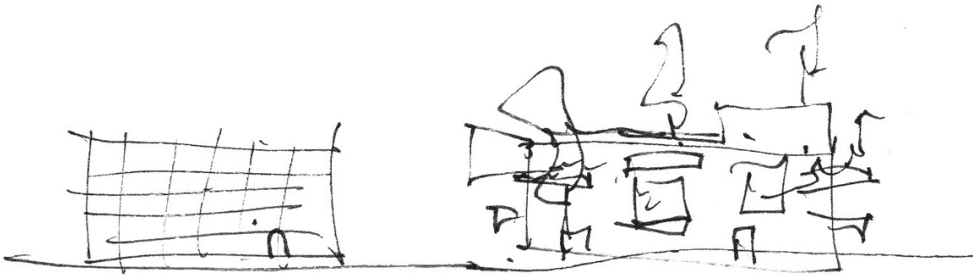


redevelopment

Reusing unprofitable and functionally deficient 1950s to 1970s inner-city office buildings for residential purposes – possibilities and chances



Project REDEVELOPMENT

Research report funded by the Forschungsinitiative Zukunft Bau of the Federal Office for Building and Regional Planning (Reference number Z 6 – 10.08.18.7-07.42 / II 2 – F20-07-20).

The authors are responsible for the contents of this report.

Responsible authors:

Prof.Dr. Gert Kähler
Hamburg

Prof. Dr. Bernd Kritzmann
HCU HafenCity Universität Hamburg

Dipl.-Ing. Carsten Venus
blauraum architekten



Bundesamt
für Bauwesen und
Raumordnung

FORSCHUNGSINITIATIVE
Zukunft BAU

Short Report: Demolition or Redevelopment?

Contents

1

Preconditions, Aims, Methods

2

Initial Situation

2.1 Political Brief

2.2 Societal Framework Conditions

2.3 Legal Situation

3

Perspectives for Erecting Office Buildings

4

Redevelopment in a Period of Financial Crisis ((Recession?))

5

Overall Economic Considerations

6

Design Approach

6.1 The Context

6.2 The Objects Concerned

6.3 Costs / Characteristic Cost Data

7

Conclusions, Demands, Propositions

8

Contact Addresses

1 Preconditions, Aims, Methods

This research project aimed to answer the question as to whether inner-city residential accommodation can be provided or not in an economically efficient way by reusing office buildings that have become uneconomic. Methodically, the investigators chose to carry out case studies of a number of German cities, and in these cities a number of buildings, to determine their conversion potential in terms of restructuring and costs. To ensure the interdisciplinary nature of the research project, it was led by an architectural historian and two architects in professional practice, one of them a university professor of design, who consulted external experts to obtain a comprehensive overview of the area of research without approaching it from a purely real-estate-economic point of view. The following table lists the cities and buildings/developments that were reviewed in detail:

City	Region	Urban Situation	Residential area	Functional proposal	Project arguments
Karlsruhe Kaiserstrasse 178	Medium-sized city, stagnating growth	City edge (centre, inner city)	Prime residential area	Town house	Part of a row of houses along a street / improving the city centre
Hamburg City Hof	Conurbation, growing	City (centre, inner city)	Average-quality residential area	Mixed use as an urban quadrangle	Large 1950s development
Hamburg, Warburgstrasse 28	Conurbation, growing	City (edge of the city centre)	Prime residential area	Doorman Residential	Outdated medium-sized office block in prime residential area
Munich	Conurbation, growing	The conversion does not correspond to the city's urban development policy.			
Frankfurt/Main Mosel-/Niddastrasse	Conurbation, growing	City (centre, inner city)	Basic-quality residential area	Residential Survival Kit Boarding House	Conversion in the sense of the city's strategies for improving a problem-ridden inner-city area
Dortmund Eisenmarkt, Kuhstrasse and Hövelstrasse	City, stagnating growth	City (centre, inner city)	Good residential area	Retrohostel	Strengthening the city centre's residential quality / monument conservation
Bremen Bürgermeister-Smidt-Strasse 70 and 72	City, stagnating growth	City (edge of the city centre)	Prime residential area	'Stacked Living'	Urban normality
(Wiesbaden)	Medium-sized city, growing	Removed from the programme as it overlapped with those in other regions.			
Münster	Medium-sized city, growing	The conversion does not correspond to the city's urban development policy.			
Kassel Karthäuserstrasse/Königstor	Medium-sized city, stagnating growth	City (edge of the city centre city)	Prime residential area	Green urban quadrangle	Corner development with a courtyard – a new chance for development
Magdeburg Breiter Weg	Medium-sized city, stagnating growth	City (centre, inner city)	Good residential area	Ecological high-rise with student apartments	High-rise as a sign for potential development in this and other cities

2 Situation

2.1 Political Brief

Across all political parties, the following principles are generally regarded as the conditions for and objectives of up-to-date regional planning:

- preventing uncontrolled urban sprawl,
- limiting the building-up of countryside areas to 30 hectares per day in order to achieve economic growth independently from land consumption as a measure of such growth (formulated objective),
- using/reusing existing infrastructures and residual spaces
- rehabilitating/improving existing buildings/developments in terms of energy efficiency.

The research project was based on the same principles. In investigating the conversion potential in different cities, the researchers took into account the following development aims at national and communal level:

- creating more residential accommodation in inner-city areas,
- supporting the desired revitalization of city centres,
- achieving this by creating new dwellings by applying ecological construction methods and taking climate-protective policies into account (use of existing resources, avoiding further urban sprawl, etc.)

2.2 Societal Framework Conditions

One aspect of today's demographic development is that those who were children and youngsters during Germany's 'Economic Miracle' in the 1950s and 1960s have reached retirement age and live in suburban detached houses. Regardless of whether the suburbs are criticized as areas of 'urban sprawl' or appreciated as 'Zwischenstädte' (Thomas Sieverts's intermediate cities) – the infrastructure needed today has not been installed in these dormitory towns. In addition, the running costs for these houses are often higher than the owners initially expected and their value as old-age provisions has been decreasing for years. Returning to a central urban area with public transport, cultural facilities, shops, household and nursing services within easy reach is therefore seen by many of the 'Generation 50 plus' as a desirable and necessary move. However, living accommodation for the elderly has to meet special requirements, in particular regarding personal safety.

The modern unattached single with a regular above-average income represents another category of inner-city dweller, and the 'dinks' (couples with double income and no kids) yet another, most of which prefer living in a lively and colourful central location to living in a leafy suburb. For them the attractive urban address and special features of a house or flat in town are the most important criteria for renting or buying such properties.

2.3 Legal Situation

Primarily, converting offices into residential units is a financial proposition. The benefits must justify the costs. One important criterion for such a project is the question as to whether the building concerned is subject to the 'right of continuance', meaning that the building permit for the conversion will be valid for at least the same building volume (or that the authorization makes provision for its possible further extension). Where this is not the case, the chances of obtaining sound financial foundations for the reuse of an office building are rather slim. City authorities who are aware of this problem must deal flexibly with masterplans, building and occupancy regulations regarding distance from site borders, children's playgrounds, underground car parks, etc. Conversions utilize, or 'recycle', both the buildings and the construction systems used to erect them in a flexible way. The same degree of flexibility is required of the authorities responsible for granting the related permissions.

The same authorities also have to decide whether increasing the density of the urban build-up is worth considering and, if so, to what extent. Some of the older office buildings, in particular those from the late 1950s and early 1960s, followed an urban planning approach termed 'cityscape'. This is characterized by an open arrangement of detached buildings, which nowadays is no longer regarded as appropriate for the 21st century, as perimeter street block developments are generally the order of the day. This provides city governments who pursue the respective strategy with a political instrument to combine offers of 'compaction', i.e. a more efficient utilization of sites, with rulings as to the form of utilization (zoning).

3 Perspectives for Erecting Office Buildings

Compared to post-war conditions, the present situation for office construction has changed fundamentally. In Germany, the process of globalization has created a highly flexible information society with direct consequences for the property market. The 1950s and 1960s inner-city headquarters of insurance companies and banks, but also of many smaller company seats are increasingly becoming redundant as these companies identify themselves less and less with their home city if the global market is the major goal. As a result, office building projects and property deals are regarded primarily in terms of the potential profit. The pressure for permanent adaptation and change, for outsourcing, selling company segments, merging subsidiaries, etc., results in an increasing number of companies, especially small and medium-sized ones, abandoning their own administration buildings, which they themselves had originally commissioned. In particular those firms under pressure to assert themselves in a globalized market will no longer use a building as a sign of corporate identification because this would suggest that it is not 'ready to move at any moment', as a successful company has to be, but inflexible and 'stationary'.

The development towards a global marketplace forces companies to 'mine the concrete gold' within their 'stationary' properties. The restructuring process which in English-speaking countries started some time ago, is now hitting the German office property market with all the more vehemence. In

2007 the REIT (Real Estate Investment Trust) was introduced in Germany in order to capitalize office buildings used by their owners, i.e. in order to utilize the property value as capital for their corporate owners' core business. As of 1 January 2007 tax-privileged, quoted real estate shareholder companies have therefore been allowed to establish themselves in Germany. This financial instrument – known in the United States since 1970 – 'frees' corporate property values from being 'tied up' in a specific building and locality and makes it possible to market them internationally on the stock exchange.

4 Redevelopment in a Period of Financial Crisis

The financial crisis which broke out in 2008 accelerated a development which set in much earlier: many properties being no longer assessed and marketed individually, but as part of real-estate portfolios created to market several different properties. It is to be expected that in the near future a great number of office buildings will no longer match the criterion of rental profitability and that the revenues from individual buildings, instead of from real estate portfolios, will therefore become the prime focus of interest. In order to validate real-estate portfolios unprofitable buildings will be sorted out and reassessed as to further utilization or reuse. At the same time, the office buildings erected during the 1970s boom in the construction industry will reach the end of their functional efficiency, as after forty or fifty years they will have to be completely overhauled.

This is why the property market is faced with an increasing number of older office buildings, which will foreseeably force their owners to take action and choose one of the following options:

- demolition of the old and erection of a new building,
- no additional investment, allowing for further decay and rising running costs,
- modernization, thus restarting the building's life cycle at zero,
- conversion into apartment blocks, thus restarting the building's life cycle at zero.

Thus far only a small percentage of office buildings have seemed suitable for conversion into apartment blocks, yet the number of suitable objects is constantly increasing. It is therefore to be expected that in the coming years the conversion of offices into residential units will play a major role in inner-city housing construction.

5 Overall Economic Considerations

The *feasibility* of converting offices into dwellings is inseparable from the *appropriateness* of such an undertaking. This is primarily a question of costs, for there is now a broad consensus on the political, social and ecological appropriateness of reusing and restructuring existing buildings instead of replacing them by new ones. However, this decision is not taken by the general public or the city authorities, but by the owner of the property in question. Even though the present study concentrates on *one development path* (redevelopment through conversion), it must be stressed that the choice of the best path in any one case should be based on an unprejudiced consideration of *every alter-*

native possibility. Seen against the background of the above-mentioned general concern within the real-estate market (property capitalization), we currently also observe that this sector is being professionalized. Many of the mathematical control and assessment models come from Britain and America and are revolutionizing real-estate thinking and dealing also in Germany.

In view of the practice of restructuring/converting older buildings, asset and/or property management becomes increasingly important. What profit can be achieved by what means? This question is increasingly being decided not on the basis of experience or individual tastes and preferences (residential or trade developments) but on the basis of simulation processes geared to calculating future profits. There are two different simulation methods, i.e.:

- the ‘gross rental method’, which serves to determine the value of income properties through calculating the probably achievable capitalized values (capitalized value = net value of future surpluses from total revenues). This method is mainly applied in assessing the value of a company or a rented-out or leased property,
- the discounted cash-flow method (DCF method) is based on capitalizing future revenues and therefore basically represents an assessment of cash values of predicted net receipts.

The more professional and accurate this assessment is, the less dogmatic the decision on how to continue utilizing a given property. The clear terminological separation into ‘new, rehabilitated, restructured, refurbished, redeveloped, etc.’ will be less and less important.

6 Design Approach

6.1 The Context

The urban location and the immediate context represent essential factors for the economic success of a building. The case studies have shown that conversions for residential purposes almost always require comprehensive restructuring measures, but that the necessary extent of demolition work also opens the way for a wide range of variations in ‘new old’ buildings. ‘Forced’ decisions during the redevelopment process are mostly imposed by the structures themselves as these are being converted – with more or less success – into the product demanded by the related marketing forecasts.

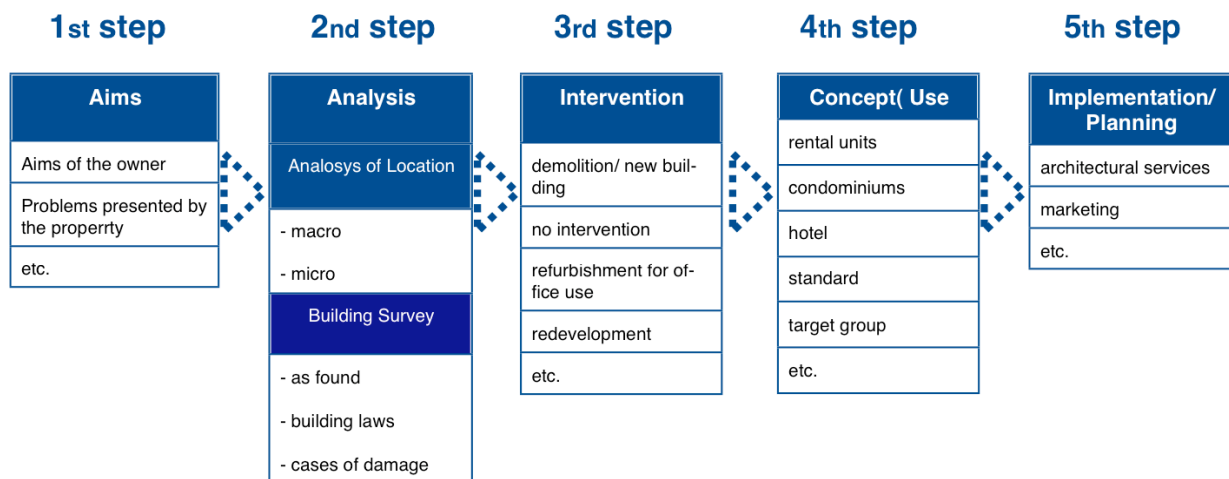
The context (the location), on the other hand, is the essential factor for deciding on the form of reuse and redesign of a building. Depending on the type (or special features) of a building, decisions on these matters are also influenced, in varying degrees, by the structural adaptability of the objects concerned.

6.2 The Objects Concerned

As the research project only reviewed possible ways of converting offices into *residential spaces*, it did not include analyses and assessments of alternative interventions in office buildings. Decisions on the type of reuse were based on the interaction between location (context) and building type.

However, for the above-mentioned reasons, the new purpose was to represent an ‘extension’ of the ‘residential’ theme. It is advisable to determine this part of the redevelopment process in close co-ordination with professional market players (estate agents, etc.), as this decision depends on the correctness of forecasts as to the expected income from renting or selling the building, or else running it (e.g. as a hotel).

The planning, decision-making and checking processes involved in the reviewed alterations to office buildings of a certain type for specified new purposes showed a recurrent pattern and are clearly legible from the case studies.



6.3 Costs / Characteristic Cost Data

Apart from the construction period (funding period) and the operating costs, the construction costs are an important parameter for calculating the total investment. ‘Characteristic cost data’ are used to estimate the building costs with a measure of accuracy at the beginning of the planning process. These data are comparative values from completed and settled construction projects. The costing result is adapted to the construction price index, valid at the time of the new project at hand, which reflects changed framework conditions such as the current situation of the building sector, prices of raw materials, etc.

The construction costing carried out for the case-study buildings aimed to provide readers who are unfamiliar with construction matters with a guide for estimating the budget necessary for the particular case-study project or a comparable one. By referring the characteristic values to a ‘multiple’, the calculation can be applied to buildings of different sizes. The average costs per apartment are a value that can be directly correlated to the estimated revenue (rent or sale) per apartment.

City	Rent (expected)	Floor area	Restructuring costs per sq.m
Hamburg City Hof	11,5-15 €/sq.m	15.600 sq.m	903, 3 €/sq.m
Hamburg , Warburgstraße 28	11,5-15 €/sq.m	1.928 sq.m	1774, 6 €/sq.m
Frankfurt/ Main Mosel-/Niddastraße	5 - 8 €/sq.m	1.300 sq.m	530,8 €/sq.m
Dortmund Eisenmarkt, Kuh- und Hövel- straße		6.430 sq.m	704,8 €/sq.m
Bremen Bürgermeister- Smidt-Straße 70 und 72.	6-11,5 €/sq.m	1.880 sq.m	923,3 €/sq.m
Karlsruhe Kaiserstr. 178	8-12 €/sq.m	720 sq.m	852,5 €/sq.m
Kassel Karthäuserstr./ Königstor	5 - 6,5 €/sq.m	3.960 sq.m	874,3 €/sq.m
Magdeburg Breiter Weg	4,8 - 6,8 €/sq.m	1.928 sq.m	1214,9 €/sq.m

7 Conclusions, Demands, Propositions

- The ‘technical feasibility’ factors for converting an office building (i.e. primarily sufficient room ceiling heights, distances from neighbouring buildings and structural stability) are the same as for extensively rehabilitating it for further office use according to current technological and energy-saving standards. These questions must be solved before further plans are made.
- Before going into any details, planners must study the legal framework for a project and find out whether the city authorities are prepared to support it, if necessary, with exceptional rulings and permits.
- Due to different interests involved and because of differences in age, state of preservation and location between different buildings, there is no single, ideal solution for every conversion project. Demolition; further use without extensive refurbishment; fundamental modernization for further office use or conversion into a block of flats – these will/should always be the result of an open decision-making process.
- Both city governments and citizens are interested in and welcome inner-city residential accommodation. In some cases, this is even subsidized as part of the public programme (‘Revitalization of the City Centre’).
- The demand for centrally located apartments has been boosted by the German government’s decision to stop granting the Home Buyer Allowance and the commuter tax relief, and by rising energy costs. Nowadays, prospective home builders or buyers therefore often move into poorer urban areas, which are consequently gentrified. The demand for a home in town will

also extend to converted office and other buildings, albeit at a modest rate (with the location and the quality of the flat as the main decision criteria). This primarily concerns the ‘generation 50 plus’, whose children have moved out and who seek a safe place to live, as well as singles with high incomes or childless couples with two incomes.

- The present financial crisis and the fact that more and more companies are no longer tied to a certain place will lead to a rise in the number of buildings available for this market.
- The new centrally located apartments generally appeal to members of the middle and upper classes, who – as is generally assumed – will fill the city centres with new life and generate new jobs in the retail and catering sectors. Should a city wish to provide inner-city dwellings for citizens with lower incomes, it will not be able to do so without public funds like the ones for council flats in the past.
- There is a clear ecological case for reusing inner-city buildings and properties, as it prevents further urban sprawl and thus protects a city’s environment.
- Technical and constructional aspects can be controlled, acoustic problems solved, and it is technically feasible to install new sanitary fittings and partitions, to reclad façades and to equip old buildings with fire-safety systems.
- Successful conversions must comply with economic requirements and building regulations. They must also preserve the building volume and solve the problems of VAT dues and other compensatory funding instruments (subsidies) respectively. (The ‘VAT problem’ refers to the fact that for commercial tenants rental and additional charges are operating costs allowable for VAT deduction so that, at present, they have a cost advantage of 19% per cent over private tenants.)
- The ‘compaction’ of inner-city areas (by building up gap sites, redeveloping existing structures, etc.) is another instrument available to city authorities for encouraging conversions of old buildings into blocks of flats as a financially attractive proposition.
- The characteristic construction parameters have shown that the costs of a complete conversion and modernization, including thermal insulation and energy-saving installations, are comparable to those of a new building.
- Even in the case of a redevelopment costing as much as a new building, the redevelopment remains the cheaper solution because
 - there are no demolition costs to be paid, and
 - the construction period is shorter and thus reduces bridging loan interests rates.

8 Contact Addresses

Prof. Dr. Gert Kähler

Schomburgstr. 87
22 767 Hamburg
gertkaehler@web.de

Prof. Dr. Bernd Kritzmann

HafenCity Universität
Hebebrandstraße 1
22297 Hamburg
bernd.kritzmann@hcu-hamburg.de

Dipl.-Ing. Carsten Venus

blauraum european architects

Paul-Neumann-Platz 5
22765 Hamburg
c.venus@blauraum.eu