing the street and crossings should be passable without detours. Foot- and cycling routes also require appropriate lighting. The less dangerous it is to cross a city on foot or by bicycle, the more often these forms of locomotion are chosen. And the more attractive public spaces become.

Infrastructures for Rural Spaces In rural areas, supply and leisure time offers are far away from one another. People who do not have a car and would like to participate in public life either need offers close to their homes or must rely on public local transport. Where such offers are dwindling, people who cannot afford a car or drive – like minors or older individuals – are prevented from moving around. In rural spaces, a person travels an average of 44 km per day – generally by car. In places with less than 50,000 residents, there are 600 cars per 1,000 people. In big cities, there is an average of 360. Workplaces are found preponderantly in cities and metropolitan regions. That is why roughly 60 % of all employees in Germany commute to work. More than one third of commuters use a car to do so. Instruments like commuter allowances or tax advantages for company cars encourage choosing one's own car as a mode of transport. Moreover, more flexible career and living situations are causing traffic to continue to increase. Public transport network offers, in contrast, decrease with the settlement density. In big cities, up to 20 % of routes are covered with the public transport network, while this is only 5 to 7 % in rural regions. Roughly 90 % of household there have one or more cars.

Mobility plays a key role when it comes to equivalent conditions in the city and countryside. The railway has ceased operations on many routes, closed routes, or even discontinued them completely. In 2018, however, it launched the 'Zukunftsbündnis Schiene' (Federation for Future Tracks), a new program that focuses particularly on the frequency of trains (also in rural regions) to increase the competitive strength of the railway. Since the end of 2019, the closing of routes that do not pay off economically has been halted throughout Germany. Routes and train stops are supposed to be reactivated where they link spaces to larger centres – for example, in the metropolitan region of Berlin-Brandenburg. More and more people live there and want to be mobile. Papers like the 'ÖPNV-Konzept 2030' (Public Transport Network Concept 2030), the 'Mobilitätsstrategie Brandenburg' (Mobility Strategy for Brandenburg), or the 'Stadtentwicklungsplan Verkehr Berlin' (Urban Development Plan for Transport in Berlin) provided stimuli for the 'Projekt i2030'. In it, the states of Berlin and Brandenburg as well as the DB Netz AG are examining how the infrastructure can be adapted to rising demands. There are now supposed to be more connections between the city and the countryside on nine routes, with closed rail connections reactivated, railway stations reconnected to the network, and regional trains operated with greater frequency.

Not only do demands on the public transport network differ in the city and the countryside, so do mobility concepts for ensuring public service. From 2016 to 2018, there was a model project by the federal government to ensure service

Modal split

All trips in selected cities in per cent for the year 2017

Source: BMVI 2018; Deloitte City Mobility Index 2018; Mobilitätsagentur Wien GmbH; Copenhagen 2017

Copenhagen
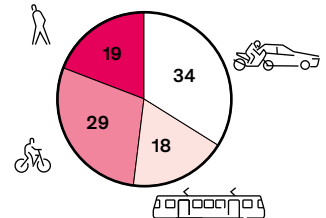
Amsterdam
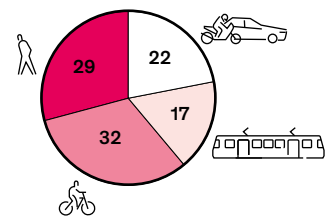
Freiburg
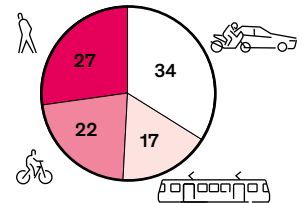
Karlsruhe
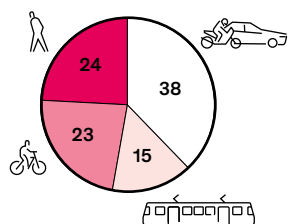
Berlin
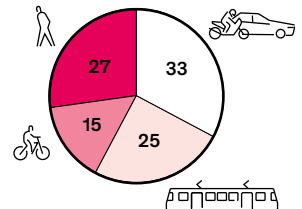
Munich
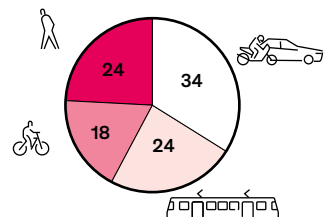
and mobility in the long term. It accompanied more than forty initiatives in eighteen model regions. One of the projects was the 'Mobilitätsressourcenmanagement Mitte Niedersachsen' (Mobility Resource Management for Central Lower Saxony). The project activated unused or underused modes of transport in sixteen municipalities to create an alternative public transport network. The project focused on resource sharing: private and public vehicles (for instance, of fire brigades) thus improved mobility in rural space using a needs-based, flexible offer linked to the classic public transport network. The Vogelsbergkreis administrative district in Hessen tested e-car-sharing by app in two villages to reduce the high rate of second and third cars in the administrative district.

The older one gets, the more short distances gain importance in daily life. Local offers and social meeting places should be accessible in an easy way and, if possible, without a car. This is a big challenge in structurally weak rural spaces particularly. Some communities are already preparing for the special needs of seniors. A development plan for seniors was adopted in Abtsgmünd in Swabia in 2015. An extensive survey of seniors and the establishment of a council for seniors accompanied the development of the plan. Abtsgmünd is supposed to become completely barrier-free by 2030. To achieve this, for instance, a driving service for seniors was initiated in 2017. Volunteers are called using mobile messenger services and, with their own cars, drive seniors to go shopping, to the doctor, or to the cemetery. The kilometres driven can be billed to the municipality. The offer has been widely accepted and is enjoying growing popularity. Such driving services also open up public space for residents who cannot drive a car themselves. Village and town centres benefit, because more people once again come to shop or do other transactions. Because the conditions differ from municipality to municipality, different mobility offers have to be adapted and coordinated to strengthen supply in rural space. A main network of well-coordinated connections with buses and trains at a suitable frequency is an essential pillar if the number of residents increases.

Logistics and Public Services

Activation of Railway Stations With the development of the railway during the era of industrialization, the economy and the population grew. In 1835, the Bavarian Ludwig Railway between Nuremberg and Fürth opened as the first German railway route. New settlements developed along the railway routes and a wide range of magnificent station buildings symbolized the new era. Circa 1900, they were often an urban development starting point for urban expansion. Their significance has changed very little: today, railway stations are also important places of arrival. They make a considerable contribution to the prestige and image of a location as a first, formative impression.

The Deutsche Bahn (DB) nevertheless sold roughly 2,250 railway station buildings in Germany between 1999 and 2019. The DB Station&Service AG currently still operates somewhat over 700 stations. Since 2001, 5 % of stops have been completely abandoned, a decline from 5,669 to 5,380 stops. The sale of buildings to municipalities, private individuals, and investors yielded 150 million euros for the Deutsche Bahn. To achieve this, it parted with station buildings with a property area totalling 3.5 million m². Where the highest bidding

Intensive use of railway station buildings

52 % of those surveyed in large cities with a population of more than 500,000 use public transport offers and railway stations (very) often. P2b

investors were awarded the station buildings, frequently neither the former owners nor the municipalities are satisfied: the envisioned utilization concepts failed in many places. What now remain are unused buildings that often fall victim to dereliction and vandalism. While there is still a railway route and a stop at most railway stations, the station buildings themselves are closed to the public. The maintenance condition and appearance of our public spaces are decisive for people's sense of safety and their feeling at home in a place. Because of their central locations, their supra-regional functions, and the high frequency of commuters and passers-by, railway station buildings and their surroundings are highly used and noticed by the population. Nonetheless, the design, maintenance, and comfort of the stay for passengers frequently take a back seat to municipal needs. This applies especially when transport issues and profits for the owner of the railway station assume a higher priority than the building's urbanistic function.

On the federal level, the governing parties agreed in the coalition agreement of 2018 on a 'Tausend-Bahnhöfe' (Thousand Railway Stations) subsidy program to make smaller railway stations more attractive. The program is supposed to fund the rehabilitation of the buildings; but the surroundings of the railway station should also be included at the same time. The Deutsche Bahn wants to invest 5.5 billion euros in the maintenance, repair, and modernization of railway station buildings between 2017 and 2021. It has recognized in the meantime that derelict station buildings negatively affect the image of the company. As a result, the Deutsche Bahn is only selling station buildings to investors individually and no longer in large packets. According to its own statements, when doing so, it is paying more attention to utilization concepts and, prior to each sale, checks whether the municipality is a potential buyer and interested in purchasing the building.

From the perspective of Baukultur, it is municipalities that should bear responsibility for these central locations. The city of Ulm, where a foresighted land and property policy has been a tradition for many years, seized this opportunity without hesitation. In 2018, it purchased the landmarked station building in the district of Söflingen along with its surrounding green area from the Deutsche Bahn. Erected at the beginning of the twentieth century, the Art Nouveau building, which is valuable from the perspective of Baukultur, accommodates not only technical systems for railway operations, but meanwhile also storage areas and rental housing units. Purchasing it offered the municipality's creative drive the opportunity to once again fill this overlooked location with public life and to regard it as a starting point for integrated urban development. Utilizations from gastronomy to community meeting places, which all radiate into the surrounding residential district, are all conceivable. The town of Eppstein in Hessen purchased and rehabilitated a derelict, historical railway station. The Deutsche Bahn and the state of Hessen financed parts of the overall project – in particular a rerouting of routes along with a new railway tunnel. The town itself invested 7.5 million euros of its funds in rehabilitating the building and its surroundings. A charging station for e-bikes was thus created. Private donors are also involved in a civic trust to refurbish the building based on monument protection guidelines. Today, the town operates an office for citizens in the station building. The restaurant has offers for children in the morning and provides a stage for events in the evening. Re-enlivened in this way, the citizens' railway

Baukultur Facilitates Orientation

Round Central Station in Erfurt –
A Mobility Concept as Provider of Structure

To fulfil its new role as an ICE junction, Erfurt Central Station was modernized between 1996 and 2008 by Gössler Kinz Kerber Kreienbaum Architekten (GKKK) from Hamburg. While the historical station building was being renovated, an island building between the tracks had to be removed, since the neighbouring Gera Flutgraben (flood control canal) would otherwise have had to be overbuilt in order to cope with the increase in capacity. A steel and glass structure spans all the platforms today.

The station forecourt was supposed to become a representative entrance to the city. The concept of the Hamburg-based planning firm WES LandschaftsArchitektur, which won the competition in 1999: Willy-Brandt-Platz (this is the site of the famous scene in which Willy Brandt is cheered while standing at a window in the 'Erfurter Hof' hotel) becomes a salon, a 'front parlour', outfitted with parquet flooring and chandeliers. The 'parquet flooring' is a courtyard paving of slightly shiny, but soft and vibrant-looking Bayerwald granite that is laid out in bands and extends up to the

historical façades. Three 'chandeliers' reinforce the impression of an interior room in outdoor space: Rings with a diameter of 6 metres are suspended from wire cables. Their twelve individually controllable luminaires can produce various luminosities and atmospheres with different colours of light. The rings also have reflective, golden inner surfaces. To mount the wire cables on the landmarked façade of the Erfurter Hof and on the Central Station, complex negotiations with the owner and safety verifications (for instance with respect to wind pressure and snow loads) were necessary, but, in return, the square requires no masts or lamps.

Tram transport is bundled along the western side of the square, which could be kept free by moving the tram stop beneath the railway underpass. Motorized transport (buses, taxis, hotel drive) is concentrated on the eastern side. Originally, these traffic areas were also supposed to be surfaced with granite. Along with representatives of the city, excursions were made to Ludwigshafen, Würzburg, and Schweinfurt, where there were already examples of heavy traffic on

natural stone surfaces. The decision makers were nonetheless not convinced, so the lanes were ultimately executed in asphalt. Notwithstanding, the bus station was also given a design that goes far beyond the standards. As metallic and green bands, the folded station roofs (architecture: GKKK) alternate with dense rows of plane trees, whereby overlaps also arise and trees penetrate the roofs. The trimmed crowns of the 'bundles of trees' first begin at a height of 4.5 metres so that visual links are preserved for pedestrians.

The asphalted roundabout is only separated from the granite surfacing by a minimal border. The centre of the roundabout is a rotunda, with a ramp to the car park under the square. A ring-shaped pool of water frames the rotunda, thus generating a sculptural effect. No standard products were used for the urban furniture: specially designed light masts for the bus station; conical natural stone bollards and asymmetrical seating blocks of concrete as a demarcation between the pedestrian and car areas. For the square, WES designed stone armchairs and had them patterned on site in their original size. The choice was ultimately made, however, for long, wooden benches. The square is otherwise pleasantly tidy, since the necessary navigational aids for arrivals are already found in the station building. The city had the large plant pots installed later on; the courage for open space was hence not rigorously implemented here. To complete the square, a bicycle parking facility was opened at its western end in 2009 and another followed on the southern side of the station in 2016 (the architecture for both of them: Osterwold Schmidt). A transport hub that links mainline and urban transport in an optimal way and provides suitable parking areas for cars and bicycles was thus completed. The centrepiece, however, is the high-quality and clear design, which gives pedestrians priority.

Facts

Planning and construction: 1999–2009	Verkehrsplanung, Erfurt
Project developers: State Capital Erfurt,	Planning area: 19,500 m²
Civil Engineering and Traffic Authority	Cost: 6.92 MM euros gross (cost group 500)
Planner: WES LandschaftsArchitektur,	
Hamburg; Gössler Kinz Kerber	More information in the project description
Kreienbaum Architekten, Hamburg; STP	in the appendix on p. 138

BAUKULTUR AT A GLANCE
- Outdoor space as a representative gesture of welcome
- Less is more
- Integration of public transport, underground car park, and bicycle parking facilities
- Public patterning
- Information trips to built examples
- Specially designed urban furniture

station has become a calling card for the town and was selected as the railway station of the year in 2018 by the association Allianz pro Schiene (Pro-rail Alliance). Improving how a railway station building is integrated within a district from the perspective of urban development can also give rise to potential with respect to Baukultur. One successful example is the redesign of the railway station in Aschaffenburg. Between the residential and office buildings of the centre of the city of Aschaffenburg, the railway station fits smoothly into the urban landscape – and not only for the visual impression. Since 2011, the station building has been barrier-free and accessible from all sides – also from the back – and thus links the district of Damm with the city centre. The transitions between inside and outside are fluid. The building is particularly tailored to the needs of visually impaired and physically disabled individuals, wheelchair users, and parents with strollers. Because it is so accessible since being remodelled, it was named railway station of the year in 2012. Beyond mobility, railway station buildings have another function for the city: as public buildings, they provide impulses for public spaces. In many places, civic initiatives have engaged themselves with rehabilitating and repurposing unused station buildings or inoperative stops. Reutilization as a cultural railway station has taken place in several cities and towns in Germany. They include Hiltrup, Neuenkirchen-Vörden, and Cloppenburg in Lower Saxony, Kalchreuth in Bavaria, Bad Homburg vor der Höhe and Weiterstadt in Hessen, Langenau and Neuenstein in Baden-Württemberg, Overath in North Rhine-Westphalia, and Greifswald in Mecklenburg-Vorpommern. The KAZimKUBA, the Kasseler Architekturzentrum established by the BDA Kassel in 1998, which is now celebrating its twenty-five-year anniversary, is also found in the Kulturbahnhof in Kassel. Decommissioned railway station buildings are also used for cultural purposes in many other places in Germany.

The railway station in the Mirke district of Wuppertal has developed into a district centre thanks to a non-profit initiative and dedicated individuals. The landmarked railway station building was closed in 1991. In 2016, the owner, the bank Stadtsparkasse of Wuppertal, handed the building over to the not-for-profit Utopiastadt gGmbH, which established a promotional association. To date, in addition to new gastronomy, a workshop equipped with a 3D printer and laser cutter, co-working spaces, rooms for agencies and studios, a bicycle workshop, and a free bike rental shop are found in the building. As a creative and district centre, the railway station in Mirke has a positive impact on the entire district. The railway station and its surroundings have become a central point of contact for civic initiatives and the cultural and creative enterprises in the neighbourhood. The Nordbahntrasse Jackstädtweg also travels past the railway station in Mirke. The 23-kilometre-long, inoperative section of rails between Düsseldorf and Dortmund is a project by committed local individuals and the association Wuppertalbewegung (Wuppertal Movement). The railway line was converted into a foot-, cycling-, and skating path in the years prior to 2013. The car-free route with few crossings has prompted several small- and mid-sized enterprises to settle there. It has also shortened and simplified the way to school for many pupils of surrounding schools.

Rail Transport Cities and towns are facing the challenge of designing freight and passenger transport in a city-compatible and environmentally friendly way without limiting its functionality. The aim is to shift more freight transport to rail

in the medium term and to double the number of passengers. This brings Bau-kultur-related challenges along with it. The higher capacity and the greater frequency of trains increase noise pollution on rails. In the coalition agreement, the federal government set itself the goal of halving rail noise vis-à-vis the reference value of 2008. The noise protection adaptations are supposed to be designed in a city- and scale-compatible way, even if this undoubtedly gives rise to higher costs. Noise protection walls are not the only option. Retrofitting freight trains with noise-reducing braking technology, pricing rails independently of noise, and, in particular, barring loud trains from using routes are all steps in the right direction. In addition, the longer trains could make it necessary to expand future station platforms. Solutions that are compatible with urban space must be identified individually, especially in central, densely built up locations. Beyond pure functionality, Baukultur-related aspects should also be a focus. In 2011, the federal government set the objective of shifting 30 % of freight transport with over 300 km of route length from roads to rail and water routes by 2030. This is one reason investments in logistics concepts, rail infrastructure, and noise reduction are also sensible and necessary in Germany. The federal government reckons that freight transport on rails will have the strongest growth of all transport modes by 2030, with a growth of 43 %. From 2014 to 2018, the Federal Republic thus increased its investments in rails by nearly two thirds. With a per person investment in the railway network of 77 euros, Germany nev-ertheless only ranked towards the bottom in a European comparison of eco-nomically strong countries in 2018.

New rails and the development of routes have to be officially planned or approved. At the beginning of a planning approval process, the concrete plans are made accessible to the public. Complex infrastructure projects of this kind touch on a large range of private and public interests, which have to be listened to, discussed, and carefully considered in the process. Planning approval pro-cesses often take years and are hence subject to review: project sponsors see the state's ability to act jeopardized by delays, and acceptance by the public is also negatively affected by the duration and complexity of the planning process. Baukultur-related concerns are not a direct subject of such processes. When routes are being planned, it is thus necessary to make attempts to anticipate and prevent protests. The quality and protection of cultural landscapes frequently lose out. For a study, the Deutsche Forschungsinstitut für öffentliche Verwaltung (German Research Institute for Public Administration) in Speyer interviewed experts and analysed planning approval processes quantitatively. The results point in a different direction: involving the public and public bodies transparently and early is – besides the quality of the planning documents – key in shortening the processes. At the end of 2019, the federal government began work on draft legislation to speed up important transport projects. Approval by resolutions in the Bundestag is supposed to be tried out in twelve pilot projects. If the legal route also leads to a reduction of complexity and thus to acceleration, transpar-ency and building acceptance are to continue to be encouraged in line with the results via ongoing communication, visualization, and improving design options.

The small-scale, just-in-time production and delivery of goods are increasing. This poses new challenges for logistics and freight transport by rail. Trains are often designed for large volumes. They are hence less and less suitable for flex-ible transport. Intermodal transport chains might be a solution. Smaller deliveries

Truck traffic in public spaces

Source: Allianz pro Schiene 2018, 2019;
BMVI 2019; Deutsche Bahn 2019

Freight transport in Germany 2017

Inland vessels **8 %**

Long-distance oil pipelines **2.6 %**

Rail freight **18.7 %**

696B tonne-kilo-metres

Truck traffic **70.7 %**
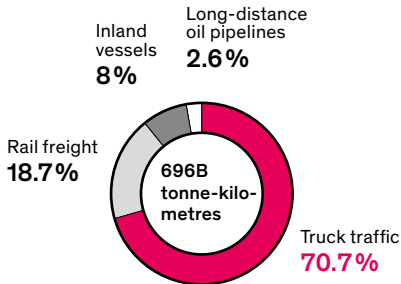
Federal per capita investment 2018

Tracks **€77**

Roads **€89**
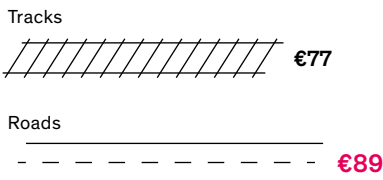
Increase in traffic volume because of delivery traffic

88 % of the municipalities surveyed are recording an increase in traffic volume in delivery traffic/logistics. This has a direct impact on the demands on traffic areas – for instance, due to double parking. M18

Utilization pressure due to parked logistics traffic

46 % of the municipalities surveyed see big burdens resulting from parked trucks and small transporters. M20

are thus collected at hubs, transported in bulk, and divided up into wagonloads at logistics centres based on their specific end destination. A dedicated rail connection continues to be an important criterion in choice of location for many companies. Closed railway sidings can be reactivated and routes and railway stations developed. The brochure 'Die Bahn bringt's' (The Train Brings It) presents logistics concepts that successfully integrate freight transport by rail in differentiated transport chains. The federal government formulated new objectives in 2017 in the 'Masterplan Schienengüterverkehr' (Master Plan for Rail Freight Transport): rail freight transport should be doubled by 2030 by lower rail prices, among other measures. The prices for rail use, however, increased by 18 % between 2010 and 2017, while the tolls for trucks decreased by 20 % in the same period. The plan is also to develop important freight transport routes for 740-metre-long freight trains and to develop and digitize large hubs. The share of rail freight transport in overall transport capacity in Germany nevertheless declined by 0.3 % between 2016 and 2018. The percentage of road freight transport continued to rise during this time period.

Urban Logistics In 2018, 3.52 billion packages were sent. That amounts to forty-three packages per resident, nearly 5 % more than in the previous year. What is responsible for this is not least online commerce. For the last kilometres, thus for the actual delivery of the package or the 'final mile', there is an increasing reliance on urban delivery traffic. Just like inter-urban commercial transport, this grows due to the ongoing influx of residents, declining household sizes, and changing consumer behaviour. Existing infrastructures, however, are still not adequate for the demands of current logistics processes. The health-damaging emissions of increasing truck traffic, the growing obstruction of traffic flows, questions of traffic safety, and land consumption are presenting cities with problems.

In its 'White Paper on Transport', the EU Commission calls for cities to design their logistics to be as CO2-free as possible by 2030. To attain this goal, intelligent, city-compatible logistics concepts have to be developed. Interlinking modes of transport paves the way to combining their respective advantages. Urban logistics concepts bundle flows of good and distribute them anew. In the meantime, trams are again being used as freight tramlines. Some municipalities such Düsseldorf, Bielefeld, and Bremen have created logistics concepts that are embedded in a comprehensive urban mobility concept (a green city master plan). Intelligent loading management makes it possible to load e-vehicles, like bikes or smaller delivery trucks, at night. Delivering parcels in the city with smaller vehicles or cargo bikes reduces the space required for delivery traffic and causes less noise.

Those who would like to implement new logistics concepts are faced with the task of coordinating them for all those who supply households, businesses, trade, construction sites, or production sites. Most of these protagonists are organized by the private sector. Digitization can simplify their communication. Mannheim is testing precisely this approach with support from the Bundesforschungsministerium (Federal Ministry of Research). By 2020, the city wants to develop a micro-hub as a collection and distribution station for the final kilometres. In the pilot projects, no designed infrastructure buildings have been erected for such hubs to date; instead mostly temporary structures, like

containers, are being used. This comprises future tasks for Baukultur. In Mannheim, the micro-hub will be created before the city gates: currier, express, and parcel services can deliver parcels of up to 40 kilograms in weight via small transporters. From the micro-hub, the service providers then deliver their parcels within the city on cargo bikes. Bicycles are economical particularly for smaller operations and are also often considerably faster in the city. Using delivery drones, in contrast, is running into more and more problems and resistance. Test runs in Bonn, Reit im Winkl, and between the island of Juist and the mainland show that the prerequisites for extensive parcel delivery by drone are hitherto not available. Concerns connected with a congestion of airspace, safety risks, and emissions predominate. From the perspective of Baukultur, built up locations and cities should remain drone-free. Particulate matter, noise, and environmental stress are all reasons for not permitting drones to make use of airspace, roof areas, or public spaces.

The Federal Environment Ministry and the Federal Environmental Agency (UBA) organized the federal competition 'Nachhaltige Urbane Logistik' (Sustainable Urban Logistics) for the first time in 2018. Prizes were awarded to urban logistics concepts, also including a project for low-noise logistics at night: electric trucks and noise-optimized unloading processes make it possible to shift the transport of goods to off-peak times and to also comply with the noise thresholds for housing in mixed-use areas. Well thought through urban logistics concepts help relieve dense traffic on the streets of cities. Bundled infrastructure offers are needed. Responsible consumer behaviour that takes into account the consequences of online orders and return deliveries can ultimately contribute to relieving city centres and districts of delivery traffic.

Urban Technology and Urban Furnishings

Composition and Design So that people do not simply traverse spaces, but also spend time, stroll, celebrate, and meet in them, they must be well designed. This includes wide footpaths, sufficient seating options, leisure time offers, shaded squares, art, maintained green areas, pools of water, enough toilets, and a good supply and traffic infrastructure. Well-designed city furniture and equipment elements make public spaces liveable and give them character. This economic location factor can provide impulses for retail, gastronomy, and tourism. Demographic developments make it necessary to optimize this equipment for children, youth, and older people. Accessibility, orientation, safety, and adaption to climate change are other goals towards which design should be oriented. The composition of public spaces is decisive for social exchange. Public squares should therefore be laid out in such a way that people enjoy spending time there and connect. Seating options, for instance, increase the amount of time spent by ten to fifteen minutes. This is shown by a study by SWA, a landscape-planning firm based in New York. When seating furniture is movable, it is always moved a bit and, for example, shifted into the sunshine or closer to the goings-on. It is generally preferable for furniture to permit various positions and, because of different heights and depths, thus invite sitting, reclining, or leaning. When people come together on public squares, they enjoy doing so round urban furniture. Even a rubbish bin can serve as a meeting place. One indication of poorly

designed structures in public spaces are switch control boxes that stand on paths or in the way. Subsequent graffiti or use as advertising surfaces are only helpless attempts to deal with seemingly unavoidable urban technology. In 2016, the Federal Foundation organized a Baukultur Salon on the topic of switch control boxes. The result: the best switch control box is the one that is not first built separately, but is instead integrated in the peripheral development or underground. The privilege of utility companies to position switch control boxes in public space should therefore be dealt with in a more restrictive way.

To improve safety and wellbeing, it sometimes suffices to tidy up public spaces, remove furnishings that have become superfluous, and repair or replace damaged elements. This reduces visual irritations and enhances visibility and orientation. Old and too many advertising and sales posters, advertising columns, traffic signs, bicycles parked in wild disorder, an out-of-date signage system, ruined bus shelters or benches, dried out plant troughs, but also unmaintained containers and construction site barriers that have not been removed make for more than a sad picture. They also impede the ability to use public space, especially for people whose mobility is limited. The quality of time spent declines and the clarity that is necessary to use a public space comfortably is lost. A so-called clutter check can help. This is an examination of what function elements in public space have and which ones can be discarded. This also applies to unnecessary street signs. On main city centre thoroughfares, large panels, cantilever arms, or sign gantries that are supposed to guide street traffic create huge structures that negatively affect neighbourhoods and space. For residents, they are nuisances accepted with resignation in daily life. Adapting the speeds of different participants in traffic holds the potential to examine the need for such structures. Fewer signs, not more, increase the effectiveness of messages and alter the perception of the cityscape. Great Britain is one model for this approach. The British Ministry of Transport published the brochure 'Reducing Sign Clutter' in 2013. It provides tips for how the accumulation, oversized dimensions, and high maintenance costs of signs can be prevented.

Ever more municipalities understand how important it is to adapt the urban technology, equipment, and furnishings of its public spaces and to design them well. The design for all concept accounts for demographic changes and helps satisfy the demand for greater accessibility in construction and mobility. Ten per cent of people in Germany rely on a lack of barriers, 40 % require this as support in daily life. The principle of barrier-free construction is to design things in such a way that they benefit everyone – and thus also people with disabilities. Not only housing units and workplaces should be fundamentally constructed as barrier-free as possible. In a democratic society, public spaces and paths must also be designed to facilitate participation. Accessibility should also be included in the design process as a basic principle – and not only as a statutory requirement. The ostensible limitation can be inspiring. In 2013, Königsplatz in Augsburg, the central transfer hub in the city's local public transport system, was transformed into a completely barrier-free mobility hub. People with limited mobility can use it without aids. This is ensured by suitable kerbstone heights at the entrances to trains, grooved stones, and strong contrasts for the blind and visually impaired, and the possibility to have all traffic displays read out by pressing a button. The new square seems tidier and manageable and – with lots of space to move and good weather protection on the platforms – is an improvement for

all citizens of Augsburg. A glass pavilion stands in the centre of the square. The edge of its roof is illuminated; the transparent building itself also facilitates orientation.

Cities and towns are increasingly publishing brochures to guide local residents and visitors with impairments through public space on barrier-free routes. In Regensburg, there are 24,000 residents with walking impediments or hearing impairments. The city published a brochure for them within the framework of the initiative 'Regensburg inklusiv' (Inclusive Regensburg). The brochure 'Barrierefrei durch Regensburg' (Barrier-free through Regensburg) is meanwhile available in its third edition. It lists facilities and offers in the areas of health, transport, housing, shopping, and recreation. A pavement map marked with a traffic light system shows what streets are more or less suitable for wheelchairs, walking frames, or strollers with small wheels. Guidelines and handbooks on the design and procurement of urban furniture, surfacing materials, or lighting promote Baukultur. Such design handbooks for public space are available in nearly two thirds of the municipalities surveyed by the Federal Foundation of Baukultur. They are increasingly differentiated and address more than the public space alone. There is also detail on concrete urban redevelopment projects, lighting concepts, seating furniture, or spatial principles. In its handbook for the Via Culturalis, the city of Cologne provides tips on the design of benches, light columns, bicycle stands, and rubbish containers. The design principles, which also apply to greening elements, guidance systems, and advertising, should result in more quality of time spent and to a uniform appearance.

Design guidelines are also being developed with ever-greater frequency for traffic structures like tramlines or autobahns. Such structures are particularly present in public space. Their planning and designing must account for function and cost effectiveness as well as for aesthetic and emotional aspects. Trams shape the traffic in many German cities. In 2016, the Verband Deutscher Verkehrsunternehmen published the handbook 'Gestaltung von urbaner Straßenbahninfrastruktur – Handbuch für die städtebauliche Integration' (Designing Urban Tram Infrastructure – Handbook for Urban Development Integration). It provides good examples, derives general design principles from them, and thus shows all municipalities solutions for an integrated approach to planning.

Design restraint and sustainability were also the focus when the Autobahndirektion Nordbayern (Autobahn Directorate of Northern Bavaria) commissioned a handbook for a particular public space: the autobahn. In 2018, the German autobahn network attained a new record length of roughly 13,000 km. Autobahns and the structures related to them shape public spaces solely as a result of the space they claim. They are also perceived in different ways: For those travelling through, the structures are part of a transit space. Residents, in contrast, see them as part of the landscape and their daily life. The design handbook 'BAB A3 – Würzburg bis Erlangen' describes the approach taken to integrate into the landscape the new route through Steigerwald and Middle Franconia and its civil engineering structures. The aim was to underscore the identity of the natural spaces there. Natural materials and colours were important design criteria in connection with bridges and noise protection measures. The handbook thus focused on materials that are durable, age well, and require little maintenance, and whose colour is adapted to the nature. The 'Leitfaden Straßenraumgestaltung' (Guideline for Street Space Design), published by the

Baukultur Wins Awards

Arena in Schierke –
Sports and Culture under One Roof

As the last municipality at the foot of Brocken Mountain, Schierke, a tradition-steeped health and winter sport resort, offers ideal conditions. But as of 1961, its existence as an exclusion zone hindered any development, and holidays in the Harz mountain range were at first uninteresting after German reunification. Today, more tourists are once again coming here but on a search for contemporary offers. With only 700 residents, Schierke could hardly position itself on its own as a destination for more diverse tourism, for instance, also as a health resort. Its 2009 incorporation into the town of Wernigerode 20 kilometres away finally brought it the clout needed. In 2011, a multi-million-euro subsidy-based investment program was decided on for Schierke. Streets were reconstructed, the banks of the Kalte Bode River refortified, and sports facilities and public amenities modernized. A new car park for approximately 700 vehicles was constructed on the edge of the village in 2014. The village centre, which was freed of 300 parking spaces, can be reached via a new bridge and a green area. Moreover,

these stimuli are expected to trigger private investments in the hotel landscape.

The landmarked outdoor ice-skating rink from 1950 was supposed to become a modern arena for sports and cultural events that is weather-proofed throughout the year. The VOF procedure (German procedure for the award of professional services) organized in 2013 was won by the Berlin-based Graft architecture firm, with an expressive design as its competition – but also with the frank statement that the 3.5 million euros budgeted would not be sufficient for the program desired. The organizers allowed themselves to be persuaded, especially because the Historic Preservation Office had no objections and, for marketing strategy purposes, the Tourism Authority endorsed a memorable 'signature building' with an appeal of its own.

In cooperation with the Stuttgart-based engineering firm Schlaich Bergermann Partner, a shell that is curved in opposite directions with a span length of some 70 metres and a roof area of 2,400 square metres was created starting in

2016. It comprises a net of steel cables spanned with a PTFE-coated fibreglass membrane. The steel compression ring rests on just two reinforced concrete supports so that the view of the forested slopes from the covered arena remains free. The view of the historical referee tower has also been preserved. Despite the intensive architectural intervention, the old stadium is thus still recognizable. Its terraces of natural stone were actually only supposed to be restored and secured based on contemporary regulations for venues. But the substance turned out to be in such a dilapidated state that new concrete stands, with the original stones positioned in front of them, became necessary. The wooden referee tower was secured and given new windows. Two functional buildings for gastronomy, administration, sanitary facilities, and dressing rooms, which are fitted into the topography, were added near the two supports.

The natural ice rink was supposed to be replaced by a more reliable artificial ice surface. This required special environmental sensitivity, since Schierke is situated in the Naturpark Harz and the arena directly on the Kalten Bode River. As a tributary of a potable water reservoir, it is subject to strict regulations: cooling agents could not make their way into the river under any circumstances. Drainage asphalt, through which the thawing ice water seeps and is discharged into the river, serves as the substrate for the ice surface. The cooling on a glycol basis takes place within a closed system by means of pipes inlaid in the asphalt.

Besides winter offerings such as ice-skating, ice hockey, and curling, a broad spectrum of sports and cultural events has been added since summer 2018. Whether with a bouncy castle and trampoline at the 'Kinderferienspielen' (Children's Holiday Games), with a mobile climbing wall, as an open-air cinema, concert arena, and roller-skating disco, whether for travelling festivals, summer biathlons, mountain biking events, or the popular Walpurgis Night: Schierke has gained an attraction that has a radiant effect throughout the region.

Facts

Planning and construction: 2013–2017	2,400 m² roof area, 890 m² gross floor area building
Project developer: Town of Wernigerode	
Planner: Graft, Berlin; schlaich bergermann partner, Stuttgart; WES LandschaftsArchitektur, Hamburg	Cost: 8 MM euros
Size: 70-metre span length,	More information in the project description in the appendix on p. 139

BAUKULTUR AT A GLANCE
- Thematically diverse tourism 'at your doorstep'
- Modernization of infrastructure
- Monument protection and 'signature building' in harmony
- Building in an ecologically sensitive environment
- Architects and structural engineers as important partners
- More capacity for action through administrative reform

Initiative Baukultur für das Welterbe Oberes Mittelrheintal (Baukultur Initiative for the Upper Middle Rhine Valley World Cultural Heritage Site), also focuses on construction that is sustainable and compatible with the landscape when designing streets, pavements, public squares, engineering structures, and other infrastructures. When choosing surfacing materials – besides good walkability – importance is put on building materials that are typical for the region such as basalt, granite, porphyry, or greywacke.

Bollards or walls can increase objective safety. Such repelling structures should be nevertheless integrated in public spaces. The reason: if they remain visible, they seem alien and evoke anxiety for many people. Individuals feel threatened. Designing safety and security in public spaces without triggering such feelings is a big challenge. At the Humboldt Forum in Berlin, security measures were incorporated in the open space as unobtrusively as possible. Media and security technology are built into the ground or can be lowered. Steps and seating benches of dolomite replace many bollards. Natural stone elements fulfil the same purpose. The concept of the security line at the Humboldt Forum thus addresses possible dangers using topography, design, and vegetation.

Construction Sites with Potential Constructions sites are an annoyance for some and an attraction for others – particularly in big cities. Building developers are increasingly providing information about their plans prior to and during the construction period: visitor centres and construction site tours have become proven communication measures. Temporary information centres with an experiential character like the Humboldt Box in Berlin are created specifically for large and longer lasting construction sites. Noise whose source and duration unknown is particularly disruptive and burdensome. Information about the duration of a construction site is therefore just as sensible as information about the improvements to be achieved by the construction measures. In Paris, the completion date is announced on all barriers behind which bicycle paths are being developed – and the post-construction result is described with enthusiasm. Construction sites do not have to be concealed behind monotonous, grey, and opaque construction fences. Designing such fences artistically holds potential for Baukultur. One good example was the design of the construction fence on the Klagesmarkt in Hannover. The Gesellschaft für Bauen und Wohnen (GBH, Municipal Building and Housing Company) in Hannover organized graffiti workshops to provide young people with theoretical knowledge and practical skills. The pupils designed 260 colourful metres of construction fence. After two years, the construction fence was auctioned off for a good cause.

A restructuring project can be historically or socially relevant – for instance, when historical arts and crafts are used or when the project assumes an important place in the history of technology. Even a small construction site can thus speak for an entire location. In Oberursel, this was the case in 2011 in connection with one of the oldest buildings in the city. The half-timber construction of the building from 1656 was renovated in a way that was accessible to the public. Young craftspeople from the Jugendbauhütte (Masons' Lodge for Young People) of the Deutsche Stiftung Denkmalschutz (German Foundation for the Protection of Historical Monuments) worked on the showing and teaching construction site, which expressed a lot about the development of the city. Building is a cultural technique, thus construction sites are cultural heritage. This was shown in 2019

by the architecture museum Cité de l'architecture et du patrimoine in Paris with the exhibition L'art du chantier (Art as a Construction Site). To achieve this aspiration, the setup and logistics of construction sites also have to be professionally implemented. Untidy construction sites and construction site installations that gradually thrust into public space, negatively affecting foot and cycling facilities, are an annoyance. Conversely, orderly procedures on construction sites are a sign of the skill of the respective polity with respect to Baukultur.

Maintenance and Responsibility Where people deal carefully with the equipment elements in public space, this has an impact on the city as a whole. Good design and participation heighten users' identification with public spaces and hence also the feeling of bearing responsibility for them. Attractive public spaces thus require municipalities to be furnished with more than just an adequate maintenance budget. Just as important is actively involving residents in the design of spaces from the very beginning. Maintained, tidy, and well-designed public spaces require the responsibility of both public authorities and urban society. But only when the spaces also invite use do people recognize them as a common good and assume responsibility for their condition. Publicly accessible locations have to give city dwellers the feeling that they are communal spaces for which they are also responsible. It is only then that they become involved. This makes it possible to prevent littering and vandalism. In many communities, for instance, there is a rubbish collection or maintenance day for the urban centre. In some places, the municipality organizes such actions, while locally involved associations do this in others. One example is the Aktionskreis Leschede (Leschede Action Group), which is involved in actively designing local life, maintains the image of the location and the surrounding landscape, and strives to preserve regional customs. The individuals involved in the action group have designed, for instance, a village square as a meeting place for residents. In cooperation with other volunteer helpers, they have also created several places to rest along the cycling path along the Ems River. Students at the vocational training school in Lingen joined forces and designed a tourist hut that they then constructed and set up on the popular long-distance cycling path. The 'Emsbürener Dombautruppe', a group of pensioners, looks after the appearance of their community. Among other things, they maintain the large parish garden in the town centre as well as the church and the cemetery. Such activities are valuable from the perspective of Baukultur because they contribute to the appropriation and maintenance of public space.

   There are many reasons why rubbish is not always disposed of in bins, but instead thoughtlessly lands on streets, public squares, and in parks – for example, growing self-centredness, a lack of social skills, or, as offices of public order refer to it, the so-called 'transferral of responsibility' to city cleaning authorities. Another reason is that people tend to imitate: where rubbish is already lying, new rubbish is quickly added. The location becomes run down, and vandalism becomes more likely. Such effects multiply specifically in places already regarded as social flashpoints. Littering is expensive to redress, and society ultimately bears the costs for the cleaning and upkeep. Municipalities in Germany had to spend 800 million euros on cleaning streets and green areas in 2018. And such cleaning is becoming more expensive in many places: in Munich alone, an increase of 6 % from 2017 to 2018. In 2017, one-way packaging such as

Double the budget!

Source: Population and municipal surveys for the Baukultur Report 2020/21

Complaints about the condition of …

Streets	Squares	Parks
74 %	**62 %**	**44 %**

63 % of surveyed municipalities find the maintenance budget / standard rates for park maintenance and path cleaning insufficient.
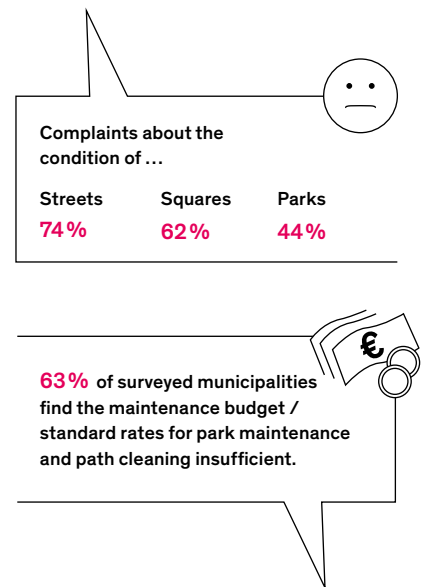
coffee-to-go cups gave rise to a total of 105,500 tons of rubbish in the Federal Republic. Whether we feel good and safe in a place has a lot to do with the state of its maintenance. This extends from public squares to clean seat upholstery in modes of public transport. Forsa surveyed the population for the Federal Foundation of Baukultur in 2014, and found that 92 % of people wish for well maintained and cared for buildings, streets, and public squares. However, the funds available to municipalities for this maintenance are often determined too tightly. Budgets often do not increase along with the efforts and maintenance costs, as the example of some districts in Berlin shows. Nearly two thirds of the municipalities that the Federal Foundation of Baukultur surveyed in 2019 indicated that the maintenance budget and standard rates available to them were insufficient. A maintenance budget that is calculated too low can result, however, in renovation and investment costs for replacement measures that are many times higher than ongoing good maintenance. Good maintenance also prevents image loss and reduces unpleasant complaints management. Since the following was also shown by the survey: people lodge complaints about the poor state of public spaces. There are complaints about parks in 44 % of municipalities. The maintenance condition of public squares gives rise to criticism from the population in 62 % of communities and that of streets in even 74 %. The population survey regarding satisfaction with the offer of public facilities like toilets, benches, or rubbish bins presented a similar picture. In cities with over 100,000 residents, only 34 % of people are satisfied, with two thirds of them dissatisfied. To take action against the increasing litter in public space, the 'Littering Handbook' and the 'Littering Toolbox' were developed as practical assistance in Switzerland. Local authorities, municipalities, and representatives of industry worked together to create the handbook. The publication describes tools for developing and conducting campaigns in communities, schools, and enterprises against

Responsibility and maintenance

Source: Population and municipal surveys for the Baukultur Report 2020/21

89 % consider the condition of public spaces (very) important

People are **less / not at all** satisfied with the …

55%	43%	40%	36%	26%
Range of public facilities, e.g. WCs	Development and condition of roads	Attractiveness of city / town centres	Design of buildings, streets, squares	Condition of parks and green spaces
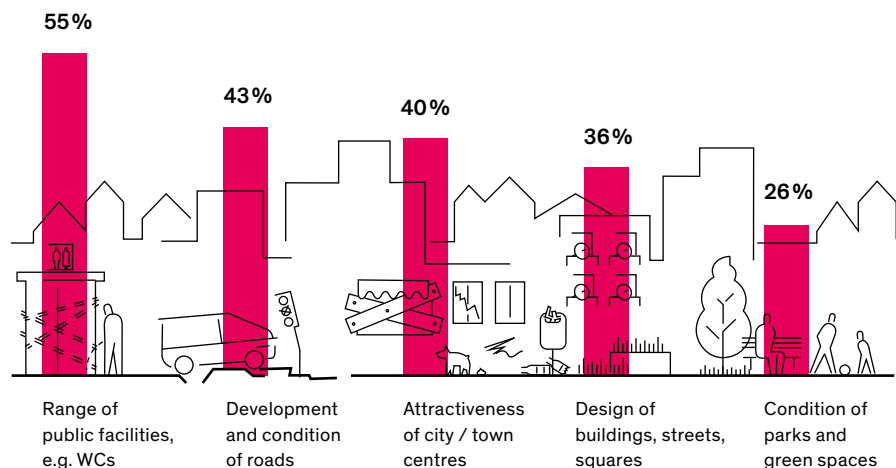
thoughtlessly disposing of rubbish. They include sufficient disposal infrastructures, space sponsorships, and rubbish lessons, but also spaces designed with high quality. The 'Littering Toolbox' can be accessed free of charge on the internet.

Municipalities with a tight financial situation can often only tackle activities step by step. Where spaces need to be redesigned, they therefore often fall back on the existing equipment and incorporate it to save money. Residents and users must also take responsibility. Augsburg has published instructions for using the city – as a sort of manual for etiquette in public space. A map shows where public toilets, barbecue sites, bathing lakes, and other offers are located and their rules for use. If residents are given the chance to design public spaces, they frequently also assume responsibility for their maintenance. Since identification with what one has created oneself is high – and hence also the desire to deal with it in a responsible and thoughtful way. Within the framework of the IBA in Hamburg, the southern Reihersteig district was rehabilitated by 2015 to become the Weltquartier: a model project for intercultural living. The residents were not only asked about their wishes for public space, they were also involved in the realization. Residents thus contributed to designing the open spaces and playgrounds they desired. Art and play equipment were jointly designed and built. As a result, vandalism and littering have decreased noticeably in comparison with the time prior to the rehabilitation.

Every second person is annoyed by the state of public sanitary facilities

Source: Blue Responsibility / GfK 2017

Railway station
58 %

City toilets
51 %

Motorway service areas
48 %

Event and concert halls
39.8 %
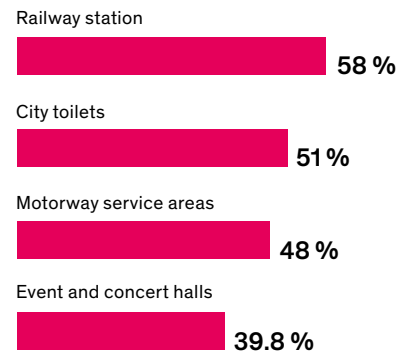
Who is less satisfied?

53.1 %   **43.1 %**

Women   Men
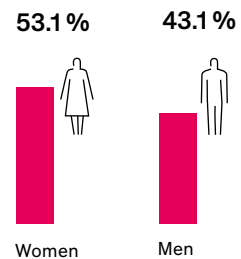
Democracy and Process Culture

Public spaces are places for learning: values and norms for society develop because various groups encounter one another in such spaces. Public spaces offer the chance to participate in a democratic society by providing space for all to freely express their opinions. Because of day-to-day interaction, such spaces are always in transition: they influence people and are influenced by them. If they are poorly designed, not maintained, or privatized, this becomes noticeable in the social life of a city or town. Baukultur can have an impact in these spaces because it is the level of meaning and action that links all activities entailed in designing public spaces.

Democracy, Utilization, and Participation

Social Infrastructures People who spend time and move in public spaces are always negotiating the rules of coexistence anew. We test the extent to which we can sense where the boundaries lie and what expectations society has of us. Values and norms develop in public spaces. They are where people are confronted with individuals and behaviours that are alien and unfamiliar to them. Density, proximity, traffic, noise, and different opinions are an imposition and challenge rolled into one. They arise because diverse groups encounter one another. In the view of many, there is a lack of mutual consideration. This was shown by a survey conducted by the Allensbach-based Institut für Demoskopie (Institute for Public Opinion Research) in 2019. More than three fourths of people aged 30 to 59 report experiencing increasing aggressiveness in social interactions. Fifty-nine per cent of those surveyed experience inconsiderate and aggressive behaviours on public squares. Even 90 % complain about such behaviours in street traffic. In public spaces, people learn to be considerate but also to demand consideration. Such spaces must therefore invite exchange and be designed in such a way that people can encounter each other eye to eye. In 1995, Chicago was stricken by an unprecedented heat wave that took the lives of 700 individuals. Researchers at New York University discovered the tragedy followed a socio-spatial pattern. More people died in poorer districts than in wealthier ones. However, some neighbourhoods in socially disadvantaged city districts proved to be surprisingly resilient but with no obvious explanation for this resilience. Two districts especially aroused the interest of the researchers. They were nearly identical in their demographics and groups of at-risk individuals and only separated from each other by one street. The number of casualties in one of the districts was extremely high whereas the other was extremely low. Site visits revealed the difference: abandoned buildings, streets in disrepair, and only a few businesses left many people alone in their homes in the one district. In the other, in contrast, there was vibrant public life: maintained streets and pavements, shops, cafés, and libraries often lured people out of their homes. Neighbours knew each other and thus knew if someone had not been seen since the heat wave hit the city. Many people who needed help thus received support.

The wide range of existing supply and leisure time offers has an effect particularly on the quality of life and coexistence of residents of villages. All publicly accessible places like cafés, community centres, village shops, and doctors' offices play an important role in smaller municipalities. Such social points bring people to the village centre and make paths cross. Meeting places where the community of the village or small town can come together, such as a market or festival square, facilitate diverse togetherness. If, however, there are no spaces or opportunities to meet in a planned or unplanned way in a community, the communal village life suffers. Residents who are less mobile and rely on contact in their closer surroundings are affected the hardest. Creating a place to meet can conversely become the initial spark for new neighbourly life and volunteer work.

The small community of Werpeloh in Emsland in Lower Saxony, for instance, opened up a multi-generational building in 2012. Today, the building is a mainstay of a network of over twenty clubs and associations that are all active in the small community. In addition, young parents regularly meet there for a toddlers' group for their children. A group of women provide a midday meal for primary school children twice weekly. A Sunday coffee hour takes place occasionally, and the spacious building accommodates a Christmas market in the winter. The citizens of Werpeloh also use the facilities for exhibitions, theatre performances, lectures, and other actions. Gathering places thus influence the social space.

School for Democracy Public spaces play a central role in democracy. In ancient Athens, the agora was the centre of social life. The square in the centre of the city was used for markets and festivities and as a place to gather. It was a central location for political debates. The rulers of the people needed such a space. Today, public squares and other public spaces are no longer the only forums where people enter into exchange, form their opinions, and give expression to

Festivities bring people together

82 % of all Germans have already taken part in an urban or street festival. `P6`

Baukultur enhances rural life
Public spaces for vital town centres
Source: Berlin Institute for Population and Development 2019

- ☑ Analyse and serve needs
- ☑ Promote old rather than new buildings
- ☑ Advertise vacancies
- ☑ Promote shops in the town centre rather than supermarkets on the periphery
- ☑ Village beautification strategy
- ☑ Full-time contact person for Baukultur
- ☑ Name successful models from other regions
- ☑ Regular town meetings and citizen consultations
- ☑ Advice for new residents

Multi-generation houses

Local community building

Mobility options such as civic buses

Multi-functional village shops

Playgrounds and sports areas

Attractive public squares
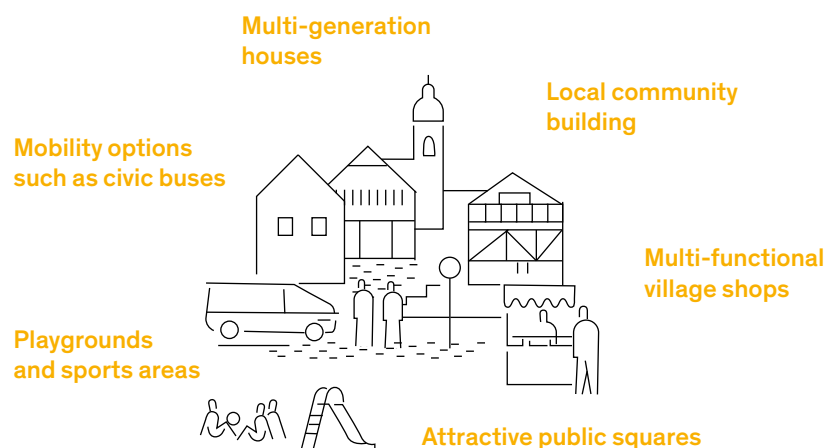
Increasing use of public spaces for demonstrations
Increase in demonstrations and rallies from 2008 to 2018
Source: rbb – Rundfunk Berlin-Brandenburg 2018

Stuttgart
+207 %

Cologne
+140 %

More than 12 demonstrations per day!

Frankfurt
+134 %

Berlin
+90 %

Dresden
+76 %

Munich
+47 %

Düsseldorf
+35 %

| Demos/year | 2,000 | 4,000 |

2008   2018
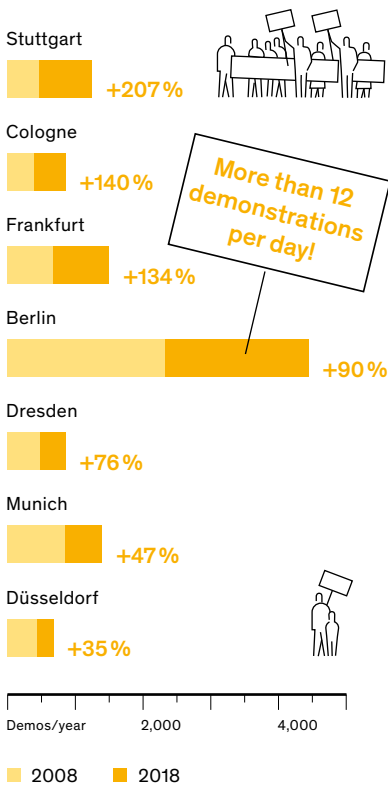
their will. Digitization has opened up new possibilities: on social media, we can discuss things in virtual space regardless of location and network and organize beyond borders. Public spaces are nonetheless experiencing a renaissance as a place for shaping political decisions. Article 8 of the Basic Law in Germany gives everyone the freedom to go peacefully onto the streets and to express their opinion in public spaces. The Federal Constitutional Court interprets this principle broadly. In a decision from 2011, the court declared the dispersal of a political demonstration at Frankfurt Airport by a private security service to be unconstitutional. The desire to 'create a pleasant atmosphere in a world of pure consumption' is subordinate to the function of an airport as a place for 'political discussions and debates about society'. Even though the airport is privately operated, its impression of being a public space is decisive.

The number of registered demonstrations has more than doubled in many big cities in the past ten years. In Stuttgart, the number of demonstrations and rallies increased threefold from 2008 to 2018 to 1,439 per year. In September 2010, the pictures of the confrontations connected with the major project Stuttgart 21 went around the world. This changed Germany as a whole: citizen participation is practiced differently today than in the past. A Phase Zero with intensive public participation has meanwhile become an established practice in more and more cities. Many cities and towns have started developing guidelines for participation in cooperation with citizens. According to the Netzwerk Beteiligung (Participation Network), by the summer of 2019, eighty-four municipalities had passed their own participation guidelines. In Baden-Württemberg, the 'Verwaltungsvorschrift Öffentlichkeitsbeteiligung' (Administrative Provision for Public Participation) and the 'Leitfaden für eine neue Planungskultur' (Guideline for a New Planning Culture) have been in force since 2014. They stipulate a Phase Zero with the participation of the population for state projects. But participation cannot be decreed. Involvement in such participation processes requires resources and has to be practiced – at best starting in childhood.

Education in Baukultur Education in Baukultur creates awareness of the natural and built environment in society as a whole. As an important part of general education, it fosters the personal development of children, young people, and adults. The spaces that surround us affect us starting in our early childhood. Creating awareness of which surroundings do us good as residents and users and of how our spaces influence us in the longer term is an important building block for participation in a democratic society. Education in Baukultur encourages people to understand themselves as responsible co-designers of their personal living environment and to change things. This feeling of self-efficacy is important, since people who do not first imagine being able to positively change their living environment do not find it worthwhile to try to do so. If we consider the question of why we frequently encounter an intact, higher-quality image of a place or city when we cross the border to Scandinavia or Switzerland, the answer is to be found in the greater social significance of architecture and design and the solid basis that is laid for this in school and education.

Education in Baukultur has to be considered from an interdisciplinary perspective. As with cultural literacy, pedagogy and art are important reference points. Architecture and landscape architecture, urban and regional planning, engineering, policy-making and administration, but also the housing and real

estate sector come together under the umbrella of Baukultur and along with economics, the human and social sciences, linguistics, neurosciences, and cultural studies, contribute to the contents of education in Baukultur. Education in Baukultur thus does not stand only for itself but also involves diverse protagonists, methods, and places for learning. It can be communicated in many places: at nursery schools, kindergartens, family centres, within the framework of project weeks, at youth art schools, adult education centres and other facilities for adult education, or at colleges and universities. Initiatives, associations, foundations, and professional associations like the Bundesarchitektenkammer (Federal Chamber of Architects) and the state chambers of architects are also working with various formats that can take place in museums and theatres, public parks and squares, and in the countryside. As part of regular lessons, the history of architecture and urban planning could provide pupils with the basic tools necessary to discuss our built environment. As teaching material for younger children, many may also remember from their own personal experience the collection of illustrations in 'Alle Jahre wieder saust der Presslufthammer nieder oder Die Veränderung der Landschaft' (The Jackhammer Swoops Down Every Year, or Changes in the Landscape). Seven large-format book illustrations show the same section of a village from 1953 to 1972. Since the 1970s, the images have made clear to children – and to their parents in discussions with them – how the living environment has been altered by the further development of areas, and inspired contemplation. Awareness of such gradual processes of change puts people in the position to play a part in designing their living environment.

Besides knowledge and contemplation, it is also necessary to train children's perceptive faculties. For this, classic cultural techniques like painting, arts and crafts, building caves, role plays with fixtures and furnishings, and adventure games or scavenger hunts for exploring the history of architecture and spaces in their own cities are all suitable. What are thus needed are more offers in and outside of school and motivational guidance provided by dedicated parents, teachers, and mediators of Baukultur.

Places for Education Public spaces are places for learning. Older residents and new arrivals, families and all generations come together in them. Public spaces fulfil an educational function: without our awareness, we learn in them by encountering others, discovering the unfamiliar, trying things out, communicating, and negotiating our personal space. They accompany the experiencing, living, and growing of children and young people in a publicly accessible and natural way. Playgrounds or overgrown wastelands offer a necessary, often unique open space to move, discover the world, and stimulate one's senses. The goal of a city for children and young people is, however, not new. Forty years ago, Neue Heimat, a monthly magazine at the time, already bore the title 'An die Stelle der Autostadt muss die Kinderstadt treten' (The City for Children Must Take the Place of the Car-friendly City). Not much has happened, even if there have been many opportunities: foot- and cycling routes that take into account the needs of children just starting school, public meeting places integrated in the urban landscape, temporary play streets (like Böckhstraße in Berlin-Kreuzberg), and hands-on construction sites are only a few examples.

Young people spend more leisure time in public spaces.

57 % of 14 to 17 year olds have already participated in shared leisure time and sport offers in public spaces – a far larger percentage than all other population groups. `P6`

Baukultur Invests in Education

New School Building in Dettmannsdorf – Pedagogical Spaces in the Countryside

When the school closes, a village, from which guesthouses and shops have possibly already disappeared, usually loses its last bit of public life. For young families, any enticement to remain or move there vanishes then at the very latest. Thirty kilometres to the east of Rostock, the round 1,000 residents of Dettmannsdorf experienced this is 2002. The responsible school was now located three quarters of an hour away by bus. But Dettmannsdorf with its active associations and economic life did not accept this. The citizens established a private school development association. It was joined by local businesses, which had observed a decreasing level of education among their trainees. The Freie Evangelische Schule Dettmannsdorf, which has committed itself to vocational training in particular, could already open at the old location in 2005 – with initially eleven pupils in a fifth grade.

The number of students continued to increase, and the simply refurbished school buildings from the 1950s and 1970s were soon overstrained. For the lacking common areas, a new building had to be erected; likewise for the primary school, which had been operating in containers since 2014. The spatial program was supposed to be suitable for contemporary teaching methods and thus facilitate independent learning or group work. An after-school program was also planned. Due to the tight budget of three million euros, the Berlin-based mrschmidt architekten led by the Dettmannsdorf resident Marika Schmidt could only respond to the many requirements with a structural reduction and a twofold allocation of space.

On the upper storey of the new building, which opened in 2017, each group room can be connected with two classrooms. With the cloakrooms between them, what results is one suite of rooms, in which every square metre is utilized and animated – as a public (school) space on a small scale. In the afternoon, all the doors stand open for the after-school program. An outside corridor serves as an escape route. The wall panels, balustrades, and ceiling panels of reinforced concrete make the upper storey the supporting structure, which facilitates protrusions of up to 6.5 metres on three sides and creates roofed over areas for breaks. The cafeteria, the library, a workshop,

a rehearsal room for school bands, a teaching kitchen, and a multi-purpose space are on the ground floor. After school, the building is available for community life or for training courses of local businesses. It has also proven itself for use as a children's university and as accommodation for young travellers during the summer holidays.

Marika Schmidt derived the down-to-earth appearance and long shape of the school from the architectural normality of her home village: on the one hand, based on the existing school buildings, which were not supposed to be outshone; on the other, based on the lack of an architectural tradition, since Dettmannsdorf has neither a village centre nor historical landmarks. Simple farmsteads were first created along the road round 1900, and then larger farms with oblong building structures round 1930. Predominantly frame structures and detached houses followed from the East German period until today. Schmidt reacted to this with grey plaster surfaces and varnished triple-layer spruce panels.

Mrschmidt Architekten has shown that an intelligent and inexpensive school building that is pedagogically up to date is possible under the existing school building guidelines. The school has become the centre of village life, and it radiates — in the region and in the community. Today, the round 400 pupils come from a radius of 25 kilometres. As a locational advantage, it will attract new residents and safeguard local jobs. The investment was a praiseworthy private commitment to the continued existence of the village, from which the state had bid farewell. Dettmannsdorf shows how wrong this withdrawal of the state from the country was. That unequal living conditions and becoming uncoupled can be discerned elsewhere is a direct consequence of this lack of structural policy with respect to Baukultur.

Facts

Planning and construction: 2014–2017	Size: 2,006 m² gross
Project developer: Schulförderverein Dettmannsdorf e.V.	Cost: 3.06 MM euros
Planners: mrschmidt Architekten, Berlin; Pichler Ingenieure, Berlin	More information in the project description in the appendix on p. 139

BAUKULTUR AT A GLANCE
- Rewarding livelihoods in the countryside
- A school as an investment in the future
- Safeguarding public life
- Community engagement
- A limited budget requires twofold uses
- Creative orientation based on what already exists

Meeting places for youth

Source: Population survey for the Baukultur Report 2020/21

14- to 17-year-olds find the following public places suitable for spending time together

Leisure time and sports facilities

67%

Parks and green spaces

64%

Gastronomic offers
Street cafés, kiosks, beer gardens, etc.

63%

Football fields

53%

Playgrounds

44%

Skate parks

29%

Benches and street furniture

22%

Pupils are often involved in the new design and redesigning of schoolyards. Here, the interest of users encounters direct possibilities to contribute to design – a key experience of Baukultur. The Johann Heinrich Pestalozzi Gymnasium in Stadtroda redesigned its schoolyard in 2019. This was made possible by a competition organized by the state of Thuringia and the Deutsche Umwelthilfe, a non-profit environmental and consumer protection association. The residents of Stadtroda won and were given 30,000 euros for a green schoolyard. An architect incorporated the ideas of the pupils in her planning; a teacher-parent-pupil working group coordinated the work on the hands-on construction site. Opening up childcare centres and schools, family centres, and facilities for young people to the neighbourhood – both structurally and conceptually – can give rise to new spaces for exchange and leisure time. The Evangelische Schule (Protestant school) in Dettmannsdorf accommodates young travellers during the school holidays (see p. 108). The Altstadt Nord educational landscape in Cologne hosts external events in its dining hall and cafeteria. The paths round the school building there simultaneously link the city with Klingelpützpark. Such examples show that schools hold universal spatial potential and can be useful community places. Social upheavals are making it particularly difficult for rural areas to provide enough school places, especially since the number of children fluctuates considerably. Using schools more diversely can strengthen school locations particularly in such places and make the community more attractive as a place to live and work.
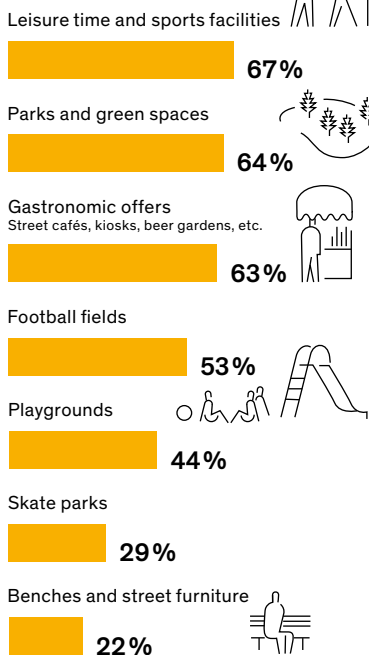
Thinking about Spaces Anew People are taking the initiative with ever-greater frequency and giving urban development new impulses. Studies conducted by the Kennedy School of Government at Harvard University show that whether we are satisfied with democracy depends to a great extent on our possibilities to participate on a local level. Satisfaction is highest in states in which municipalities have far-reaching skills and try to actively involve the population. Urban development defects and the potentials of areas able to be developed fire the imagination of urban society. This ingenuity should be actively utilized on the action level of Baukultur. This was the case in connection with Österreichischer Platz in Stuttgart. For a long period of time, the word 'Platz' or public square had been more of an echo of days past. With the conversion of Stuttgart into a car-friendly city, the character of the space changed: a multi-lane traffic roundabout above ground, and 187 parking spaces under the roundabout. For urban development, it was a non-place in the centre of the city. As a bleak meeting point for the drug scene, it was also a place for others to avoid whenever possible. In 2016, the citizens' initiative 'Stadtlücken' (Urban Gaps) began gathering ideas for what might take place on the public square. The association found support from political committees for the vision of a temporary space for cultural experimentation. The city waived revenue from parking fees, rehabilitated the square in line with the association's ideas for a sum of 140,000 euros, and funded its activities with an additional 80,000 euros. An interdisciplinary project team involving the authorities for urban planning, civil engineering, and public order, and business development as well as various executive district committees got the project off the ground in cooperation with local residents. By the end of 2019, there were concerts, choir rehearsals, table tennis tournaments, discussion panels, and films; people came together for regular, shared dinners and perspectives for subsequent utilization were sounded

out. The urban development dividing line between two city districts once again became an interface filled with social life. The project was awarded first place in the category of urban space in 2018 in the competition 'Europäische Stadt: Wandel und Werte – Erfolgreiche Entwicklung aus dem Bestand' (Europeans Cities: Transformation and Values – Successful Development from Existing Stock), which was organized by the Bundesministerium des Innern, für Bau und Heimat (BMI, Federal Ministry of the Interior, Building and Community).

Time for Experiments The federal government promotes both commitment to the common good and participation in the design of towns and cities. Individuals who plan projects in public space find everything they need to know in the BBSR's 'Freiraum-Fibel' (Open Space Handbook). The BMI also sponsors the 'Urbane Liga', a coalition of young urban thinkers. The Liga developed out of the Jugendforum Stadtentwicklung (Youth Forum for Urban Development), which also worked on the 'Freiraum-Fibel' and has already initiated many projects in German cities. Twice a year, the Liga discusses questions pertaining to urban development and participation with the State Secretary for Building and Housing and other members of the ministry. The BBSR's model project 'Jugend.Stadt. Labor' (Youth.City.Laboratory) aimed to create long-term participation structures for youth. Participants were able to discuss and contribute to designing their living environment in self-organized idea laboratories. In a second phase, the developed projects were realized in cooperation with the young people. A particularly successful example was the 'PLATZprojekt' in Hannover. In a commercial area of its Linden district, a citizens' association redesigned 5,000 m^2 of inner-city wasteland into an urban field for experimentation. Originally planned for a limited time, the project has now become permanent. Co-working spaces for start-ups, studios, and workshops, a bicycle factory, and a café for mothers – years after its establishment, the project's diverse offers continue to have an impact on urban society. Thirty initiatives use the infrastructure together. They organize over 150 events and 50 workshops per year. In 2019, the project was nominated as the winner of the German neighbourhood prize for the state of Lower Saxony. The city and sponsoring association have made a perpetual use agreement: the city provides equipment, information, and materials; the association is responsible for traffic safety and the dismantling of facilities.

That more and more people want to contribute to designing their living environment holds true not only in big cities – quite the opposite. This is shown by the volunteer surveys with which the federal government has regularly gauged how volunteering is developing in Germany since 1999. More people volunteer in the countryside than in big cities. In many communities far away from big conurbations, residents address current issues with creativity and dedication. Preserving facilities for daily needs, food shops, restaurants and pubs, or cultural meeting places is particularly a challenge in rural areas suffering from an aging population and shrinkage. Volunteer involvement makes a significant contribution to the quality of life in smaller communities. This is shown, among other things, by stable or even growing communities all over Germany, including in the middle of rapidly shrinking rural regions. In them, there is an active citizenry that designs public space, preserves places for encounters, and thus promotes life together. Their dedication is manifested in built spaces. Policy-makers should therefore do everything they can to support local initiatives.

In the municipality of Rottenbach in Thuringia, dedicated individuals established a cooperative in 2015 to administer to the needs of the village's rundown railway station. The conversion of the building monument became the first project of the IBA in Thuringia. The village could thus obtain funding from the federal government and the state to redesign the station forecourt as well. It is today a local traffic hub with green islands for apple growing and gardening. The members of the cooperative were actively involved in the conception, design, and development of the railway station. The centrepiece is the sole local business: in the BahnHofladen, the cooperative offers products from the region. The railway station building also serves as an office for citizens and as a meeting place for the community. Policy-makers should ensure the framework conditions within which new ideas can emerge and develop. Applying for funding is, however, generally connected with some bureaucratic efforts. Ironically, it is municipalities with insufficient capital and few personnel that cannot make such efforts. Funding guidelines should therefore be designed so that such municipalities can also manage the application process. The administration should support regional initiatives wherever possible, for instance, by providing offices, offering training courses and legal advice, or providing small amounts of funding (for example, for travel expenses) with limited bureaucracy. To facilitate multifaceted involvement in the long term, individual initiatives must be supported, with a low threshold and infrastructures for this involvement financed in the long run.

The design of public spaces today should not be regarded and dealt with as a top-down process. Spaces that have a high quality with respect to Baukultur are created where all participants enter into exchange and collaborate with one another. Whether impulses come from citizens or the administration is irrelevant. What is important for the success of a project is involving all the stakeholders in the initial phase, thus in Phase Zero, and maintaining this communication during ongoing operation, Phase Ten, in regular steering meetings.

Public Spaces for All

Ownership Creates Value The public authorities should no longer sell their areas, but safeguard and augment them. Only in this way can cities and towns ensure that truly all people can participate in community life – regardless of origin, physical condition, or income. The trend of rents and land prices is becoming a growing challenge for both the population and municipalities, particularly in conurbations. From 2010 to 2019, the prices of building land have increased by 50 % on average in Germany. In the biggest cities, they have even doubled in only five years. In many places, the municipalities themselves have contributed to this by selling off or leasing their own real estate at the highest price. The Baukultur Report 2018/19 already shed light on the scarcity and rising cost of building land in cities: affordable building land is key for cities and towns to provide sufficient, affordable living space. Increasing land values and a scarcity of housing, however, also put pressure on public spaces. Where building land is expensive, rents are also high. This alters the social structure of tenants and the kinds of commercial uses. Both aspects are also reflected in the public spaces of such districts: mixture vanishes and utilizations change. Increases in land value can largely be traced back to investments in

public spaces that improve the attractiveness of a location. Public authorities invest in infrastructure, create construction and planning regulations, and design public spaces. Private owners benefit from this in the form of so-called ground rents. Since the actual value of real estate today is in the ground and not in the buildings, one no longer speaks of concrete gold, but rather of land gold. Increases in land value in private areas are currently being discussed again with respect to obligations for the common good. If, as a result of the planning of a town or municipality, the permissible type of use of a plot of land changes or is cancelled and this reduces the value of the land, the owner can demand compensation under § 42 of the Building Code. Even though compensation for planning value that applies in both directions was envisioned in the draft of the Federal Building Code of 1955, this did not come about. When the code was amended in the 1970s, the proposal failed in the Bundesrat (Federal Council of Germany). Regulations to exploit increases in the value of land are, however, found in the state constitutions of Bavaria and Bremen. As a rule, such regulations are also a subject of urban development contracts made in the course of urban land-use plan procedures.

Baukultur Connects Districts

Wallhafen in Lübeck – Temporary Bridge for New Path Connections

The Hanseatic City of Lübeck, whose old city was already added to UNESCO's World Cultural Heritage list in 1987, offers much more than just the medieval city centre. There is a lot of potential for future urban developments specifically outside of the old city of Lübeck. A residential, cultural, and commercial district is supposed to be created on the northern Wall Peninsula. The Kulturwerft Gollan (Gollan cultural facility), which opened in 2015, already offers an alluring cultural attraction in the industrial buildings in the port of Lübeck. On site, the Architektur-ForumLübeck e. V. supports discourses with interested parties. On the occasion of its twentieth anniversary, the association gave a gift to the city and everyone who lives there: a temporary pontoon bridge over the Wallhafen in Lübeck. This project was coordinated with the waterway police, the port authority, ship excursion companies, and the timber handling companies operating at the Wallhafen. Membership subscriptions and donations provided the financing. The 80-metre-long and 4-metre-wide pedestrian and cycling bridge was assembled from hollow plastic cubes. Ramps at the quay walls facilitated barrier-free crossing. For three weeks, the pontoon bridge linked the city centre with the potential area of St. Lorenz and enjoyed great popularity with the population. The way to the old city on foot was reduced from half an hour to just a few minutes. The bridge also facilitated new views of the spatial relationships between the two districts of the city.

BAUKULTUR AT A GLANCE
- Spatial link between city districts
- Showing urban-planning potential with a temporary project
- Increasing the attractiveness of foot and bicycle traffic

Facts

Planning and construction: 2019	Size: length 80 m, width 4 m
Project developer: ArchitekturForum Lübeck e.V.	
Planner: ArchitekturForum Lübeck e.V.	More information in the project description in the appendix on p. 139

Economists at the Institut der deutschen Wirtschaft (IW) in Cologne recommend that owners be involved in the financing of public infrastructure. In an expert assessment of 2019, they calculated the increase in value that arises for buildings in the surroundings because of a new railway stop. If the travel time to the central railway station is subsequently reduced by half as a result of the improved connection, the selling price of a flat increases by at least 500 euros per square metre. Development measures that partially siphon off this increase in value are rare in Germany but standard practice in other countries: as an added value tax in the cantons of Switzerland, an infrastructure fund in Australia, or community land trusts in the United States.

Considering Responsibility Spatially Initiatives for a location, however, often also come from property owners, businesspeople, and companies. Many businesspeople do more than simply talk about corporate social responsibility, hence the will to assume responsibility for the common good as a company. In medieval times, the Hanse, just like the Fuggers, already anchored social responsibility in their guiding principles. Today, many businesspeople even speak of 'corporate citizenship'. The Federal Foundation of Baukultur has entered into dialogue with the real estate sector regarding a codex for Baukultur. What responsibility the real estate industry has for the built environment is also a measure of its benefits for society. In the long term, this approach to Baukultur helps ensure economic success. Areas are scarce and public authorities lack the financial resources for structural improvements and maintenance in many places, specifically in urban agglomerations. Many businesspeople are therefore faced with the challenge of fulfilling their social responsibility to a greater extent.

Since the mid 2000s, ten federal states have translated the urban development tool of business improvement districts (BIDs) into state law. BIDs are areas where businesspeople and property owners try to improve the quality of the location together. BIDs rely on companies and property owners being involved in steering committees and work groups. Time-limited fees levied on participants finance the redesign and maintenance of public spaces. A summary of legal frameworks and an annotated list of BIDs and model projects in the individual states have been published by the Deutscher Industrie- und Handelskammertag (DIHK). In 2005, the Neuer Wall BID in the centre of Hamburg was the first of its kind in the Federal Republic. The owners of 54 properties and 93 retail businesses invested nearly six million euros over a period of five years. With the money, wider pavements of light granite and better options for pedestrians to cross streets were created. In addition, urban furniture and lighting were modernized, the management of parking space was introduced, and maintenance and cleaning measures that go beyond the municipal services were financed. In the meantime, this BID is in its third round – until the end of 2020. This is a success model for Hamburg, as can be read in a publication that the city published in 2016 in cooperation with the Hamburg chamber of commerce. Up to that point in time, projects with an investment volume of 50 million euros had been realized solely with funding from private property owners. Roughly half of the sum flowed directly into public infrastructure and thus benefited everyone. The Bündnis für die Innenstadt (Alliance for the City Centre) – consisting of businesspeople, the chamber of commerce, the tourism board, and the restaurant association – also called for more investments by the city in public spaces in a position paper from

2019. The alliance has also committed itself to a culture of togetherness and to a city centre in which beggars and boutique shoppers alike find their place – a city for everyone. Some federal states have taken the model beyond commerce. Hamburg enacted a law to strengthen residential districts with private initiatives (GSWs). On this basis, the state approved the first housing improvement district in Germany in 2012. Its goal is to improve the quality of housing and life in the district of Wandsbek.

Ensuring Public Utilization Privately owned plots of land and buildings can serve the general public. The Merck pharmaceutical company closely coordinated the design of the new Merck Innovation Center (see p. 116) with the city of Darmstadt. It could thus redesign the street that runs through the company grounds. Open spaces that directly adjoin Merck's buildings have not been built up and can be used by the public today. These privately created spaces cannot replace public space, but they can enrich it. By means of such impulses, private owners help activate neglected places for which no one feels responsible.

When technical infrastructures cross private properties, the public use must be legally guaranteed. In practice, this raises the question of how to ensure public use when owners change. When owners change, contractually stipulated safeguards are occasionally forgotten. Professional contract management is hence indispensable for ensuring quality in the long term. Municipalities have various instruments at their disposal to safeguard rights of use for the public. Stipulating utility rights and rights of way solely by means of urban development contracts or development plans is insufficient, particularly in cases of conflict. Dedicating a route in line with the roads acts of the states provides a more solid legal basis. Entering utility rights and rights of way in the land registry as easements (in addition) is a good option. Questions regarding the body responsible for the construction of paths, maintenance, and liability must be clarified in connection with the setup and operation of access areas and public spaces. The municipality is not always the best point of contact for this. A dedicated private district management consisting of local owners and users sometimes – in the case of unrestricted accessibility – ensures a better quality of maintenance in its own interest.

The importance of networks of paths and the public accessibility of spaces for all social groups is also reflected in the urban development funding of the federal government and the states. The Ihme-Zentrum in Hannover is a large residential and office complex that was previously also a shopping centre. For years, there had been plans to create a wide, well illuminated, and well designed foot- and cycling route through the centre. In 2017, the federal government included the project in the program 'Nationale Projekte des Städtebau' (National Urban Development Projects) to develop strategies for action that deal with real estate that influences urban development and is also the property of several owners. Even before the actual planning, legal opinions were financed by the funding to shed light on the legal feasibility of the route. Opportunities for public use often leave much to be desired, also in the case of public buildings. Very few government buildings prove to be citizen-oriented. Security barriers and controls at entrances exclude the general public. The lobbies of public buildings should thus create a low-threshold possibility for access, and security barriers should be moved towards the interior of the building as much as possible.

Baukultur Designs Streetscapes
Deceleration in Darmstadt –
A Traffic Area Becomes a Driving Force

On the occasion of its 350-year anniversary in 2018, the Darmstadt-based Merck chemical and pharmaceutical company introduced its new corporate identity and new company policy. The aim was to open up the city to a greater extent and to provide workplaces for external researchers and developers within the framework of cooperative projects. What was thus created as the main entrance – instead of a new central administration building as had been considered – was an innovation centre that pulls back from the street and thus facilitates a forecourt. The Henn architecture firm, which also developed a master plan for Merck's entire company site, designed it as an open work landscape on six interconnected, curved levels of exposed concrete.

The situation on the four-lane Frankfurter Straße – which separates the open part of the company grounds in the east with employee parking spaces, office buildings, and a visitor centre still to be erected opposite the innovation centre – did not really correspond to the new image. The poorly designed streetscape between them was also supposed to become an image bearer. In cooperation with the city of Darmstadt, Henn as the general planner, developed a concept for a public square that visually aggregates the company grounds, invites spending time, and slows down through traffic. For it, the Darmstadt-based R+T Verkehrsplanungsbüro envisioned slowing down traffic and reducing the four lanes to just two. By means of calculations, the planners could show that the fear of constant traffic congestion that had been expressed at town hall meetings was unfounded and that the desired under- or overpasses would not be necessary.

For the outdoor space, the planners at Henn took up a design theme from the innovation centre: the curved exposed concrete surfaces. On the square, the central areas were executed in white in-situ concrete on both sides of the street. Three 'volcanoes', whose curvatures were produced by hand, rise from each of the areas.

These zones are embedded in the concept of the Berlin-based firm Topotek 1, which won an open-space planning competition in 2014. Two fields of concrete are surrounded by lawn areas, avenues of plane trees, and groves of cedars and cypress oaks within a natural stone surfacing that extends up to the glazed boundaries of the company grounds.

On the square, there are no defined foot- or cycling paths, and even the street, at least based on how it is perceived, leads over the square. While there are two tarred lanes, a paved median separates them for safe crossing. Because the tempo is limited to 30 kilometres per hour, passers-by can cross at any point along the 170-metre-long median in a 'free-floating' way. To facilitate better visual contact, the tram stop was moved to the northern edge of the square. It was possible to have the tracks intersect at three wide forks. Acoustic signals are given when trams are arriving, but there are otherwise no traffic signals.

Emanuel-Merck-Platz is adjacent to the street area on plots owned by the company and was completely paid for by Merck. Nonetheless, it presents itself as a public square – at least ostensibly, since it can be used as a whole more by the employees than by urban society, and, in case of doubt, Merck makes the rules. It is also a deft means of anchoring the company's corporate identity in the cityscape. It is a gain: as a new location where there was previously only a transit space and as a bold traffic experiment based on mutual consideration. That the experiment succeeded was recognized at the beginning of 2019, more than a year after completion, by the local newspaper Darmstädter Echo, which was once a representative of a citizens' initiative critical of the project. The police could not name any single accident involving pedestrians or cyclists, and the city had received 'no reports of special traffic situations'. The traffic flows more smoothly than in the past.

Facts

Planning and construction: 2015–2017	Cost: 10 MM euros
Project developer: Merck KGaA	
Planners: Henn, Munich, Berlin; Topotek 1, Berlin; R+T Verkehrsplanung, Darmstadt	More information in the project description in the appendix on p. 139
Size: 3,500 m²	
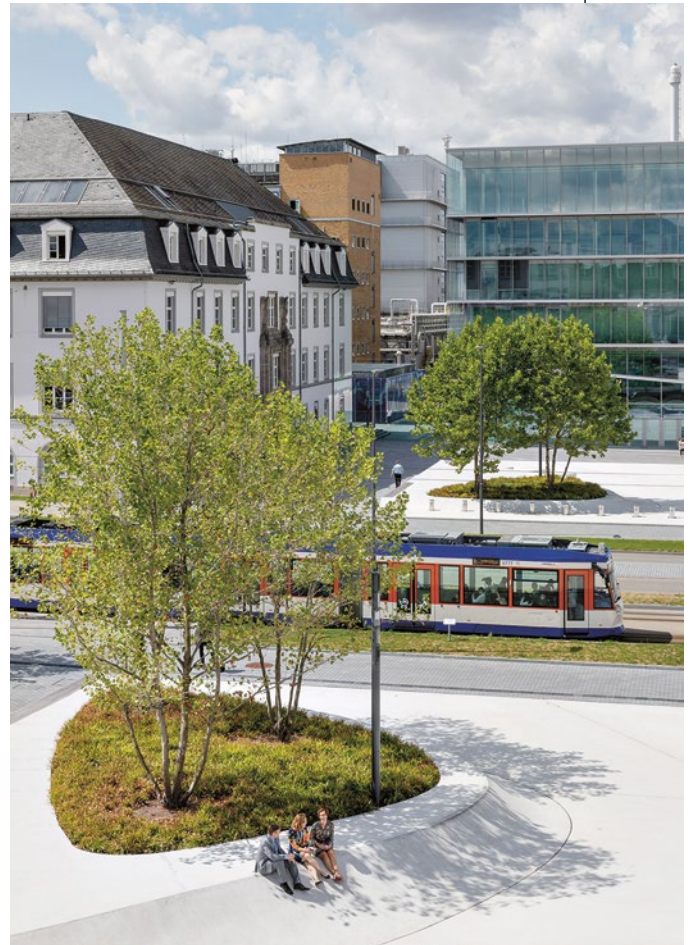
BAUKULTUR AT A GLANCE
- **Shared space for pedestrians, cyclists, cars, and trams**
- **Mutual consideration of traffic participants**
- **More fluid traffic as a result of fewer lanes and a speed of 30 km/h**
- **A private company builds and finances a (partially) public space**
- **Street and square as part of corporate identity**
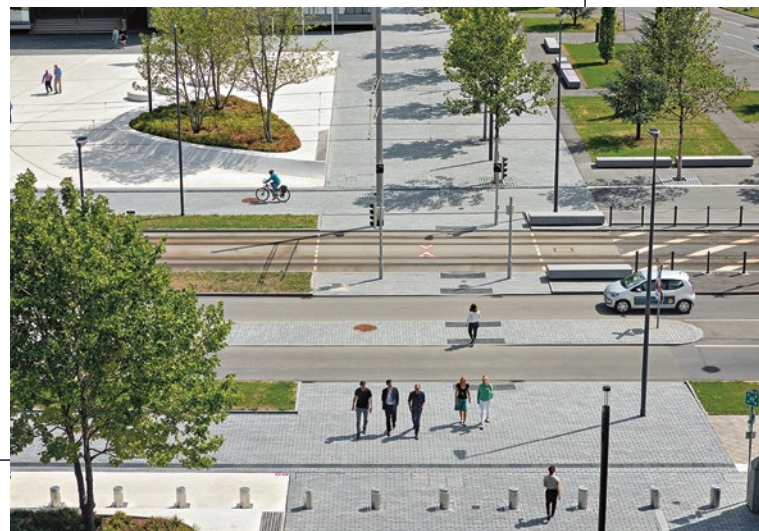
Land Policy for the Common Good The fact that land has great significance in society has long since been recognized by many associations and institutions. Public spaces must remain public property. They are indispensable for life in the city. High-quality, sustainable spaces for everyone can be realized most optimally when urban land is in municipal hands. This means that the municipality thus has an open range of options for action under public and private law and in urban development and traffic policy. The land policy agenda for 2020–2030 of the Deutsches Institut für Urbanistik (Difu) and the Bundesverband für Wohnen und Stadtentwicklung (vhw, Federal Association of Housing and Urban Development) was already a topic in the last Baukultur Report: if municipalities only have limited possibilities to dispose of land as they would like, their scope for action is limited. Only if there are sufficient municipal areas can cities and towns steer the design and react flexibly to undesirable developments. Publicly owned properties that can be used as building land also curb market developments.

In 2018, the Bundesministerium des Innern, für Heimat und Bau (BMI) convened the expert committee 'Nachhaltige Baulandmobilisierung und Bodenpolitik' (Sustainable Building Land Mobilization and Land Policy). It presented its recommendations for action in July 2019 and explained therein that land is not a commodity that can be augmented as desired but is instead a valuable resource. It thus adheres to a frequently cited decision by the Federal Constitutional Court from 1967. The judges stated that land cannot be propagated and is irreplaceable, and thus barred its use from being ceded entirely to the free play of market forces or the discretion of individuals. The positions of the building land commission are now the basis for a forthcoming amendment to the Baugesetzbuch. It is supposed to supplement and improve existing instruments. From the perspective of Baukultur, municipal ownership of land fosters not only municipalities' ability to take action, but also people's identification with their polity. The awareness of collectively owned areas strengthens the community's feeling of we. This effect has been recognized for generations, for instance, in the Finnish capital of Helsinki. It leads directly to a higher quality of architecture and public spaces.

Municipal Fields of Activity It is not only lawmakers who are called upon. The actions of the individual municipality are just as decisive. It is the municipality that implements a land and property policy oriented towards the local common good. Municipalities can allocate areas to groups and projects whose objectives coincide with those of urban development policy. This engenders multifaceted public spaces that meet the needs of their users and permit broader segments of society to participate in public life. Awarding land and property at a maximum price often does not achieve this. Conceptual procedures are good instruments for ensuring the qualities of Baukultur when awarding property. Developed in Tübingen in the 1990s, it is not the highest bidder that is favoured, but the bidder with the best concept. Cities and towns specify the selection criteria and put greater value on the urban-development, cultural, and social qualities of the tender when doing so. The first conceptual procedures were oriented in particular towards collective housing projects like building cooperatives and building groups, which are not as strong financially as their competitors. As a result, they are at a disadvantage in classic tendering processes. Such user groups, however, frequently turn out to be innovative and dedicated. They assume responsibility

on site and their ideas are convincing. Today, conceptual procedures are used throughout Germany when awarding land to innovative project developers. The research project 'Baukultur für das Quartier' (Baukultur for Districts) of the Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR) examined ten conceptual procedures to learn what approaches are particularly suitable for achieving Baukultur aims. In the BBSR's publication of the same name, it is possible to find recommendations for action and best practice examples.

Another instrument for a land policy oriented towards the common good can be heritable building right. The prerequisites are that contracts are negotiated with sound judgment and that the ground rent, which should be related to market rates, should be at most 2 % over the interest on capital. The heritable building right celebrated its one hundredth anniversary in 2019. Cities and towns throughout Germany are once again making use of it today. In this approach to awarding land, the municipality remains the owner of the property and can thus set guidelines for its use. The holder of a heritable building right pays the municipality a regular ground rent. In exchange, the holder is given the right to erect and maintain a structure on the property. Heritable building right contracts usually have a duration of between thirty and ninety-nine years and are entered in a separate land registry. Hamburg has more than 4,000 heritable building right properties and wants to utilize this instrument more intensively. In October 2019, the city presented its concept for a socially equitable land and property policy. In it, the senate and the agencies for urban development and housing agreed to award more properties in the category of heritable building rights to create affordable living space. The city thus wants to enable people with a limited income and savings to build. The rising prices for building land have made this impossible for large segments of the population in recent years.

Ulm is one city that knows how to utilize the entire spectrum of land and property policies oriented towards the common good. For over 125 years, the city has been systematically purchasing properties to have more design flexibility and to create living space. Cities must have sufficient areas of their own to provide the basis for the creation of vibrant, mixed spaces. Ulm is convinced that it strengthens the ability of the city to take action: the municipality owns more than one third of building areas in the city. Since the 1970s, urban properties have only been sold if a building permit for a project is available. In new residential areas, development plans are then first approved when the city owns all the properties. Ulm's right to repurchase properties also prevents areas that have not been built on and were previously owned by the city from being resold by one private person to another. Ulm was also a trendsetter in inter-municipal cooperation. The Danube River divides the city in Baden-Württemberg from the neighbouring city of Neu-Ulm, which is part of Bavaria. In the 1990s, both cities competed for the establishment of a regional mail centre and a large furniture market. To put an end to the negative experiences of this competition, they founded an urban development association in 1999, which for the first time spanned several cities and crossed state lines. In the meantime, six local authorities belong to this association. The establishment of businesses is planned by a single source. The trade tax rates are closely coordinated, and the tax revenues have developed in parallel in recent years. Ulm thus uses its municipal planning sovereignty actively and assertively. Owning public land is also crucial for restructuring traffic and sustainable mobility. Ulm got this off the ground at the

Land policy instruments

The following instruments are actively used by the municipalities surveyed

Source: Municipal survey for the Baukultur Report 2020/21

Sales
77 %

Business development consulting
73 %

Purchases
70 %

Leasing
58 %

Concept processes
47 %

Rentals
30 %

Revolving funds
5 %

None
7 %
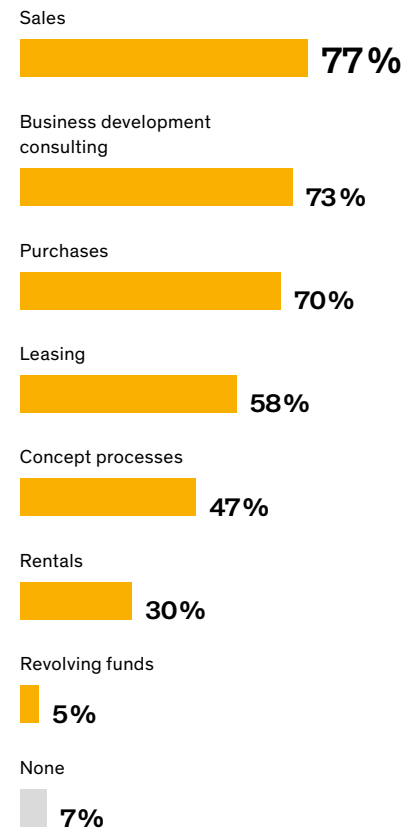
beginning of the 2000s with the major urban development project 'Neue Mitte' (New Centre): proof of its success is the restructuring of the once six-lane Neue Straße in the historical old city.

Collaboration

Management for Public Spaces Good solutions are created solely through joint efforts and exchange. This holds true for the collaborative work of municipal authorities and for work with architects, owners, businesses, and civil society. Each department has its own perspective; each is guided by different considerations: Public order offices perform sovereign functions in particular and want to prevent risks. Traffic planners and civil engineering authorities are concerned that infrastructures function technically. Parks departments create parks and maintain them long term. Transport companies want to operate trouble-free public transport. And the urban planning department wants to design high-quality urban spaces. All of these aspirations come together in public spaces. Getting all these authorities to work together towards the shared aim of creating lively public spaces is not a simple undertaking. Spaces with a high-quality Baukultur are always the result of communication. Sustainable structures do not come about by themselves; they have to be created. In a 2015 position paper, the Deutsche Städtetag (German Association of Cities and Towns) complained about a juridification of the building industry. Public construction often resembles a process of shifting responsibility, follow-up management, and complaints about defects. But no space comes about based on the sum total of technical norms. Complying with stubborn standards cannot take the place of political responsibility. Decisions must be made on a level that lies above individual responsibilities. Conflicts of interest must not be resolved solely from the perspective of individual municipal authorities. This task must be incumbent on selected decision-makers or an administrative unit with a view of the whole: a project organization for public spaces.

Some municipalities bundle the responsibilities for public space in one unit. Hamburg, for instance, has brought civil engineering, horticulture, and forestry together on a district level in the department 'Management des Öffentlichen Raums' (Management of Public Space). This can significantly simplify coordination processes. Nuremberg merges services in the 'Servicebetrieb Öffentlicher Raum' (Service Operations for Public Space). The spectrum of its tasks spans traffic lights, playgrounds, winter services, municipal bridges, green areas, streets, pavements, public squares, and even street lighting. These service operations are managed by a works committee consisting of twelve members of the municipal council under the chairmanship of the lord mayor.

Organizing Collaboration The management of the planning, construction, and maintenance of public spaces must steer the activities and establish clear points of contact. Sustainable decisions require obvious structures for who is responsible for what. The administration of a city or town has two options for planning public spaces in a coordinated way: by means of agreements between municipal authorities or based on special structures. Particularly in smaller municipalities, the stakeholders often know each other personally and, thus,

can easily make agreements bilaterally and informally. In bigger cities, however, steering and work groups are indispensable for communication and coordination. Apart from the specialist departments of the municipal administration, in the best case, policy-makers, local businesses, and civil society stakeholders should thus also sit at the table. Project-related collaboration frequently inspires productive exchange among the participants and creates an understanding of the perspectives of others. In the respective special task force, however, it requires a management that can decide. Visible indications of successful collaboration in public space are, for instance, suspended luminaires for public lighting. They do not negatively affect the space of streets and public squares because of masts and also pleasantly illuminate this space (see p. 90, railway station forecourt in Erfurt). But a prerequisite is close cooperation with the residents or owners of adjacent properties, who must agree to have the cables anchored on their buildings.

Important impulses for integrated processes and measures come from the urban development funding of the federal government. Studies by the BBSR show that programs like 'Städtebauliche Sanierungs- und Entwicklungsmaßnahmen' (Urban Development Rehabilitation and Development Measures) or 'Aktive Stadt- und Ortsteilzentren' (Active Centres of Cities and Towns) alter administrative structures in the long term. In many municipalities, work groups involving diverse stakeholders have come together in the course of these funding programs, revamped the planning culture, and made it an established practice. In Esslingen, a series of such work groups were convened in connection with the reconstruction of Bahnhofsstraße. Businesspeople and owners of nearby

Overcoming sectoral thinking
Coordinating responsibilties in public space across sectors
Federal Foundation of Baukultur 2020

Urban lighting

Façades and balconies

Roadside greenery

Pavements and ground floors

Private transport

Stationary vehicles

Public transport

Urban furniture

Supply and disposal, telecommunications
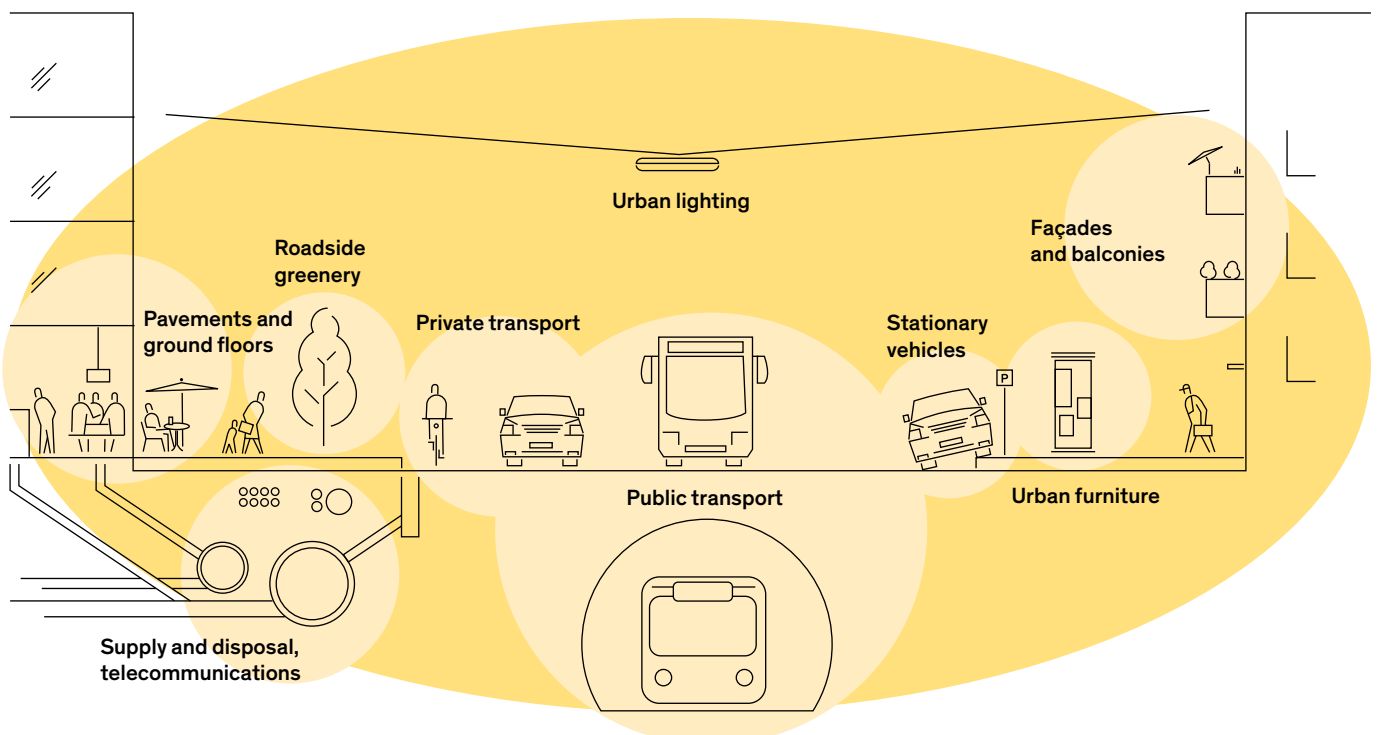
Baukultur Initiates Processes
Federal Garden Show in Heilbronn – Strategic Urban Development Based on Open Space

When the city of Heilbronn decided in 2007 to organize the Federal Garden Show (BUGA) in 2019, it was already clear that what was desired was more than just a big, one-off event for garden lovers. What was instead supposed to be created on the decommissioned area of the inland port at the bend in the Neckar River close to the city centre was a new piece of the city with references to the river and new green spaces. In addition, the city had already purchased the fruit warehouse site on the rear side of the Central Station from Deutsche Bahn. An urban development competition followed in 2009, and was won by steidle architekten. A realization competition then took place on this basis in 2011, with the firms SINAI and Machleidt selected as the winners.

Two port basins that had been backfilled in the 1930s were recreated as the Karlssee (Lake Karl) and the Floßhafen (Raft Harbour). Around the Floßhafen, three band-like sites are envisioned for construction, the eastern one of which was already part of the BUGA as an inhabited 'city exhibition'. For the BUGA, the western band was given a sea of grassy waves,

which was digitally modelled by Büro Loma and moulded in an automated process by GPS-controlled excavators. Thematic garden cabinets could be experienced on the southern subarea. The other green areas, just like the lakes, will be preserved after the BUGA. They include the bank of the Neckar River, which could be greened after a federal road was relocated to the industrial park on the eastern bank, and the Hafenpark, which is shielded from the active industrial operations on the Neckar Canal behind it by a wall made from uncontaminated waste material obtained from the soil remediation.

With the twenty-three buildings in the city exhibition, a BUGA became a building exhibition for the first time. Based on the conceptual process, the plots were allocated in 2015 for the fixed price determined by appraisers, whereby investors could apply for many plots. Each architecture firm was, however, limited to a maximum of two buildings, which could also not be situated next to one another. The selection of projects was made by a jury, which took on the role of a building commission

and was also responsible for construction consultation in the further course of the project.

A key issue was thus not only the architecture of the individual buildings but also structural innovations (construction method, materials, energy concept) and a functioning mixture of uses for an urban district of 800 residents. Until building approval was given, no sales took place, but only an awarding of contracts.

What was created was not only Germany's tallest wooden building, but also two ensembles of buildings, a municipal children's house with a day nursery and flats for single parents, supervised living and an inclusion project, student flats and a boarding house, and owner-occupied apartments. As a whole, round half are rental units, whereby 30 per cent are subsidized. There is also a laundrette, gastronomy, a common area, and commercial spaces on the ground floor, which were used as exhibition spaces during the BUGA.

That it was possible to complete an entire city district only three years after the call for submissions can only be partially explained by the deadline pressure resulting from the big event. Structured, short decision paths were ensured above all by the project steering of the BUGA association, which always brought architects, investors, and administration round one table for the planning sessions. The association kept its role as manager, moderator, and resolver of conflicts until Phase 8. The execution could also proceed smoothly because so-called Phase Zero had been in process since 2009: the concept for the BUGA had thus already been disseminated widely among the population by idea competitions, site tours, presentations, brochures, and an info box. For Heilbronn, the BUGA not only brought media attention and an increase in prestige but also released energies as an engine for urban development. The two other construction fields are supposed to be awarded soon, based on the tried and tested model.

Facts

Planning and construction: 2003–2018	Area: 32 ha
Project developer: City of Heilbronn	Cost: 189.5 MM euros
Planners: steidle architekten, Munich; SINAI, Berlin; diverse architecture firms with individual buildings	More information in the project description in the appendix on p. 140

BAUKULTUR AT A GLANCE

- Big, one-off event as a starting point for urban expansion
- Early citizen participation and extensive Phase Zero
- Swift structural execution thanks to a consistent planning culture
- Investors, planners, and administrators at one table
- City exhibition with an urban mixture of uses
- Allocation of plots based on a conceptual process
- Courage for innovations in architecture and urban and open space planning
- Larger share of subsidized housing

buildings made voluntary contributions available amounting to 100,000 euros. They still engage in regular exchange with the municipal administration today, although the project is over. When the opportunity arises, it is important to act in a determined way. This is an insight from the Baukultur workshops. When political majorities or selected decision-makers support a project by the administration, it is necessary to seize the opportunity to realize it. The importance of stakeholders from politics or the administration who take a matter seriously – often with a great zest for action – can barely be overestimated. This is underscored by the study 'Die Innenstadt und ihre öffentliche Räume' (The City Centre and Its Public Spaces), in which the BBSR examined twelve small and medium-sized cities' processes for planning public spaces. In the ever more complex procedures and processes, what is needed, however, is not only political sensitivity but also high professional qualification.

Strengthening the Responsibility of Developers Planning high-quality public spaces succeeds only if the personnel involved are qualified. No one benefits if the public sector does away with positions in the administration, but then ultimately has to accept tremendous cost increases and supplements due to poor planning and insufficient control. This is the insight gained by the audit divisions of the federal government and the states. As the project management, public developers bear all the responsibility, while coordination, documentation, contract management, and various other tasks from the field of project steering can be handed over to third parties. Particular obligations, in contrast, cannot be delegated: the public developer itself must stipulate the objectives that define the building program, take responsibility for the project organization, select suitable contract partners, and ensure quality assurance and control over contractors. The conference of presidents of the auditing divisions of the federal government and the states pointed this out. An important prerequisite for this, according to the conference, is the developer's expertise in construction as well as a professional project management that serves the public interest. In 2018, the auditing division of the state of Rhineland-Palatinate called for strengthening the building development skills of administrators. It found fault with the ambiguous responsibility for leadership and inefficient project organization in evaluations of many design and construction projects. Partial planning especially was not coordinated professionally and the participants were only coordinated insufficiently. One main reason for this is a lack of expertise. A survey of 107 municipalities conducted by the auditing division concluded that, in nearly every third municipality, no engineer is employed in the field of structural engineering. Even where there are such specialists, they often lack training for senior or higher technical administrative service.

Qualification of Administrators At a time when even the flourishing construction sector can barely cover its staffing needs, the public sector must provide stronger incentives to obtain qualified personnel. Municipal administrations are suffering increasingly from the shortage of specialists. This was shown by a survey of 463 municipalities conducted by the Deutscher Städte und Gemeindebund (DStGB, German Association of Towns and Municipalities) in 2019. The applicant situation has worsened dramatically since 2012. In the next ten years, one third of the employees of rural districts, cities, and towns will retire. More

Budgetary resources are often not requested

60 % of the municipalities surveyed indicate that budgetary reserves are regularly left over when realizing infrastructure investments. M24

There is a lack of personnel and coordination

The cities and towns blame a lack of resources (75 %) and on overly complicated coordination processes (64 %). M25

competitive salaries are not the only issue: factors like individual responsibility, integrated and multifaceted tasks, personnel development and further training, a cooperative management style, flexible working hours, and an architecturally attractive working environment can provide motivation and strengthen the commitment to employers. Specifically here, administrations deal with their employees traditionally – and can post this against private enterprise as a strength, says a study on behalf of the Robert Bosch Stiftung.

Personnel recruitment today must address people in all phases of their life. According to a current study by McKinsey management consultants, the federal government, states, and municipalities will have a shortage of 730,000 employees in 2030. Today, 185,000 positions in public administrations are unfilled. Hamburg therefore long since started planning its need for personnel systematically with a timeframe of eight years. Factors such as anticipated demographic developments, changing tasks, and a shortage of specialists directly influence the planning of personnel needs and clarifies what qualifications will be needed in greater numbers. In Hamburg, it became visible that a bottleneck threatens in connection with architects, construction engineers, and other engineers. The building authority was able to react to this and recruit more young talent in a timely manner. Rigorously organized projects in which the employees perform tasks independently in flat hierarchies improve the efficiency of a building authority. Collaboration with other municipalities can also help close staffing gaps. This has been pointed out by the Kommunale Gemeinschaftsstelle für Verwaltungsmanagement (Communal Joint Office for Administrative Management) among other bodies. It has brought together many successful examples in a database: a joint building yard for the cities of Böblingen and Sindelfingen has paid for itself year after year with savings of 650,000 euros. Particularly smaller communities outside of agglomeration areas can use their personnel resources more efficiently by collaborating. The federal government and the states are therefore calling for more supra-local collaboration through the reoriented urban development funding starting in 2020. Such collaborations thus make an important contribution to developing and strengthening inter-municipal networks.

Phase Zero to Phase Ten Not only the creation but also the maintenance and upkeep of public spaces are in part municipal services that are anchored in the Basic Law in Germany. Municipal budgets should therefore give such tasks greater importance when allocating funding. A Phase Zero prior to the start of construction has meanwhile becomes an established practice in many cities and towns. Phase Ten is also crucial – especially for public spaces. Baukultur does not end with the inauguration of a public square or green area. Public spaces are always in flux: uses change, new user groups stake claims, and formerly adopted regulations turn out to be unviable and must be adapted. Conflicts also arise when uses have not been foreseen and have thus been given too little attention in the planning. Municipalities should definitely plan in budgets or form reserves for such adaptations during operation. The costs for maintaining public spaces are, however, frequently not accounted for in municipal budgets. No budget item promises so much potential for savings as so-called maintenance funding, which includes few specified expenditures. Departments for open and green areas, and frequently also planning authorities, are at a structural disadvantage. There is no lobby for spatial quality, especially because there is no

integrated management in many cities. Representatives of other areas have an easier time. Traffic planners, for instance, can provide clear figures for how many vehicles a street absorbs every day, from where drivers commute, and how many workplaces are thus served. The added value of public squares and green and open areas is more difficult to quantify. Allegedly softer factors such as cultural and social aspects, image and location marketing, climate and health simply do not have the same importance in many budget negotiations. So, how can the value of open public spaces be optimally presented? The Institut für ökologische Wirtschaftsforschung (Institute for Ecological Economic Research) developed arguments and strategies for this in the project 'Stadtgrün wertschätzen' (Appreciating Urban Greenery). This project, which was funded by the Bundesministerium für Bildung und Forschung (Federal Ministry of Education and Research),

Project levels Phase Zero and Phase Ten

Federal Foundation of Baukultur 2020
with reference to HOAI's service phases 1–9

Phase Ten
operation,
management,
maintenance

Service phases 6–9
implementation

Service phases 1–5
planning

Phase Zero
preliminary investigations,
pre-planning, project definition,
participation, negotiation
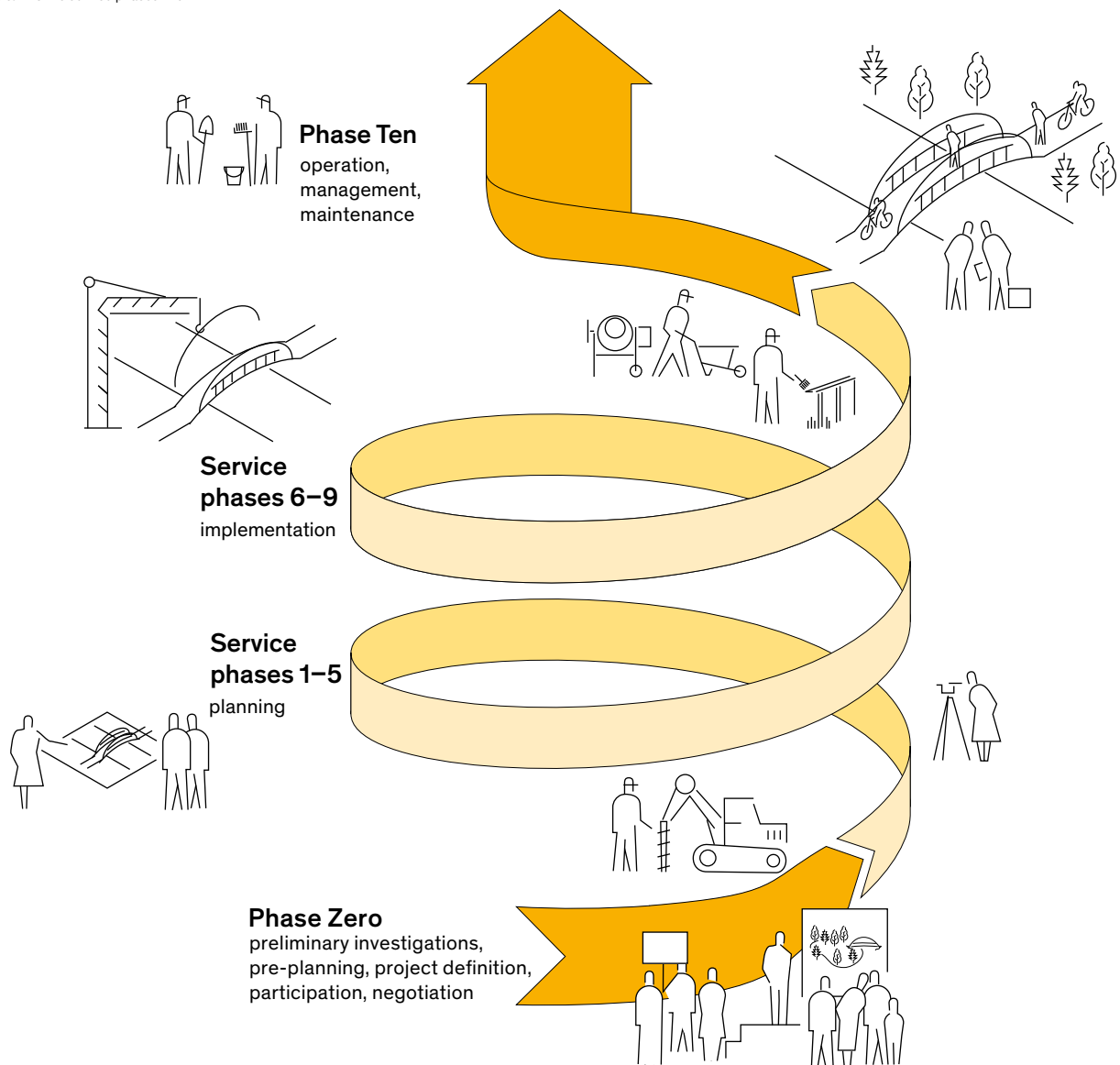
focused on the importance of green areas for climate resilience and biological diversity. A first report in 2018 showed how municipal stakeholders can quantify the benefits of the ecosystem, what importance the ecosystem has for a municipality, and how climate protection plans can be optimally implemented. The value of greenery also has a positive impact on the value of neighbouring land.

In planning processes, the design of public spaces stands in the foreground. But how the spaces are maintained and used frequently only plays a subordinate role. Different user interests are rarely methodically planned for or conflicts dealt with systematically. The municipality only becomes active in individual cases and when problems arise. Funding programs also frequently focus on investments. They are rarely oriented towards ongoing tasks such as operation, maintenance, and management. The reoriented urban development funding of the federal government and the states continues to support municipalities in Phase Ten. It is possible, for instance, to realize festivals, events, or projects in a city district using so-called contingency funds. With its leveraging effect of 1:7, the urban development funding activates subsequent public and private investments each year and can thus involve a broad spectrum of stakeholders.

Get People to Participate Decision-makers in politics and administration have learned that it pays off to facilitate citizen participation in planning at an early point in time. This is shown by a survey for the study 'Partizipation im Wandel – Unsere Demokratie zwischen Wählen, Mitmachen und Entscheiden' (Participation in Transition – Our Democracy between Voting, Participating, and Deciding), which was conducted by the Bertelsmann Foundation and the State Ministry of Baden-Württemberg. In it, 63 % of decision-makers agreed with the statement that early citizen participation can help prevent bad planning and investments. For the representative study, the researchers asked not only mayors, top administrators, and members of municipal councils from twenty-seven municipalities in Germany, but also residents of these cities and towns. The study showed that citizen participation increases the acceptance of political decisions. For this, it is not important whether people merely bring in their ideas and concerns in an advisory capacity or whether they are able to directly co-determine projects. This holds true even if they do not agree with the concrete results.

What also became clear is that many people wish to be involved to a greater extent in planning processes and decision-making on a municipal level between elections. Sixty-nine per cent of those surveyed found that residents should decide directly on important municipal questions. Among the members of municipal councils selected, only 45 % agreed with this. In a representative democracy, elected officials must keep an eye on and represent the common good. One way out of this dilemma is shown by the concept of random citizens. A representative group is selected at random from population registers and invited to participate. The random selection increases the percentage of underrepresented voices, thus of women, migrants, and young people. They are rarely involved in possible disputes and their positions are less entrenched. This relativizes extreme positions and can deescalate conflicts. States and municipalities throughout Germany are trying out this process. Some have already succeeded: The French municipality of Kingersheim in Alsace has had a randomly selected, participatory council develop proposals for the municipal council. In Baden-Württemberg, the municipality of Gomaringen has anchored the process of randomly selected

There is great citizen engagement for Baukultur

Associations, initiatives, calendar, and excursions for Baukultur in Germany

Source: Förderverein Bundesstiftung Baukultur e.V. 2019

- • 1
- • 2–5
- • 6 or more
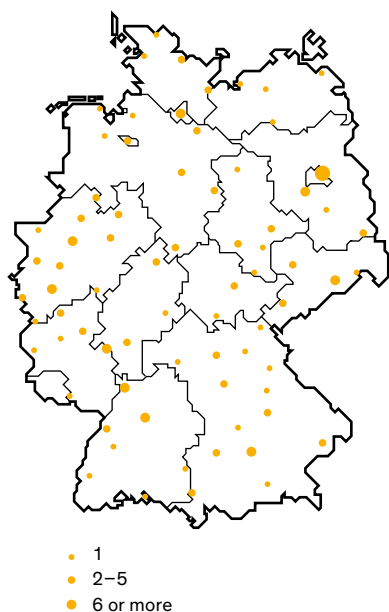
What do cities and towns charge special use fees for …

Nearly all the municipalities surveyed charge special use fees for outdoor gastronomy areas (95 %). 81 % charge fees for advertising; 43 % also do this for parking spaces. M27

… which generally do not benefit maintenance

The special use fees are earmarked for a specific purpose and are used for the maintenance and upkeep of public spaces in less than half of cities and towns. M28

citizens in its guidelines for a standardized citizen participation process. Randomly selected citizens were correspondingly invited to develop the concept for the development of the municipality and to become active in the working groups. But this idea is not entirely new: in ancient Athens, the cradle of democracy, important offices were not filled by means of an election but by lottery. This even applied to the council board, from which the government emerged.

Involving Businesses Public spaces are for everyone: the people who use them as well as local businesses, whose shops depend on access and location criteria. Policy-makers and administrators should therefore involve businesses and urban society more intensively in the planning and operation of public spaces. Ownership structures, proposed uses, or financial constraints sometimes make it necessary to include other stakeholders. The simple classification into public sector and private business falls short. It says little about multi-layered interests, objectives, and negotiating strategies. This was the finding of the projects 'STARSmulti' and 'STARS – Stadträume in Spannungsfeldern' (Urban Spaces in Conflict Areas), which were sponsored by the Deutsche Forschungsgemeinschaft (German Research Foundation). In case studies and interviews between 2007 and 2011, researchers at the RTHW Aachen examined how different stakeholders in the planning, construction, and operation of public spaces work together. The result: individual municipal authorities rarely speak with one voice. Municipal policy often pursues very different strategies. And in the collaboration with municipal enterprises, fundamentally different logics frequently collide. Even if these enterprises are 100 % in municipal hands as subsidiaries, they nevertheless weigh their decisions based on their own economic self-interest. Special use rights often give rise to conflicts in the community. If a municipality would like to confer rights that permit private parties to use a public space, coordination problems are pre-programmed – because various authorities are involved. Simply setting up a café table involves the commercial inspectorate, the market department, the building authority, and the urban planning authority. The commercial inspectorate represents the law for public houses, the market department checks the display of goods, the building department clarifies the use of the area, and urban planning is concerned with the design and urban landscape. A project organization with one point of contact would be helpful here, without any specific area needing to suffer.

Passau has shown how it is possible to work together successfully. Following the construction of a shopping centre, more and more shops stood empty in the pedestrian zones of Ludwigsstraße and Große Klingergasse. The quality of time spent consequently declined. A remodelling of the public spaces was realized thanks to the Bavarian state program 'Leben findet Innenstadt' (Life Finds the City Centre). This funding was linked to private co-financing. 'City Marketing Passau' – an association comprising representatives from the administration, business, and municipal society – became the driving force. The association mobilized the municipal administration and the owners concerned. The latter took over 50 % of the remodelling costs, amounting to 1.2 million euros, while the city and the state program financed the other half. The owner-provided contributions were calculated based on the size of the property, the number of storeys, and their use. After the remodelling, the district management cared for and maintained the public spaces. What is essential for successful collaboration

is whether the aims of those involved correspond or whether compromises can be negotiated – but not whether public or private stakeholders are involved.

Vibrant public spaces do not result from the ingenious design of one individual. They are the product of many – from the planning to the design to the subsequent operation. They are a cultural achievement and places where not only Baukultur but also democracy can be experienced. All professions and groups in society working together is the basis for filling these intrinsically democratic spaces with design quality and life.

Recommendations for Action from the Baukultur Report 2020/21

> ## Urban and municipal development through high-quality open spaces
>
> Attractive cities and municipalities are vibrant, safe, sustainable, and healthy. They are characterized by a wide range of well-designed, open public spaces which facilitate encounters and encourage communication. As a starting point for urban development planning, open spaces provide basic qualities such as interconnecting paths. They form the fundamental and enduring structure of a city and show its character and rhythm.

Use public spaces as a driving force for urban development

Streets, pavements, and public squares survive for centuries. The people who plan and design them have to ask what tasks they will perform for coming generations. Urban development models that put people first offer answers.

→ The discipline of urban planning should be strengthened and promoted as a central design level for public spaces. The scale of this level is situated between the level of urban and open space planning and that of architecture and landscape architecture. The design of public and private spaces should thus be understood as a starting point for overall urban-planning concepts and elaborated clearly with respect to structure.

→ The development of future-oriented public spaces requires vision. International building exhibitions and garden shows, building forums and strategic formats should be used in a results-oriented manner so as to depart from traditional paths, agree on objectives, and think ahead about developments in the long term.

→ Ground floor zones link public and private spaces. A variety of uses, local small-scale commerce, diverse shops, and a good design of ground floors are crucial for vibrant districts. A district management office can thus help ensure long-term qualities for a neighbourhood in line with Baukultur.

Create more mixed-use spaces

Considering functions and uses together rather than in parallel opens new design possibilities. New mixed-use spaces activate locations and concentrate diverse offers in one area. They make an urban development contribution to internal development and thus take into account the different interests of users.

→ Public spaces should be regarded as real laboratories for social developments in which experiments need to be possible. Temporary formats create opportunities to try out new ideas for generating acceptance and appeal.

→ Public spaces should function round the clock and in every season. The changing demands of different groups of users at all times of the day and in all weather should be taken into consideration when designing and planning them.

→ Various public uses should already be considered when planning public spaces. In particular public squares, sports facilities, schoolyards, and parks should be used universally beyond their specific purposes.

Develop spaces for health and recreation!

Public spaces have a decisive effect on levels of action with respect to climate mitigation and adaptation measures. They are important for health and recreation. Baukultur must increasingly also address and strengthen urban greenspace, surface water, and biodiversity.

→ Green spaces, bodies of water, and noise-free locations must be freely accessible and maintained and developed for the general public and the environment.

→ Densification should always be realized as a twofold internal development: higher structural density and a greater creative and ecological diversity of public space must go hand in hand.

→ So that public spaces can develop their positive effects on wellbeing, they must be inviting and pleasant to use. Their function as places for recreation must not be constrained by commercial uses or short-lived trends.

Design new mobility and infrastructures – recognize and utilize potentials for public spaces

Streets and traffic areas are public property. Their design can enable cities and municipalities to significantly improve the quality of time spent in public spaces. Attractive and distinctive traffic areas and urban spaces make diverse design, social, and communicative offers. Equitable mobility also necessitates reassessing how space is allocated. Contemporary construction and adaptation is connected with existing cultures and structures. It provides answers to technical, ecological, and social questions.

Think about traffic areas for everyone

A new Baukultur for public spaces should follow the principle that everyone has the same rights and obligations in traffic. Traffic areas that also function for children and older and disabled individuals benefit society as a whole and have a high-quality Baukultur.

→ A user-friendly reallocation of traffic areas is imperative in many places. The scale for this must be foot traffic.

→ The speeds of different road users in urban spaces should be better adapted to one another. Being able to communicate via eye contact is decisive.

→ Traffic zones should be oriented particularly towards the needs of children, the elderly, and people with disabilities. Baukultur also makes use of this design standard.

Understand public infrastructures as support for Baukultur

Technical infrastructures and civil engineering structures are integral parts of public spaces. Urban furniture, public lighting, and signage shape the appearance of a location. Their design and maintenance require more care and appreciation.

→ Maintaining and further developing technical infrastructures are one of the responsibilities of the state. Both must take place with high quality. The federal government, states, municipalities, and public enterprises are encouraged to organize more competitions in connection with engineering structures.

→ Technical supply systems must be considered in relation to one another and be carefully planned. The concerns of Baukultur are expedient for this. Technical infrastructures serve as supports for Baukultur in public spaces.

→ The design of public infrastructures should always be considered holistically. Design in public spaces must be functional, comprehensible, and accessible for all users. Whether new mobility systems or urban technology are suitable depends on their spatial compatibility and not vice versa.

Consolidate cleaning and good maintenance

Clean and well-maintained public spaces are of great importance for society. They are decisive for the identification of residents and an important location factor in the competition between cities. Open spaces that have a high-quality Baukultur foster respectful interaction with the built environment.

→ Maintenance and development concepts are the basis for a qualified maintenance of public spaces. Once installations have been completed, a professional district or park management should accompany them in phase ten.

→ The budgetary resources for caring for and maintaining public spaces should be increased. Generally doubling this budget is a simple, demonstrative, and appropriate step in developing the value of public spaces for the population.

→ Existing facilities and installations should be examined regularly for their necessity, usability, and design quality. Even small improvements – in particular consistent cleaning – make public spaces more manageable, cleaner, and of higher value.

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Public spaces need representatives of the interests of Baukultur

Public spaces are subjected to the pressures of heavy use and high expectations. To overcome this, an organizational, planning, and supporting structure that takes action holistically must take the place of divided responsibilities and sector-based solutions. A well-positioned management is responsible for planning, construction, communication, allocation of space, and maintenance. Public authorities and private stakeholders are thus in close communication and develop sustainable, shared perspectives.

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Strengthen public spaces as a school for democracy

The quality of our shared experience is shown in public spaces. Learning about Baukultur puts people in the position to consciously perceive their built surroundings and play an active part in designing their living environment. This enables people to participate in social life.

→ Public spaces fulfil an important function in democracy as places for discussions and social encounters. They must be usable and cannot be limited by or overloaded with commercial offers.

→ Children in particular react to their surroundings quite sensitively. If they are designed well, they can have a positive influence on children's development and promote their ability to perceive Baukultur. Education in Baukultur should already begin at school.

→ Public spaces are the built social infrastructure of a society. So that people come together in public, good design and maintenance of streets, public squares, pavements, and parks is necessary.

Public spaces must be and remain accessible for everyone

Public spaces link cities, locations, and people – they are the basis for social cohesion. Active, prudent public authorities ensure that public spaces are available and can be utilized to the fullest extent for the greater good.

→ Public spaces have to remain accessible without restrictions. This can only be ensured by public ownership. Railway stations and cultural and educational institutions belong permanently in municipal ownership.

→ Rights to use public spaces should only be awarded to private entities temporarily and only along with requirements for common utilization and urban design. Special rights of use should generally only be granted in the sense of the public interest and under the quality criteria of Baukultur.

→ The cohesion of cities and municipalities with respect to spatial paths requires much more attention – also in light of demographic changes. Urbanistically relevant rights of way therefore need to be negotiated and safeguarded for the general public.

Create alliances for public spaces

Public spaces are usually municipal property. As trustees of this property, policymakers and administrators play a decisive role. Alliances with stakeholders in civil society are advisable. They facilitate enlivening temporary uses. Special, private rights of use reach their limits where they obstruct the common good.

→ Public spaces need active and qualified administrators who capably advise policy-makers. In order to be able to do justice to the many complex fields of activity, professional competence has to be encouraged and responsibility strengthened.

→ For a space-related approach to development, collaborations are important and necessary. There is a growing need for project organizations capable of taking action so as to deal with shared management responsibilities.

→ Vibrant locations can only be developed (further) if there is civic participation. Alliances committed to the common good between policy-makers, administrators, specialists, and property owners are therefore necessary.

Appendix

Werksviertel Munich (p. 54)

Location: 81671 Munich
Project: Developing a new city district that regards the vibrancy and the mixture of functions of the existing building stock as an inspiration; progressive cultivation, densifying and continuing existing uses and addition of new developments; 7,000 workplaces and 1,150 flats for 3,000 individuals are expected
Use: Housing, offices, commercial and retail spaces, ateliers and studios, concert hall, hotels, hostel, musical theatre, music stages, rooftop farm, schools, day nurseries, and public park
Planning: Since 2009
Construction: Since 2011, individual buildings
Size: 38 ha
Developers: OTEC GmbH & Co. KG (Werksviertel-Mitte/Pfanni site); Grundstücksgesellschaft Böck GbR; MGS Münchner Gesellschaft für Stadterneuerung mbH; Hamberger Großmarkt GmbH; State Capital Munich; Maltz Verwaltungs GbR/Wöhr+Bauer GmbH; Officefirst Real Estate GmbH; Rock Capital Group GmbH; Rohde & Schwarz Immobilienmanagement GmbH; SWM Stadtwerke München GmbH
Urban planning and master plan: steidle architekten Gesellschaft von Architekten und Stadtplanern GmbH, Munich
Winner of the urban development idea competition 'Rund um den Ostbahnhof': 03 Architekten GmbH, Munich
Landscape planning: Jühling & Partner Landschaftsarchitekten mbB, Munich; WGF Objekt Landschaftsarchitekten GmbH, Nuremberg
Architecture: steidle architekten, Hild+K, MVRDV, Nieto Sobejano, Cukrowicz Nachbaur Architekten, N-V-O Nuyken von Oefele Architekten, Henn, RKW Architektur+, KAAN Architecten
Process:
• 1999: First ideas for future use of the site
• 2002: Urban development competition 'Rund um den Ostbahnhof'
• 2011: Creation of development plan no. 2061 and customary notification of the public
• 2012: Establishment of the name 'Werksviertel'
• 2013: Early citizen participation with discussion event and analysis of objections raised
• 2013: Creation of a draft master plan with rationale, environmental report, and open space plan
• as of 2016: Second participation of municipal authorities and public agencies
• 2017: Resolution adopting the master plan and since then rapid execution
Formats: Numerous interim uses
Financing: Predominantly private equity
Additional information:
• Website for the entire site: www.werksviertel.de
• Website for the Werksviertel-Mitte (Pfanni site) including building portraits: www.werksviertel-mitte.de
• Hans Gasser: 'Urban motherfucker', in Revolution, emilo Group, undated
• Patrick Guyton: 'Wohnen, wo Schafe weiden und Sänger knödeln', in Der Tagesspiegel (7 November 2016)
• Susanne Hamann: 'Spannendes Städtebauprojekt', in Stuttgarter Nachrichten (18 August 2018)
• Günther Knoll: 'Der Knödel ist gegessen', in Süddeutsche Zeitung (31 August 2015)
• Nina Schmid: 'Die Dynamik des Werksviertel in Munich. Ein Gespräch mit Johannes Ernst, steidle Architekten', in stylus Das Metropolmagazin 1 (2019)

State Garden Show (p. 60)

Location: 39288 Burg
Project: Urban development strengthening of the town centre by revitalizing the historical town park, rehabilitating historical cemeteries, and converting wastelands in the town centre into an open space structure along the Ihle River with diverse offers for use: town park, town squares, cemeteries, playgrounds, and sports facilities
Planning and construction: 2013–2018
Size: 13.9 ha
Costs: 15.47 MM euros
Developer: Town of Burg
Landscape and general planning: relais Landschaftsarchitekten Heck Mommsen PartGmbB, Berlin
Planting: Mark Krieger Pflanzungen, Hamburg Haustechnik
Building technology: Ingenieurbüro Jürgen Breitmeier, Burg; Ingenieurbüro Sandmann, Burg
Structural planning: ifb frohloff staffa kühl ecker Beratende Ingenieure PartGmbB, Berlin; Kirchner Beratene Ingenieure GmbH, Berlin; BAUTRA Bau- und Tragwerksplanung GmbH, Magdeburg
Hydraulic engineering: ifw Ingenieurbüro für Wassertechnik, Berlin; irriproject Ingenieurbüro Bewässerung Wassertechnik, Potsdam
Process:
• 2011: Town of Burg applies for the State Garden Show (LAGA) with a decentralized concept
• 2013: Restricted landscape architecture competition with preliminary selection process based on the municipal concept
• 2015: Start of construction
• 2018: Opening of the State Garden Show
Participation, formats: LAGA committee, walks for citizens, construction site tours, citizen participation in the concept for the skater park in Goethepark
Financing: Town of Burg, State of Saxony-Anhalt, GRW promotion, urban development funding
Awards: German Landscape Architecture Prize, Award for Public Space as Centre (2019)
Additional information:
• Benedikt Crone: 'Die grüne Hoffnung der Kleinstadt Burg auf die Landesgartenschau 2018', in Bauwelt 31 (2013)
• Gero Heck and Thomas Thränert: 'Goethepark, Ehrenfriedhöfe und Flickschupark Burg – Die Restaurierung von Gartendenkmalen im Rahmen der Landesgartenschau Burg 2018', in Neue Landschaft 4 (2018)
• Gero Heck and Thomas Thränert: 'Landesgartenschau Burg: "Von Gärten umarmt" – Historische Bauten und Freianlagen im Fokus', in Stadt + Grün 4 (2018)
• Petra Heise: '… von Gärten umarmt', in Deutsches Architektenblatt 6, section on the State of Saxony-Anhalt (2018)
• Katrin Kühne: 'Eine ganz schöne Hausnummer (Interview mit Gero Heck)', in Garten + Landschaft 7 (2018)
• Julia Schenkenberger: 'Die Spiele sind eröffnet! Landesgartenschauen 2018', in Freiraumgestalter 2 (2018)

Baakenpark Hamburg (p. 64)

Location: 20457 Hamburg
Project: Creating a park for sports, play, and recreation in the future district of Baaken Harbour in HafenCity by backfilling land; diverse landscape

spaces and high use density in a limited space
Use: Outlook platform, stands, fruit meadow, playground, small sports field, streetball field, running track
Planning and construction: 2012–2018
Size: 1.6 ha
Costs: 15 MM euros
Developer: HafenCity Hamburg GmbH (Municipal Development Company and property owner)
Landscape planning: Atelier Loidl Landschaftsarchitekten Berlin GmbH, Berlin
Civil engineering: Grundbauingenieure Steinfeld und Partner Beratende Ingenieure mbB, Hamburg; Sellhorn Ingenieurgesellschaft mbH, Hamburg; BBS Landscape Engineering GmbH, Hamburg
Project management: Umtec Hilpert Partnerschaft Beratender Ingenieure und Geologen mbB, Bremen
Process:
• 2012: Restricted, two-phase realization competition for Baakenpark
• 2012: Start of planning
• 2013: Restricted realization competition for the Baakenpark Bridge
• 2014: Start of backfilling
• 2017: Opening of the Baakenpark Bridge
• 2018: Opening of Baakenpark
Participation, formats: Multistage participation procedure, et al. with children's workshops to plan the playground; planning dialogue in the framework of the network HafenCity and building associations
Financing: HafenCity Hamburg GmbH finances the public spaces and infrastructure of HafenCity by selling building plots to private investors.
Awards: Polis Award (2019); German Landscape Architecture Prize (2019)
Additional information:
• BDLA (ed.): Landschaftsarchitektur heute: Baakenpark – Sehnsuchtsort in der östlichen HafenCity Hamburg, www.landschaftsarchitektur-heute.de
• Andrea Christmann: 'Eine grüne Halbinsel im Hafen', in Freiraumgestalter 3 (2018)
• Eva Eusterhus: 'Neuer Baakenpark ist ein wahrhaft abgehobener Ort', in Die Welt (3 May 2018)
• Dr Matthias Kahl: 'Steilhänge aus Sand am Tidegewässer. Der Himmelsberg in der HafenCity', in Ingenieurbaukunst 2020, Ernst & Sohn, 2019

Open Areas in Gropiusstadt (p. 66)

Location: 13521 and 13523 Berlin
Project: 'Zukunft Stadtgrün' – integrated green and open space concept
Project: Development of a concept for qualifying the green and open space system based on comprehensive stocktaking and intensive participation of residents
Use: Public open spaces
Planning and execution: November 2017 – November 2019
Size: 266 ha
Costs: 220,000 euros for the development of the open space concept
Funding: 'Zukunft Stadtgrün' Federal-State program for urban development funding
Process:
• 1955: Start of planning for the Berlin-Buckow-Rudow settlement
• 1960: Commissioning
• 1962: Start of construction, ground breaking
• 1964: Completion, first tenants move in

Developer: Neukölln district administration – Department of the Mayor – Ombudsman for Persons with Disabilities
Planner: The Architects Collaborative (TAC), Boston: Walter Gropius
Landscape planning: Walter Rossow (overall green space concept 1964); Fugmann Janotta Partner mbB – Landschaftsarchitekten und Landschaftsplaner BDLA (concept development 2017–2019)
Additional information:
• Website of the Gropiusstadt district management: www.qm-gropiusstadt.de
• Website of the Ombudsmen for Persons with Disabilities: www.berlin.de/ba-neukoelln/politik-und-verwaltung/beauftragte/menschen-mit-behinderung
• Bernd Hunger (2019): 'Attraktiver öffentlicher Raum. Unverzichtbar für den Zusammenhalt der Nachbarschaften', in DW – Die Wohnungswirtschaft (August 2019)
• Karin Kramer, Dorothea Kolland (eds.): Der lange Weg zur Stadt. Die Gropiusstadt im Umbruch, Kramer, 2002
• Cornelia Müller: 'Sanierung und Modernisierung – Mit Walter Rossow ins 21. Jahrhundert', in Frank Bielka, Christoph Beck (eds.): Heimat Großsiedlung. 50 Jahre Gropiusstadt, nicolai, 2012
• Susanne Schilp: 'Die Gropiusstadt soll lebenswerter werden – durch überholte Grünanlagen, Sportangebote und Spielplätze', www.berliner-woche.de (8 December 2018)

Wehrhahn Line Düsseldorf (p. 76)

Location: Düsseldorf
Project: more effective public transport by replacing a tramline with an underground line; construction of two ramp structures and six new stations, one of them as a station intersecting an existing underground tunnel; stations with the guiding principles of incident daylight and a clear arrangement along with a respective artistic concept embedded in the overall architectural topic
Planning and Construction: 2001–2016
Size: 3.4 kilometres of tracks; 21,000 m² gross floor area of stations
Costs: 928.9 MM euros (entire project); of it, 428 MM euros (cost group 200–700) for the stations; of it, 3 MM euros for art
Developers: State Capital Düsseldorf, Office for Traffic Management
Architecture: netzwerkarchitekten GmbH, Darmstadt
Overall artistic concept: Heike Klussmann, Berlin
Artists: Enne Haehnle (Spur X, Kirchplatz Station); Manuel Franke (Achat, Graf-Adolf-Platz Station); Thomas Stricker (Himmel oben, Himmel unten, Benrather Straße Station); Ralf Brög (Drei Modellräume, Heinrich-Heine-Allee Station); Ursula Damm (Turnstile, Schadowstraße Station); Heike Klussmann (Surround, Pempelforter Straße Station)
Project management artistic design: Cultural Office State Capital Düsseldorf, Ulla Lux Project management: HOCHTIEF Aktiengesellschaft, Essen
Civil engineering: IGW Ingenieurgemeinschaft Wehrhahn, Düsseldorf
Fire safety: STUVAtec GmbH, Cologne
Fire safety expert: Dr Heins Ingenieure GmbH, Kleve
Building technology: Emch + Berger GmbH, Karlsruhe

Technical equipment: bt-plan Ingenieurgesellschaft für Betriebstechnik mbh, Düsseldorf Statics (finishing craft): Dr Kreutz + Partner Beratende Ingenieure mbB, Nuremberg
Acoustics, structural physics: ISRW Klapdor Institut für Schalltechnik, Raumakustik, Wärmeschutz, Düsseldorf
Signage: Büro Franck Visuelle Kommunikatin GmbH, Düsseldorf
Lighting concept competition: Light Design Belzner Holmes Freie Architekten-PartG mbB, Stuttgart
Process:
• 08/2001: Europe-wide realization competition with preliminary application process with nine participants
• 12/2001: Competition by invitation, with sixteen participants for the selection of the other artists
• 03/2007: Planning approval process
• 11/2007–12/2011: Tunnel boring and covered construction work on the stations
• 06/2012: Start of pre-freezing near Heinrich-Heine-Allee
• 06/2014: Completion of shell construction for the stations
• 11/2012–12/2015: Finishing work on the stations
• 02/2015: Opening
Participation, formats: Interdisciplinary workshops with representatives of the developers, architects, engineers, artists, 1:1 sampling; early information campaigns for residents and the public; citizen events, information stands
Financing, funding: Financed by the State Capital Düsseldorf with bonds from the State of North Rhine-Westphalia and the federal government
Awards: BDA 'Nike' Architecture Prize in the category of 'Atmosphere' (2019); Halstenberg commendation, Prize of the German Academy of Urban Development and Regional Planning (2018); BDA Architecture Prize NRW 2018 (Winner); BDA Architecture Prize Düsseldorf 2017 (Winner)
Additional information:
• Project information from the Düsseldorf Cultural Office, particularly about per cent for art: www.wehrhahnlinie-duesseldorf.de
• Dagmar Hötzel, Jan Friedrich: 'Bau Kunst', in Bauwelt 15 (2016)
• State Capital Düsseldorf, Cultural Office (eds.): Wehrhahn Linie. Kontinuum und Schnitt, Kerber Verlag, 2016
• Gerhard Matzig: 'Düsseldorfer U-Bahn: Angenehm solide bis irre', in Süddeutsche Zeitung (22 February 2016)

Kienlesberg Bridge Ulm (p. 84)

Location: 89073 Ulm
Project: Linking the Ulm 'Science City' district with the city centre with the new Tramline 2 and a foot- and cycling path; crossing the field of tracks at Ulm Central Station and the entrance to the Albabstieg Tunnel; urban development link between the Kienlesberg and the inner city ring road; creation of quality of use for pedestrians via views, leisure zones, and bridge amenities; respectful handing of the historical building substance nearby
Use: Public transport, foot- and cycling bridge with bays for leisure
Planning and construction: 2012–2018
Length: 270 m
Cost: ca. 20 MM euros

Developer: Stadtwerke Ulm, SWU Verkehr GmbH
Architecture: Knight Architects, High Wycombe (GB)
Object and structural planning: KREBS+KIEFER Ingenieure GmbH, Karlsruhe
Process:
• 2011–12: Citizen dialogue for planning the new Tramline 2
• 2012: Bridge competition
• 2015: Start of construction
• 2018: Ceremonial baptism of the bridge and start of operation
Participation, formats: Citizen dialogue prior to the start of construction; information for citizens on an online portal about the construction of the new Tramline 2; construction site representative; public track tours during construction; forum for technology and society with the Ulm building authority; bridge baptism with citizen celebration
Financing, funding: Financing by the city with funding from the federal government and the State of Baden-Württemberg
Awards: Ulrich Finsterwalder Engineering Prize 2019 (Winner); British Expertise International Award 2019
Additional information:
• Jan Akkermann, Heinz-Josef Vieth, Bartlomiej Halaczek: 'Die neue Kienlesbergbrücke in Ulm – Herausforderungen der Objektplanung im komplexen Baukontext', in Bautechnik 7 (2017)
• Jan Akkermann, Bartlomiej Halaczek: 'Kienlesbergbrücke in Ulm', in structure 3 (2018)
• Jan Akkermann, Bartlomiej Halaczek: 'Neues Wahrzeichen an unwirtlicher Stelle', in Beratende Ingenieure 1–2 (2019)
• Wilfried Dechau: 'Vorschubleistung', in Online-Magazin marlowes, www.marlowes.de, (12 March 2019)
• Bartlomiej Halaczek, Heinz-Josef Vieth, Jan Akkermann: 'Die Kienlesbergbrücke in Ulm – ein neues innerstädtisches Wahrzeichen im historischen Kontext', in Brückenbau 1–2 (2017)

Willy-Brandt-Platz and Erfurt Central Station (p. 90)

Project: Planning a representative and open station forecourt, including urban furniture and lighting concept; bus station with roofed-over bus stops and rows of trees; taxi right of way with a rotunda for accessing the underground car park
Use: City square, bus station, underground car park entrances
Planning and construction: 1999–2009
Size: 19,500 m²
Costs: 6.92 MM euros gross (cost group 500)
Open space design: WES GmbH LandschaftsArchitektur, Hamburg
Architecture: Renovation and addition to the Central Station and roofs for the bus stops of the bus station: Gössler Kinz Kerber Kreienbaum Architekten BDA, Hamburg; two bicycle parking facilities (subsequent construction task): Osterwold Schmidt Architekten BDA, Weimar
Traffic planning: STP Verkehrsplanung, Erfurt
Process:
• 1999: Competition
• 2000: Start of construction
• 2002: Completion of the Central Bus Station
• 2007: Handover of the station forecourt
• 2008: Renovation of the station building completed
• 2009: Bicycle parking facility on the north side

- 2016: Bicycle parking facility on the south side
Participation, formats: Public patterning of urban furniture as 1:1 objects at the later location; excursions with representatives of the developers to realized examples of natural stone road surfacing; visit to a tree nursery with representatives of the developers
Financing, funding: Municipal financing using funds for urban development and from the EU
Awards: Railway Station of the Year, Best Big City Station 2009; Renault Traffic Award 2002 (Honourable Mention)
Additional information:
- Bundesstiftung Baukultur (ed.): 'Ein Städtischer Empfangsraum', in Bericht der Baukultur. Verkehr, Birkhäuser, 2010
- Prodromos Papadopoulos (ed.): 'New urban experiences – ZOB Erfurt', in DOMUS 8 (2009)
- State Capital Erfurt (ed.); Erfurt verbindet – Von der Vision zur Realität. Der neue ICE Bahnhof und sein Umfeld, 2009
- Wettbewerbe Aktuell: Hauptbahnhof Erfurt 8 (2009)
- Project example in Jürgen Knirsch: Stadtplätze. Architektur und Freiraumplanung, Verlagsanstalt Alexander Koch, 2004

Arena Schierke (p. 98)

Location: 38879 Wernigerode, Schierke District
Project: Making the historical natural ice rink usable throughout the year and protecting it from the weather as a sports and event venue; rehabilitation of the stands based on monument protection guidelines and regulations for places of assembly; construction of two new functional buildings
Use: Multifunctional sports and event area, gastronomy, adjoining areas
Planning and construction: 2013–2017
Size: 70 metre span length, 2,400 m² roof area, 890 m² gross area of building
Costs: 8 MM euros gross (cost groups 300 + 400)
Developer: City of Wernigerode
Architecture: Graft Gesellschaft von Architekten mbH, Berlin
Structural planning: schlaich bergermann partner GmbH, Stuttgart
Landscape planning: WES GmbH LandschaftsArchitektur, Hamburg
Process:
- 2013: VOF procedure
- 2015: Building approval
- 2016: Start of construction
- 2017: Opening
Financing, funding: Funding from the federal government and the State of Saxony-Anhalt from the program area for upgrading parts of cities/city districts amounting to 2/3 of total investment
Awards: DAM Prize 2019 (long listed); Iconic Awards 'Innovative Architecture' 2019 (Winner); Steel Innovation Prize 2018 (Finalist)
Additional information:
- Website of the arena: www.schierker-feuerstein-arena.de
- Sabrina Gorges: 'Große Pläne für Schierke', in Neues Deutschland (15 March 2011)
- 'Baunetz: Frostige Auster' (14 May 2018), www.baunetz.de

Dettmannsdorf Primary School (p. 108)

Location: 18334 Dettmannsdorf
Project: New construction of a 1.5-track primary school with community facilities; usable for an after-school program, as a meeting place for the village community, and as accommodations for young travellers
Use: Classrooms, cafeteria, multi-purpose space, workshops, teaching kitchen, band room, music room, music rehearsal rooms, art room, library, roofed-over areas for breaks
Planning and construction: 2014–2017
Size: ca. 10,000 m² parcel; 2,006 m² gross floor area; 1,505 m² utilization area (NUF)
Costs: 3,055 MM euros total building costs; 2,4 MM euros gross (cost group 300+400); 1,196 euros gross construction costs/m² gross floor space
Developer: Schulförderverein Dettmannsdorf e.V.
Architecture: mrschmidt Architekten, Berlin
Structural planning: Pichler Ingenieure GmbH, Berlin
Electrical building services: Ruß Ingenieurgesellschaft mbH, Berlin
Heating, ventilation, and sanitary facilities: Gebäudetechnik Sven Kleiber, Ribnitz-Damgarten
Fire safety: Steffen Slama, FH Lübeck PROJEKT GmbH, Lübeck
Thermal insulation, acoustics: ISRW Klapdor GmbH, Berlin
Process:
- 09/2014: Start of planning
- 06/2015: Developers decide on the design
- 07/2015: Application for LEADER funding
- 08/2015: Project selected as one of ten model projects of the LEADER group of the administrative district Vorpommern-Rügen, and submission of funding application
- 03/2016: Building approval; approval of LEADER funding and bank loans
- 04/2016: Clearing of the construction site
- 06/2016: Start of construction
- 08/2017: Start of partial operations on the ground floor with cafeteria and multi-purpose room
- 11/2017: Completion and start of full operations
Participation, formats: Participation in public workshops and tender procedure of the LEADER action group of Vorpommern-Rügen
Financing, funding: 2,306,000 euros loan from the Bank für Sozialwirtschaft and equity capital of the developers; 499,000 euros LEADER funding from the local action group of Vorpommern-Rügen; 250,000 euros of donations from foundations, companies, and private individuals
Awards: BDA 'Nike' Architecture Prize for Social Engagement 2019; BDA Prize Mecklenburg-Vorpommern 2019
Additional information:
- Website of the school and school development association: www.schule-dettmannsdorf.de
- Ulrich Brinkmann: 'Schule zur Dorfentwicklung', in Bauwelt 12 (2019)
- Michaela Krohn: 'Hier zählt die Gemeinschaft', in Ostsee-Zeitung (2 February 2018)
- Robert Niemeyer: 'Daumen hoch für die neue Schule', in Ostsee-Zeitung (17 November 2017)

Pontoon Bridge Lübeck (p. 113)

Location: 23554 Lübeck
Project: Build a provisional bridge over the Wallhafen, linking the northern Wall peninsula and the so-called Roddenkoppel in the St. Lorenz Nord city district with the old city of Lübeck
Structure: Ca. 500 individual floating pontoon elements, spanned to the quay walls with 12 steel cables
Use: Path connection for pedestrians and cyclists for three weekends in September 2019; during the opening hours, the bridge was crossed ca. 25,000 times; numerous events on the bridge and along the interconnected shorelines
Planning and construction: Ca. 8 months of planning and preparation time, construction time of 2 days
Size: Length 80 m, width 4 m (net 3 mpath width)
Financing: Financed with association funds and donations
Process:
- 03/2019: Start of planning
- 07/2019: Commissioning
- 09/2019: Start and completion of construction
Participation: Coordination with the authorities of the Hanseatic City of Lübeck
Developer: ArchitekturForum Lübeck e.V.
Architecture: eurosponton GmbH, Berlin; Gollan-Bau GmbH, Neustadt/Beusloe (scaffold construction); Federal Agency for Technical Relief (THW), local Lübeck group (support with installation)
Structural planning: Ingenieurbüro für Tragwerksplanung und Bauphysik Cornelius Back, Lübeck
Additional information:
- Website of the ArchitekturForums Lübeck: www.architekturforum-luebeck.com
- NDR.de: 'Lübeck: Brückenschlag über Trave verbindet Stadtteile', www.ndr.de (4 September 2019)
- Kai Dordowsky: 'Architekturforum baut Pontonbrücke über den Wallhafen', in Lübecker Nachrichten (17 August 2019)
- www.german-architects.com/de/architecture-news/meldungen/lubecker-bruckenschlag

Merck Innovation Centre Darmstadt (p. 116)

Location: 64293 Darmstadt
Project: Opening up the Merck company to the public space round a new innovation centre; creation of a public square as a space shared by pedestrians, cyclists, cars, and trams
Planning and construction: 2015–2017
Size: 3,500 m²
Cost: 10 MM euros
Developer: Merck KGaA
Landscape architecture: Henn GmbH, Munich, Berlin; Topotek 1 Gesellschaft von Landschaftsarchitekten mbH, Berlin
Traffic planning: R+T Verkehrsplanung GmbH, Darmstadt
Structural planning: Alfred R. Brunnsteiner Ziviltechnikergesellschaft mbH, Natters, Tirol
Infrastructure and street planning: Schönhofen Ingenieure GbR, Kaiserslautern
Process:
- 12/2015: Start of planning
- 03/2017: Start of construction
- 11/2017: Completion
Participation, formats: Town meetings
Financing: Private equity of Merck KGaA

Additional information:
• **Sebastian Redecke:** 'Walter, Gunter, Martin', in Bauwelt 24 (2018)
• **Marina Speer:** 'Freie Fahrt bei Merck', in Darmstädter Echo, www.echo-online.de (15 January 2018)
• **Thomas Wolff:** 'Staufrei und unfallfrei durch die Tempo-30-Zone', in Darmstädter Echo, www.echo-online.de (21 February 2019)

Federal Garden Show Heilbronn (p. 122)

Location: 74076 Heilbronn
Project: Transforming a railway and port area into green spaces, including relocating a federal road and constructing a new bridge, creating new water basins, freeing up the river banks, and creating new pathways; support with concept development, planning, and construction of a parallel city exhibition comprising innovative new buildings
Use: Green spaces with different themes and landscapes, temporary pavilions with experimental construction methods
City exhibition: Subsidized housing, freely financed rental and owner-occupied flats, modular buildings, municipal children's house with day nursery and flats for single parents, assisted living, inclusion project, student apartments, boarding house, commerce, gastronomy
Planning and construction: 2003–2018 (BUGA), 2015–2018 (city exhibition)
Size: 32 ha
Visitors: 2.3 MM
Developer: City of Heilbronn
Urban planning: steidle architekten Gesellschaft von Architekten und Stadtplanern GmbH, Munich
Landscape planning: SINAI Gesellschaft von Landschaftsarchitekten mbH, Berlin
Summer island of grass waves: Loma architecture landscape urbanism, Kassel
Bionic pavilions: University of Stuttgart, Institute ICD and ITKE
City exhibition: Kaden + Lager GmbH (skaio high-rise wooden building), diverse other individual firms
Management of city exhibition project: Barbara Brakenhoff, project development and steering, architect; Jan Fries, project development and steering, real estate
City exhibition: size: 3 ha; investors: 14 (with 43 applications); plans submitted: 85; buildings erected: 22 on 3 construction fields; flats: ca. 350; residents in 2019: ca. 800 persons; aim after further construction: up to 3,500 residents and more than 1,000 workplaces
Costs and financing: Total cost 189.5 MM euros; of it, 145 MM to produce the infrastructure (with funds from the fund 'Stadtumbau West' and ca. 56 MM from the State of Baden-Württemberg); and 44.5 MM for the realization of the Federal Garden Show itself (temporary exhibition areas, horticulture exhibition, operations, and personnel), of it 34.5 MM financed by the BUGA, 10 MM covered by the city of Heilbronn. The city exhibition was privately financed.
Process:
• 2004: Decision of the Municipal Council to apply for the Federal Garden Show in 2019
• 2004: Inclusion of the fruit warehouse site in the funding program 'Stadtumbau West'
• 2005: Purchase of areas by the city of Heilbronn
• 2007: Contract to host the BUGA with the Deutsche Bundesgartenschaugesellschaft
• 2009: Urban planning idea competition 'Masterplan Neckarvorstadt'
• 2010: Establishment of the Bundesgartenschau Heilbronn 2019 GmbH; municipal council decides on a framework urban development plan for the Neckarbogen
• 2011: Landscape planning realization competition
• 2013: First ground breaking
• 2015: Investor selection process for the city exhibition, allocation of building parcels
• 2016: Finalizing of building approvals and all regulations; sale of all parcels for the city exhibition; ground breaking on 1 July and 1 September

Participation, formats: Citizen workshops, BUGA laboratories, idea competitions, gatherings, site tours et al.
Awards: Neckarvorstadt is awarded the 'silver' pre-certificate of the German Sustainable Building Council (DGNB) in 2012; Neckarbogen is awarded the DGNB 'platinum' certificate in 2016
Additional information:
• Website of the BUGA: www.buga2019.de
• Website of the city of Heilbronn: www.heilbronn.de/bauen-wohnen
• Ursula Baus: 'Katalysator der Stadtentwicklung', in Bauwelt 10 (2019)
• Christoph Gunßer: 'Den Tiger reiten', in Deutsches Architektenblatt 5 (2019)
• Christian Holl: 'Grenzen einer Ausstellung', in the online magazine marlowes, www.marlowes.de (14 May 2019)

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Municipal Survey

The Federal Foundation of Baukultur, with the support of the Deutscher Städtetag, contacted municipalities in Germany in May and June 2019. One hundred and thirty-two municipalities took part in the survey.

M1 **What structural type would describe your municipality?**

Big city	58 %
Medium-sized city	36 %
Small town	6 %

M2 **What is your field of work?***

Planning	77 %
Green spaces	23 %
Building regulations	20 %
Traffic/transport	18 %
Civil engineering	14 %
Cemeteries	10 %
Mayor	5 %
Public order	2 %
Culture	0 %
Other – mentioned multiple times: management, urban development, et al.	17 %

* Percentages higher than 100 because multiple responses were possible

M3 **How do you assess your municipality's supply of space for the following user groups?***

	too little	sufficient	too much
For children	41 %	59 %	0 %
For families	40 %	60 %	0 %
For older individuals	38 %	62 %	1 %
For youth	74 %	26 %	0 %
For cyclists	81 %	18 %	1 %
For car drivers	5 %	51 %	44 %
For pedestrians	46 %	53 %	1 %
For logistics and delivery traffic	24 %	66 %	11 %

* Percentages higher than 100 because multiple responses were possible

M4 **What superordinate specialist planning for public spaces is there in your municipality?***

City centre concept	80 %
Transport development plan	75 %
Urban development plan or spatial guidelines for public space	74 %
Landscape program for the land use plan	70 %
Design statutes	65 %
Green concept	55 %
Signage systems	49 %
Lighting concept	41 %
Safety concept	18 %
None	0 %
Other – mentioned multiple times: climate, retail and design concepts, et al.	21 %

* Percentages higher than 100 because multiple responses were possible

M5 **Brick and mortar retail in central locations is showing increasing problems. Are there empty shops/businesses in your municipality?***

Yes, in central locations	77 %
Yes, on central squares	57 %
Yes, in pedestrian zones	48 %
No	12 %

* Percentages higher than 100 because multiple responses were possible

M6 **How does your municipality actively engage in land policy?***

Via sales	77 %
Via advising business development	73 %
Via purchases	70 %
Via leasing (e.g. leaseholds)	58 %
Via concept processes	47 %
Via revolving funds	5 %
Via rental	30 %
None	7 %

* Percentages higher than 100 because multiple responses were possible

M7 **Are consequences of climate change already noticeable in your municipality?***

Yes, due to heavy rain	70 %
Yes, due to dry periods	69 %
Yes, due to heat stress	57 %
Yes, due to storms	46 %
Yes, due to high water/flooding	41 %
No	8 %
Other, such as a change in the variety of plant species	8 %

* Percentages higher than 100 because multiple responses were possible

M8 Has your municipality already taken precautions to adapt to climate change?

Yes	85 %
No	15 %

M9 If yes, what precautions to adapt to climate change are planned or have already been taken?*

	too few	sufficient
Flood protection systems	28 %	72 %
Seepage options	29 %	71 %
Tree planting	31 %	69 %
Rainwater usage	33 %	67 %
Roof and façade greening	48 %	52 %
Ground surfaces to counteract overheating	72 %	28 %

* Percentages higher than 100 because multiple responses were possible

M10 Are there enough green spaces and parks close to your home in your municipality?

Yes	76 %
No	20 %
Not specified	4 %

M11 Are new parks currently being planned?

Yes	56 %
No	44 %

M12 If yes, are maintenance costs ensured for these green spaces?

Yes	59 %
No	41 %

M13 Are there park maintenance concepts for green spaces in your municipality?

Yes	75 %
No	8 %
Not specified	17 %

M14 Are extensive park restorations currently a topic in your municipality?

Yes	51 %
No	35 %
Not specified	14 %

M15 Does your municipality have a tree preservation ordinance?

Yes	74 %
No	24 %
Not specified	2 %

M16 Are big trees, such as avenue trees, formative for the appearance of your municipality?

Yes	80 %
No	15 %
Not specified	5 %

M17 The risk of falling trees grows when storm speeds increase. Have trees already had to be removed for this reason as a precautionary measure?

Yes	52 %
No	17 %
Not specified	32 %

M18 Has a change in the volume of specific types of traffic become noticeable in your municipality? If yes, what type(s) of traffic?*

	increasing	decreasing	unchanged
Delivery traffic/logistics	88 %	0 %	12 %
Private transport	52 %	6 %	42 %
Bicycle traffic	85 %	1 %	14 %
Special forms of e-mobility (Segways, e-scooters)	56 %	0 %	44 %
Public transport	41 %	6 %	54 %
Pedestrians	25 %	9 %	66 %
Parked vehicles	50 %	2 %	48 %

* Percentages higher than 100 because multiple responses were possible

M19 What traffic-related user groups demand that more space be allocated to them?*

Private transport	83 %
Cyclists	38 %
Delivery traffic/logistics	29 %
Public transport	23 %
Pedestrians	13 %
Taxis	5 %
None	2 %

* Percentages higher than 100 because multiple responses were possible

M20 For what kinds of parked vehicles is there high utilization pressure in public parking areas in your municipality?*

Cars	94%
Bicycles	51%
Delivery traffic/logistics	46%
Tourist buses	35%
E-mobility	15%
Carsharing stations	10%
None	2%

* Percentages higher than 100 because multiple responses were possible

M21 Is doing away with traffic facilities currently a topic in your municipality?

Yes	88%
No	12%

M22 If yes, what kind of traffic facilities?*

	Development	Removal
Cycling paths	100%	0%
Footpaths	100%	0%
Street space	59%	41%
Parking spaces	51%	49%

* Percentages higher than 100 because multiple responses were possible

M23 Is autonomous mobility (autonomous driving) currently a topic in your municipality?*

It is a subject of political discussion	24%
A pilot project is planned	20%
Preparations are actively taking place	11%
No	59%

* Percentages higher than 100 because multiple responses were possible

M24 Are there regularly budgetary reserves for the realization of infrastructure investments in your municipality?

Yes	60%
No	40%

M25 If yes, for what reason?*

Lack of resources	75%
Overly complex coordination process	64%
Political inaction	22%
Thinking in legislative periods/terms in office	7%
Lack of expertise	5%
Unclear responsibilities	3%
Other, such as increases in the price of construction in progress, complex tendering situation, time expenditure increased by citizen participation processes et al.	26%

* Percentages higher than 100 because multiple responses were possible

M26 How has the outsourcing of public services to the private sector become noticeable in public space, for instance in cleaning or waste disposal services?

Neutral	75%
Negative	17%
Positive	8%

M27 For what purposes are special use fees for public areas levied in your municipality

Outdoor gastronomy areas	95%
Advertising	81%
Parking spaces	43%
Parks	6%
None	1%
Other, such as construction site facilities, events, and markets	16%

* Percentages higher than 100 because multiple responses were possible

M28 If special use fees are levied, are they earmarked for the care and maintenance of public spaces?

Yes	4%
No	54%
Not specified	42%

M29 Are the maintenance budgets or standard rates for park maintenance and the cleaning of paths in your municipality adequate or inadequate?

Yes	19%
No	63%
Not specified	19%

M30 Is there volunteer involvement in public spaces in your municipality? If yes, in what areas?*

Maintenance of green and open spaces	57%
Urban gardening/farming	57%
Book exchange stations	52%
Operation of individual buildings like pavilions or kiosks	12%
Bicycle stations	12%
No	16%
Other, such as tree, plant, playground, and waste removal sponsorships	17%

* Percentages higher than 100 because multiple responses were possible

M31 Is there feedback from the population on the condition of public spaces?

	Complaints	Praise	No feedback
For parks	44%	41%	15%
For squares	62%	19%	19%
For streets	74%	4%	21%

M32 Are there investments in per cent for art projects or in art in public spaces in your municipality?

Yes	71%
No	29%

M33 Is there a weekly market in your municipality?

Yes	100%
No	0%

M34 If yes, where does it take place?

Town hall- or city square	89%
Car park	7%
Road space	4%

M35 Are there leased advertising spaces in public space in your municipality?

Yes	96%
No	4%

M36 Do private advertising facilities adversely affect the appearance of public spaces in your municipality?

In individual cases	63%
Frequently	24%
Very frequently	9%
No, never	4%

M37 Are there guidelines for the design and procurement of urban furniture, surfacing material, lamps et cetera in your municipality?

Yes	59%
No	41%

M38–40 Has your municipality organized competitions in the past five years?*

Yes, urban planning competitions	82%
Yes, design competitions	76%
Yes, engineering/bridge and infrastructure competitions	45%

* Percentages higher than 100 because multiple responses were possible

M41 Have competition procedures proven themselves as an instrument?

Yes	94%
No	6%

M42 Have structural security precautions to prevent major attacks (such as the installation of bollards or the like) been taken in your municipality in the past years?*

No	57%
Yes	48%
In planning	43%

* Percentages higher than 100 because multiple responses were possible

M43 Where do you see the greatest need for action regarding the development, construction, and operation of public spaces? (open question)

Securing financing/raising the maintenance budget	17%
Equitable distribution of areas and uses	15%
Preservation/creation of quality of time spent via maintenance	12%
Designing a change in mobility	10%
Creating more staff resources	5%
Citizen involvement in the design of public spaces	5%
Sustainability in planning	5%
Climate adaptation	4%
Other	27%

M44 Are you familiar with the Federal Foundation of Baukultur?

Yes	86%
No	14%

On behalf of the Federal Foundation of Baukultur, forsa Politik- und Sozialforschung GmbH conducted a representative survey on Baukultur and public spaces. In the framework of this survey, 1,302 randomly selected individuals aged 14 and over were interviewed in private households in Germany. To reliably capture the attitudes of the group of 14- to 17-year-olds, 142 interviews were conducted in this age group, disproportionate to their distribution in the population. To achieve a representative overall result, the share of young people was then weighted corresponding to their share of the total population. The survey was conducted online from 30 April to 14 May 2019 with the help of forsa. omninet. The survey findings are presented in the following report. The results obtained can only be transferred to the totality of the adult population in Germany with a possible margin of error as in all sample surveys (in the present case +/− 3 percentage points).

P1 Time spent in public space

P1a Time spent in public space on a normal weekday

On a normal weekday in spring, how much time do you spend in public space? *)

	under one hour	1 to under 2 hours	2 to under 4 hours	4 to under 6 hours	6 to under 9 hours	9 hours or more
Total	16 %	40 %	29 %	7 %	5 %	3 %
East **)	12 %	38 %	31 %	10 %	5 %	4 %
North **)	12 %	39 %	35 %	7 %	4 %	3 %
NRW	14 %	39 %	35 %	5 %	5 %	1 %
Central **)	17 %	43 %	22 %	8 %	5 %	4 %
South **)	22 %	40 %	24 %	6 %	5 %	2 %
Men	16 %	40 %	26 %	8 %	7 %	3 %
Women	16 %	40 %	32 %	7 %	3 %	2 %
14–17 years old	11 %	37 %	30 %	8 %	11 %	3 %
18–29 years old	10 %	39 %	31 %	9 %	9 %	3 %
30–44 years old	17 %	38 %	35 %	3 %	6 %	1 %
45–59 years old	21 %	41 %	24 %	7 %	3 %	4 %
60 years or older	15 %	41 %	30 %	9 %	3 %	2 %

*) Responses lower than 100 per cent = 'don't know'
**) East = Berlin, Brandenburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt, Thuringia
North = Bremen, Hamburg, Lower Saxony, Schleswig-Holstein
Central = Hessen, Rhineland-Palatinate, Saarland
South = Baden-Württemberg, Bavaria

P1b Time spent in public space on a day off

How much time do you spend in public space on a day off in the spring? *)

	under one hour	1 to 2 hours	2 to 4 hours	4 to 6 hours	6 hours or more
Total	16 %	26 %	35 %	18 %	5 %
East	12 %	23 %	39 %	18 %	7 %
North	16 %	30 %	29 %	21 %	4 %
NRW	15 %	28 %	34 %	18 %	3 %
Central	14 %	29 %	36 %	13 %	6 %
South	19 %	24 %	35 %	17 %	3 %

Men	15 %	25 %	36 %	18 %	4 %
Women	16 %	28 %	33 %	18 %	4 %
14–17 years old	29 %	29 %	26 %	14 %	3 %
18–29 years old	15 %	17 %	40 %	21 %	6 %
30–44 years old	14 %	24 %	33 %	22 %	5 %
45–59 years old	17 %	27 %	35 %	16 %	4 %
60 years or older	14 %	32 %	34 %	15 %	3 %

Population (inhabitants)					
Under 5,000 inh.	18 %	33 %	29 %	14 %	5 %
5,000 to under 20,000 inh.	20 %	26 %	34 %	15 %	4 %
20,000 to under 100,000 inh.	15 %	28 %	38 %	15 %	3 %
100,000 to under 500,000 inh.	13 %	26 %	35 %	20 %	5 %
500,000 inh. or more	9 %	21 %	35 %	27 %	7 %

*) Responses lower than 100 per cent = 'don't know'

P2 Frequency of use of public spaces

P2a Frequency of use of public spaces (I)

In everyday life, the following spaces are used: *)

	very often	often	sometimes	rarely	never
Streets	56 %	31 %	8 %	3 %	1 %
Footpaths, promenades, and pavements	44 %	38 %	12 %	5 %	0 %
Public squares	9 %	29 %	41 %	19 %	2 %
Parks and green spaces	8 %	24 %	41 %	24 %	4 %
Cycling paths	14 %	16 %	23 %	22 %	25 %
Public transport and traffic routes	15 %	12 %	19 %	41 %	13 %
Bodies of water	4 %	13 %	32 %	39 %	11 %

*) Responses lower than 100 per cent = 'don't know'

P2b Frequency of use of public spaces (II)

The following public spaces are used (very) frequently: *)

	Streets	Footpaths, promenades	Public squares	Parks and green spaces	Cycling paths	Public transport	Bodies of water
Total	87 %	82 %	38 %	31 %	30 %	27 %	17 %
East	82 %	86 %	38 %	34 %	29 %	36 %	20 %
North	93 %	83 %	36 %	32 %	40 %	23 %	18 %
NRW	87 %	81 %	42 %	32 %	26 %	23 %	13 %
Central	87 %	78 %	34 %	29 %	24 %	23 %	14 %
South	89 %	81 %	37 %	30 %	33 %	27 %	18 %
Men	87 %	79 %	37 %	29 %	32 %	25 %	16 %
Women	87 %	85 %	38 %	34 %	28 %	28 %	17 %

14–17 years old	81%	89%	37%	20%	44%	67%	9%
18–29 years old	89%	87%	42%	36%	29%	41%	19%
30–44 years old	86%	84%	40%	34%	25%	20%	23%
45–59 years old	92%	77%	31%	26%	34%	21%	15%
60 years or older	84%	82%	40%	33%	29%	22%	14%
Population (inhabitants)							
Under 5,000 inh.	89%	72%	31%	18%	21%	12%	21%
5,000 to under 20,000 inh.	90%	79%	34%	26%	28%	15%	16%
20,000 to under 100,000 inh.	89%	81%	39%	34%	35%	23%	15%
100,000 to under 500,000 inh.	85%	91%	43%	35%	34%	39%	14%
500,000 inh. or more	82%	88%	42%	43%	31%	52%	19%
Children in household							
Yes	91%	89%	42%	34%	35%	27%	17%
No	86%	80%	37%	30%	29%	26%	17%

*) Percentages higher than 100 since multiple responses were possible

P3 Assessment of public spaces offered

Are there enough public spaces where you live? *)

	Yes	No, should be more
Total	68%	30%
East	68%	31%
North	70%	26%
NRW	66%	33%
Central	63%	34%
South	70%	28%
Men	69%	29%
Women	67%	31%
14–17 years old	60%	38%
18–29 years old	65%	34%
30–44 years old	66%	34%
45–59 years old	66%	31%
60 years or older	73%	24%
Population (inhabitants)		
Under 5,000 inh.	66%	30%
5,000 to under 20,000 inh.	67%	32%
20,000 to under 100,000 inh.	65%	32%
100,000 to under 500,000 inh.	69%	30%
500,000 inh. or more	73%	25%

*) Responses lower than 100 per cent = 'don't know'

P4 Importance of various offers in public space

P4a Importance of offers and the condition of particular aspects of public space

For the respondents, the following offers are:

	very important	quite important	less important	not important
Condition of parks, green areas	56%	38%	5%	1%
Development, condition of streets	49%	40%	9%	1%
Offer of public facilities, e.g. WCs	50%	39%	10%	1%
Attractiveness of city/town centre	46%	43%	10%	1%
Design of buildings, streets, squares	35%	51%	12%	1%

*) Responses lower than 100 per cent = 'don't know'

P4b Satisfaction with particular offers in public space

With the following offers in your city or town, you are: *)

	very satisfied	quite satisfied	less important	not important
Condition of parks, green areas	14%	58%	21%	5%
Design of buildings, streets, squares	8%	55%	32%	4%
Attractiveness of city/town centre	13%	46%	32%	8%
Development, condition of streets	8%	48%	34%	9%
Offer of public facilities, e.g. WCs	5%	38%	44%	11%

*) Responses lower than 100 per cent = 'don't know'

P5 Accessibility of public spaces and facilities

The following facilities can be reached on foot from home within 10 minutes: *)

	Public transport	Green spaces, parks	Play-ground	Public squares	Sports facilities	Bodies of water	Culture, events
Total	92%	82%	77%	63%	54%	40%	37%
East	95%	80%	75%	63%	53%	41%	36%
North	91%	84%	76%	57%	59%	46%	30%
NRW	96%	83%	80%	64%	52%	30%	33%
Central	92%	79%	81%	67%	55%	38%	42%
South	89%	84%	75%	63%	53%	43%	42%
Population (inhabitants)							
Under 5,000 inh.	84%	80%	77%	59%	50%	47%	36%
5,000 to under 20,000 inh.	87%	79%	71%	63%	54%	39%	40%
20,000 to under 100,000 inh.	94%	82%	77%	59%	52%	34%	36%
100,000 to under 500,000 inh.	98%	85%	84%	66%	55%	43%	31%
500,000 inh. or more	98%	85%	78%	69%	60%	40%	41%

P6 Participation in leisure time activities in public space

The respondents have participated at least once in the following shared leisure activities in public space: *)

	City/ street festival flea market	Sec-ond-hand flea market	Shared leisure/ sports activities	Communal grilling	City mara-thons/ fun runs	Communal gardening	Public bicycle workshop
Total	82%	58%	40%	21%	19%	5%	3%
East	77%	52%	34%	21%	18%	6%	4%
North	82%	71%	42%	26%	20%	7%	4%
NRW	84%	68%	34%	15%	18%	5%	1%
Central	79%	52%	40%	23%	15%	3%	3%
South	85%	53%	45%	20%	20%	3%	3%
Men	82%	56%	41%	23%	21%	5%	3%
Women	82%	61%	38%	18%	16%	5%	3%
14–17 years old	76%	61%	57%	29%	33%	3%	4%
18–29 years old	85%	65%	41%	29%	24%	5%	3%
30–44 years old	82%	61%	41%	25%	26%	5%	1%
45–59 years old	84%	59%	41%	23%	15%	4%	2%
60 years or older	79%	53%	35%	11%	12%	5%	4%

Children in household

Yes	87%	66%	48%	27%	25%	6%	1%
No	80%	56%	37%	18%	16%	4%	3%

*) Percentages higher than 100 because multiple responses were possible

P7 Suitability of public spaces for making contact and for joint leisure time activities

The following places are particularly suitable for making contact and for joint leisure time activities: *)

	Gastro-nomy	Parks, green spaces	Leisure & sports facilities	Play-grounds	Benches, street furniture	Football & sports fields	Skate parks
Total	77%	63%	57%	52%	37%	36%	11%
East	75%	67%	50%	51%	36%	30%	9%
North	75%	61%	63%	52%	39%	35%	12%
NRW	80%	66%	52%	54%	41%	34%	11%
Central	79%	61%	59%	51%	38%	41%	10%
South	76%	59%	60%	52%	32%	39%	11%
Men	77%	58%	59%	46%	32%	39%	9%
Women	76%	67%	54%	58%	41%	32%	12%
14–17 years old	63%	64%	67%	44%	22%	53%	29%
18–29 years old	66%	64%	63%	56%	24%	47%	18%
30–44 years old	78%	61%	59%	68%	26%	41%	17%
45–59 years old	79%	60%	59%	52%	39%	37%	9%
60 years or older	83%	65%	48%	42%	50%	23%	2%

Employment

Yes	77%	62%	60%	56%	32%	41%	14%
No	77%	64%	52%	46%	44%	28%	6%
Secondary school	78%	63%	48%	48%	40%	29%	4%
Lower secon-dary school	78%	60%	56%	52%	36%	38%	11%
University / A level	77%	65%	64%	58%	34%	39%	16%

*) Percentages higher than 100 since multiple responses were possible

P8 Need for improvements in public space

P8a Need for improvements in the offers, equipment, and quality of public spaces (I)

The respondents see the biggest need for improvements in connection with the offers, equipment, and quality of public spaces in the case of: *)

	Public WCs	Cycling paths	Mobile internet	Public trans-port	Benches, street furniture	Meeting places – young people	Meeting places – older people	Acces-sibility
Total	56%	50%	45%	44%	42%	38%	38%	37%
East	64%	55%	44%	37%	46%	44%	40%	39%
North	52%	51%	51%	48%	41%	35%	37%	39%
NRW	67%	55%	43%	45%	50%	46%	42%	46%
Central	47%	43%	47%	44%	42%	40%	39%	32%
South	49%	45%	43%	46%	35%	30%	33%	30%
Men	53%	51%	50%	46%	40%	31%	33%	33%
Women	58%	49%	40%	42%	45%	45%	42%	40%
14–17 years old	49%	54%	60%	51%	29%	48%	23%	24%
18–29 years old	59%	45%	48%	43%	32%	32%	26%	31%
30–44 years old	47%	47%	44%	40%	41%	42%	31%	30%
45–59 years old	45%	53%	45%	46%	42%	37%	38%	39%
60 years or older	70%	50%	42%	44%	51%	38%	50%	45%

Population (inhabitants)

Under 5,000 inh.	47%	37%	60%	46%	31%	39%	40%	30%
5,000 to under 20,000 inh.	46%	44%	50%	45%	41%	37%	36%	31%
20,000 to under 100,000 inh.	57%	54%	42%	43%	45%	39%	35%	39%
100,000 to under 500,000 inh.	65%	59%	37%	44%	46%	39%	37%	49%
500,000 inh. or more	70%	54%	37%	43%	47%	36%	45%	37%

*) Percentages higher than 100 because multiple responses were possible

P8b Need for improvements in the offers, equipment, and quality of public spaces (II)

The respondents see the biggest need for improvements in connection with the offers, equipment, and quality of public spaces in the case of: *)

	Adapting streets and pavements	Traffic-calmed zones for pedestrians	More meeting places for families	Develop supply offers	Develop sports, leisure time offers
Total	29%	26%	25%	24%	23%
East	23%	26%	26%	23%	23%
North	32%	26%	26%	21%	26%
NRW	37%	27%	26%	26%	22%
Central	29%	25%	24%	25%	22%
South	24%	24%	23%	23%	22%
Men	31%	24%	21%	24%	21%
Women	27%	27%	29%	24%	24%
14–17 years old	33%	27%	25%	17%	23%
18–29 years old	19%	23%	30%	27%	31%
30–44 years old	25%	26%	33%	27%	30%
45–59 years old	34%	23%	24%	23%	21%
60 years or older	32%	29%	18%	22%	15%
Population (inhabitants)					
under 5,000 inh.	21%	17%	28%	29%	24%
5,000 to under 20,000 inh.	27%	24%	28%	27%	24%
20,000 to under 100,000 inh.	35%	22%	24%	23%	20%
100,000 to under 500,000 inh.	31%	32%	23%	17%	22%
500,000 inh. or more	26%	35%	23%	21%	25%

*) Percentages higher than 100 because multiple responses were possible

P9 Opinion on the design of objects in public space

Assess the design of the following elements:

	very good	quite good	less good	not good at all	don't know / no reply
Street lighting	19%	59%	18%	3%	1%
Traffic signage, orientation	14%	60%	20%	3%	3%
Manhole covers	10%	48%	22%	4%	16%
Play equipment on playgrounds	11%	46%	23%	4%	17%
Pavement surfaces	8%	48%	34%	8%	2%
Fences and barriers	5%	47%	31%	4%	14%
Benches and street furniture	5%	43%	41%	7%	5%

Rubbish bins	5%	39%	42%	10%	4%
Control boxes for electricity, traffic lights, internet etc.	6%	38%	34%	7%	14%
Advertising spaces	4%	35%	34%	10%	17%

P10 Disruptive factors in public space

In everyday life, how disruptive are the following things? *)

	extremely	very	not very	not at all
Vandalism	40%	27%	21%	11%
Rubbish	26%	35%	28%	10%
Traffic noise	12%	27%	47%	14%
Cyclists on footpaths	15%	24%	40%	21%
Parked cars	9%	28%	47%	15%
Off-leash dogs	13%	20%	38%	28%
Unploughed snow	9%	24%	43%	23%
Noise of residents	10%	21%	47%	21%
Smells	8%	20%	46%	23%
Billboards or illuminated advertising	6%	17%	44%	30%
Delivery traffic	4%	16%	56%	23%
Demonstrations	5%	9%	33%	45%
Grilling	2%	6%	39%	51%
Rental bike	3%	5%	27%	52%
Traffic sign	1%	5%	47%	44%
Events	1%	5%	46%	46%
Street festivals	1%	3%	34%	61%

*) Responses lower than 100 per cent = 'don't know'

P11 Attitude towards car-free zones on weekends

P11a Occasions for car-free zones on weekends (I)

Assess car-free zones on weekends: *)

	very good	quite good	less good	not good at all
District festivals	46%	40%	9%	3%
Weekly markets	41%	39%	13%	4%
Second hand and flea markets	34%	37%	19%	6%
Play streets on weekends	38%	32%	18%	8%

*) Responses lower than 100 per cent = 'don't know'

P11b Occasions for car-free zones on weekends (II)

Car-free zones on weekends are assessed as good/very good for the following occasions:

	Weekly markets	District festivals	Second-hand and flea markets	Play streets
Total	80%	86%	71%	70%
East	77%	84%	68%	75%
North	82%	87%	74%	70%

NRW	78%	88%	76%	69%
Central	78%	82%	62%	69%
South	84%	86%	73%	70%
Men	80%	84%	68%	69%
Women	80%	87%	74%	72%
14–17 years old	74%	74%	63%	69%
18–29 years old	77%	87%	72%	69%
30–44 years old	80%	91%	71%	75%
45–59 years old	82%	83%	73%	70%
60 years or older	81%	85%	72%	69%

P12 Need for improvement in the case of mobility offers

Traffic participants wish most for: *)

	Better condition of traffic routes	Better coordination of public transport offers	More frequent public transport connections	More cycling paths	More parking options for cars	More pedestrian-friendly pavements	Better traffic routing	More bicycle traffic	More parking options for bicycles
Total	67%	57%	53%	50%	45%	37%	36%	33%	30%
East	71%	54%	45%	52%	47%	43%	37%	32%	33%
North	71%	56%	56%	50%	39%	36%	34%	34%	35%
NRW	75%	55%	53%	56%	47%	43%	39%	38%	31%
Central	62%	63%	57%	45%	45%	37%	33%	30%	28%
South	59%	60%	56%	46%	47%	30%	34%	32%	25%
Men	69%	58%	53%	51%	44%	35%	40%	37%	30%
Women	66%	57%	53%	49%	47%	39%	31%	30%	30%
14–17 years old	51%	52%	59%	63%	37%	37%	31%	58%	54%
18–29 years old	61%	56%	49%	45%	51%	32%	32%	37%	27%
30–44 years old	62%	54%	51%	47%	47%	30%	30%	33%	27%
45–59 years old	69%	58%	56%	54%	41%	31%	39%	31%	31%
60 years or older	75%	60%	54%	49%	46%	49%	39%	29%	29%

*) Percentages higher than 100 since multiple responses were possible

P13 Assessment of the need for investment

P13a Need for investment in public space (I)

Most urgent need for investment: *)

	total	14–17 years old	18–29 years old	30–44 years old	45–59 years old	60 years or older
Schools and educational institutions	51%	54%	51%	59%	51%	47%
Housing construction	44%	31%	43%	35%	42%	51%
Healthcare provision	35%	24%	33%	30%	36%	41%
Public transport	34%	39%	29%	29%	38%	35%
Streets and traffic infrastructure	29%	14%	24%	26%	34%	31%
Childcare	29%	26%	34%	43%	21%	24%
Information infrastructure	26%	31%	24%	24%	27%	27%
Energy production and supply	13%	26%	21%	11%	11%	9%
Sports facilities, swimming pools	12%	8%	10%	14%	12%	11%
Fire safety and disaster response	7%	14%	6%	8%	7%	6%
Culture (theatres, museums)	5%	6%	4%	3%	5%	6%
Public administration buildings	0%	1%	1%	1%	0%	0%

*) Percentages higher than 100 because multiple responses were possible

P13b Need for investment in public space (II)

Most urgent need for investment: *)

	total	men	women	children in household:	
				yes	no
Schools and educational institutions	51%	47%	56%	67%	46%
Housing construction	44%	40%	47%	32%	47%
Healthcare provision	35%	30%	40%	30%	37%
Public transport	34%	36%	32%	29%	35%
Streets and traffic infrastructure	29%	35%	23%	20%	32%
Childcare	29%	23%	34%	42%	24%
Information infrastructure	26%	36%	16%	24%	27%
Energy production and supply	13%	16%	10%	16%	12%
Sports facilities, pools	12%	11%	12%	14%	11%
Fire safety and disaster response	7%	6%	7%	9%	6%
Culture (theatres, museums)	5%	5%	5%	5%	5%
Public administration buildings	0%	0%	0%	0%	0%

*) Percentages higher than 100 since multiple responses were possible

Chamber of Industry and Commerce Survey

The Federal Foundation of Baukultur surveyed chambers of industry and commerce (IHKs) in June 2019 with the support of the Association of German Chambers of Industry and Commerce (DIHK). 51 % of the chambers participated in the survey conducted online.

IHK1 **For what sectors are public spaces of importance?**

	high	medium	little	no
Retail	98 %	2 %	0 %	0 %
Logistics	24 %	16 %	47 %	13 %
Commerce	19 %	54 %	27 %	0 %
Industry	13 %	10 %	62 %	15 %

IHK2 **Who are the main users of special use areas?**

	strong	medium	little	no
Gastronomy	80 %	7 %	12 %	0 %
Retail	66 %	34 %	0 %	0 %
Traffic and logistics	21 %	31 %	38 %	10 %
Craft	11 %	24 %	62 %	3 %
Services	8 %	59 %	33 %	0 %

IHK3 **Have the following offers in public space increased?**

	yes	no
Events/festivals	90 %	10 %
Flea and antique markets	48 %	52 %
Weekly markets	20 %	80 %

IHK4 **Has there been an increase in overuse/excessive use of public space by individual user groups at the expense of others?**

Yes	34 %
No	66 %

IHK5 **Regarding question 4: If yes, are there suitable concepts and measures for preventing possible conflicts in municipalities?**

Yes	30 %
No	70 %

IHK6 **Does visible, defensive architecture in public space (such as bollards and the like) have a negative economic influence on retail and commerce in the direct surroundings?**

Yes	41 %
No	59 %

IHK7 **Is the quality of ground floor use in new residential districts a topic that you deal with at the chamber of commerce and industry?**

Yes	61 %
No	39 %

IHK8 **Regarding question 7: If yes, with what measures?***

Perception of the influence of government agencies on planning and construction law	78 %
General information and communication	56 %
Direct support of suitable trade and service companies	48 %

* Percentages higher than 100 because multiple responses were possible

Acknowledgements

The Baukultur Report 2020/21 is the fourth report on the situation of Baukultur in Germany under the leadership of the Federal Foundation of Baukultur. In addition to a population survey and a municipal survey, a survey was also conducted by the German Chambers of Industry and Commerce. Particularly important survey findings are also presented next to the main text.

The appendix contains the results of the surveys and supplementary descriptions of the projects presented in the main section. The numerous sources and publications that were consulted when creating the report can also be found there.

The names and titles of institutions, research programs, ministries et cetera are written in full on their first occurence, with their abbreviation or acronym provided thereafter in parentheses. This abbreviation or acronym is used in the rest of the text.

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Spaces influence people. People influence spaces.

Public spaces are intrinsically democratic spaces. They provide the framework for social participation, communication, and encounters. Planning, designing, maintaining, and further developing public squares, green spaces, and other freely accessible locations thus involve a special responsibility. Challenges such as climate and demographic change and new forms of mobility will also alter public spaces. This generates opportunities to actively address the necessary conversions, extensions, deconstructions, and enlargements in a sustainable and interdisciplinary way and with high-quality design and good processes in line with Baukultur. Public authorities can forcefully steer such measures, particularly when they own the land.

The focuses of the Baukultur Report on 'urban development and open space', 'designing infrastructures', and 'democracy and process culture' map out effective levels of activities for vibrant and diverse public spaces. The result shows: We need a strong lobby for public spaces!