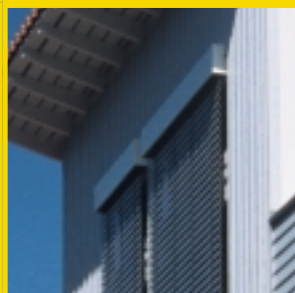


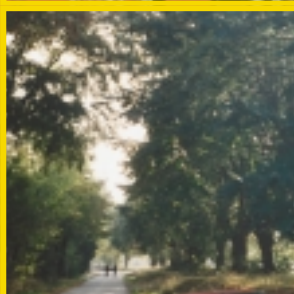
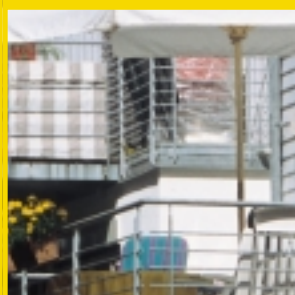
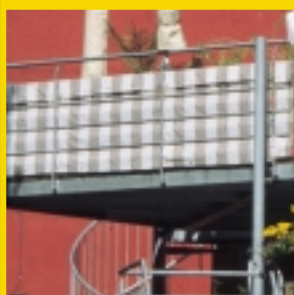
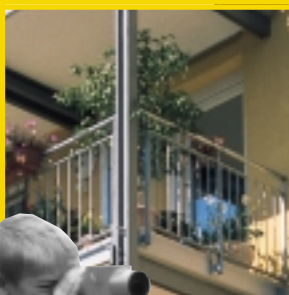


A Journey through the

Model District Vauban



**A Vision
Taking
Shape**



Invitation



When the French army left their military base Vauban in Freiburg in 1992, official planners as well as many of citizens were inspired by the chance for a new district. The area, only 3 km away from downtown Freiburg, offered the rare opportunity to follow a comprehensive approach. It was to alleviate the intense housing shortage, offer attractive commercial areas, and integrate ecological aspects into the planning process from the very beginning. This is, in short, the idea that is at the root of the sustainable model district Vauban.

This brochure aims showing you how these ambitious ideas are being turned into reality step by step. After a short historical review you will learn about the development goals, the most important stakeholders and building projects, and the exceptional ecological and social measures characterizing the model district.

Another special feature of Vauban is the cooperative planning process into which all relevant actors are integrated. The EU-funded LIFE-Project „Realisation of the Model District Vauban“, which ran parallel to the first development section 1997-99, embodies this idea of co-operation. The project was run jointly by

- the City of Freiburg, responsible for the planning process,
- Freiburg's public utilities FEW, responsible for the energy concept,
- the building cooperative Vauban, GENOVA, implementing a socio-ecologically ambitious building project,
- the International Council for Local Environmental Initiatives ICLEI, disseminating the results, and
- the Forum Vauban, the organising body of the extended citizen participation.

This publication shows the results of this LIFE-project.

Even today, Vauban attracts visitors from far away who wish to know more about the district. We welcome your interest and invite you to take a stroll through this quarter with its special qualities.

Freiburg, October 1999

Laurenz Hermann

Laurenz Hermann,
Project Manager,
Forum Vauban e.V.

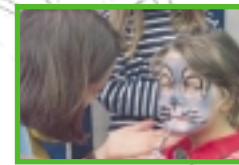
**Bird's-eye view of Vauban,
May 1999.**
Photo: Manfred Richter



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10 Theses for Sustainable Urban
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The Association for Citizen
Participation Introduces itself



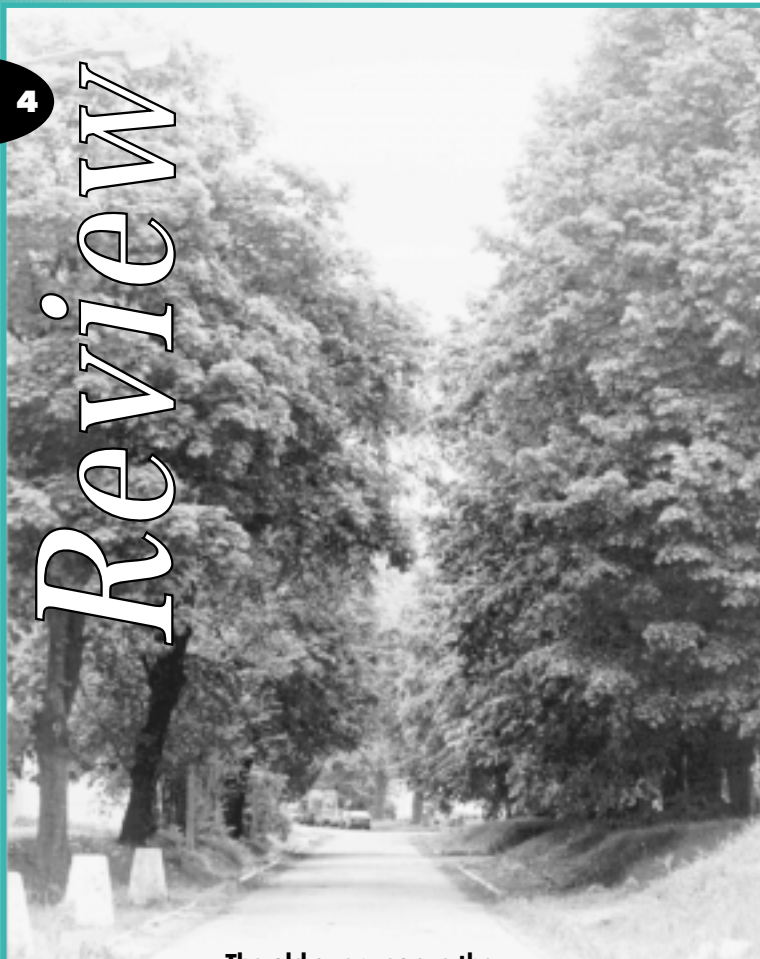
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Vauban is a former military area in the south of Freiburg. It is attractively located on the edge of the recreation area Schönberg and only about 3 km from downtown Freiburg. By 2006, this urban-planning development project will result in a new district for 5,000 inhabitants and 600 jobs.





The old avenues are the district's green backbone.

Photo: Bimm



Left: In 1992, the Vauban area was still used by the French army.

Photo: Ferdinand Biselli

A new district is being created: On April 3, 1998, the ground was broken. A short time later, building cranes dominated the picture (photo below). The board to the right illustrates what the quarter will look like after the completion of the third development section in 2006. You can see the Vauban avenue and the residential streets departing from it to the north and south.



Photos: Carsten Sperling



From Military Area to Model District

After the French army left Freiburg in 1992, the city bought the 38 ha large Vauban area from the Federal Republic of Germany in order to create housing of increased density for different social groups. It was the goal of the planning concept to create 2,000 apartments that could house approximately 5,000 people. Furthermore, 600 jobs are to be created.

By dividing the land into small plots and giving priority to private builders and groups of builders, a variety of housing styles was promoted and with it liveliness within the district. Development companies complete the mix of housing that will be available. Partly because of the attractive location, the plots were in great demand from the beginning.

The planning philosophy of Vauban is worth highlighting: The city formulated a concept called „Learning while Planning“ which encourages flexibility in reacting to changes and new wishes. Furthermore, the association Forum Vauban guaranteed a wide-spread citizen participation.



The infrastructure of the quarter Vauban will include a shopping centre, a market place next to a neighbourhood centre, a primary school with a new gymnasium which is also open for public use, as well as two public nursery schools. The school, the market place and the first nursery opened in 1999. Furthermore, the district will have expansive „green belts“ that can be used in a variety of ways. There will also be good connections to public transportation.

The following pages will show that the people involved in Vauban are especially concerned with ecological questions. The Forum Vauban, organising body of the citizen participation, coined the expression „Sustainable Model District Vauban“ and is very much involved in its realisation. Now that the first 422 housing units of the first development section have almost been completed the special character of the new district is becoming visible.

New Living Space in Old Barracks

Before the urban-planning development project began, ten barrack buildings had already been given to the „Students' Organisation“ and the alternative settlement initiative S.U.S.I. The „Students' Organisation“ created dormitories with rooms for 600 students in six old barracks and 3 new buildings.

S.U.S.I., a grassroots initiative, is concerned with creating healthy and self-organised housing that is both low-cost and ecologically sustainable. The initiative has refurbished 4 old buildings and created 45 housing units that can accommodate an average of 5 people.



Photo: Silke Brocks



Photo: Studentenwerk Freiburg



Photo: Silke Brocks

Refurbished barracks of the „Student Village Vauban“: at the „village square“, two floors were added to an old building which was supplemented by a new building housing a student pub among other things (top picture). The „passage“ between two old buildings serves as additional living space. Among other things, it accommodates kitchens and communal rooms.

S.U.S.I.'s Ecological Building Measures:

- preservation of existing buildings, recycling of scrap material left over from construction
- use of ecologically-sound building material (domestic wood, clay, and other things), PVC is not used
- insulation of exterior walls and roofs using environmentally-sound materials
- a co-generation plant run with rape oil
- greening of facades, utilisation of rainwater



The S.U.S.I. buildings: Architecturally unique are the individually constructed balconies and the exterior staircases.

Photo: Carsten Sperling



■ Space for Interaction

From the beginning we had the vision of a friendly and lively district, a quarter with small businesses, local shopping opportunities, social and cultural facilities, and neighborhood initiatives. We did not want another „sleeping suburb“ from which residents want to escape on weekends.

In order to let such a district „grow,“ one needs to constantly strive for a balance between public roads and squares, places for neighborhood interaction, and private space to which individuals can retreat. The district hopes to attract small shops and cafés through carefully designed public spaces that invite a multitude of activities: e.g., playing „boule“, meeting people, waiting for a tram,...

„Semi-public“ spaces between the buildings are important for neighborhood interaction. Private gardens, which are more than „distancing spaces“ between houses, court-yards, and access galleries can serve as lively places of communication; especially important is the emphasis on the needs of the residents in the design of residential streets. We will introduce some good examples on the following pages.

New construction is still going on in the district. Yet even at this early stage, one can already feel some of the exceptional qualities of an urban development project which takes the needs of its future residents into account: at the farmers' market on the (provisional) market place, children playing on the residential streets, or the „Bau-gruppen“-party in the neighbourhood centre.

Social interaction is an important part of life, e.g. during a district festival or while playing „boule“.



Photos: Carsten Sperling



Photo: Jürgen Schneider

Vauban as an adventure park for children: the excavator digs on weekdays, on Sundays, children splash around.

■ A Green District

Public green spaces within the district are an important contribution to the well-being of its residents. In Vauban, three green belts, beautiful old timber, and a creek running through the southern part of the area all contribute to the district's natural beauty.

The residents are very much involved in the design of the green belts. The plan for the first green belt was developed during several meetings and a workshop on site. In the future, young and old will come together to build a play area with water, a marquetry wall, and „royal chairs“ made out of hardwood logs.



Nature in Vauban: The old avenue and the creek enhance the quality of life in the new quarter.



Photos: Carsten Sperling



A construction site with atmosphere: people out for a Sunday stroll in the quarter (picture above) and mailbox-culture: re-used scrap material left over from construction and diverse containers turns mail delivery into an adventure.



Photos: Carsten Sperling

Neighbours plan their green spaces: children mold their ideas into clay and also participate in the on-site meeting during which 150 cubic metres of bark mulch are used to experiment with landscape designs.



Photos: AG UnArt



■ As Few Cars as Possible

The idea of a district with as little motorised traffic as possible was the foundation for the traffic concept. The goal was not a small, car-free enclave, but rather reducing the use of cars in the entire district to everybody's benefit.

The result was the combination of two forms of living that are usually not integrated into one concept, i.e. *parking-free* and *car-free* living. This is what the concept looks like: for large parts of the residential area, the development plan for Vauban prohibits the building of parking space on private property. Instead, private cars are parked in a community car park located at the periphery of the residential area (parking-free living). Cars are only allowed into the residential area for pick-up and delivery.

Residents without cars are exempted from participating in the community car park. Car-free households thus save the substantial cost of a parking space. The same is true for development companies who put up car-free apartments for rent. The community car park is therefore not subsidized by the car-free households (fair distribution of expenses). Car owners have to accept walking a short distance to reach their cars. This soft break with the omnipresence of private cars is offset by a higher quality of living that is valued especially by the car-free households.

The building regulations of Baden-Württemberg require car-free households to reserve some space for parking that may be needed in the future. For this reason, the „Verein für autofreies Wohnen“ (association for car-free living) was founded. The association bought a piece of property at the periphery of the residential area which could be turned into a parking area if needed, although the initiators of the association do not think that this will ever be necessary. Rather, the property will be used for barbecues and as a playground and soccer field. There may also be space for gardens for rent. By using the property for these various activities instead of parking, people are re-conquering traffic space for the well-being of their community.

130 of the approximately 280 households in the parking-free area of the first development section have chosen to live without a private car.

■ Making Mobility Easy

Vauban is well-suited for becoming a district with very little motorised traffic. It will be a quarter of short distances: a school, nurseries, a farmers' market, businesses, a shopping centre, a food coop, recreation areas, and approximately 600 jobs will all be within walking and cycling distance. Therefore, residents will be able to satisfy most of their daily needs within the quarter. The train station and downtown Freiburg are only 10 to 15 minutes away by bus or bicycle. By 2006, when Vauban is connected to the tram and possibly the suburban train line, it will be optimally integrated into public transportation.

Life in a quarter with little traffic: children take over the streets.

**A further step on the way to a district of short distances:
The first small store opened in the apartment house of
the „Baugruppe Vauban '94“ (picture on the far right).**

A special mobility package was developed for those residents of Vauban who are part of the first development section: those who join the car sharing organisation not only have access to the shared cars but also receive a one-year free pass for all public transportation within Freiburg as well as a one-year 50 % reduction on every train ticket in form of the „Bahncard.“ In order to further enhance car-free mobility, there are plans for a delivery service, bicycle trailers, and carts to be shared among residents.

■ Streets for Kids

Residential streets in Vauban will be places where children play and neighbours interact with each other. Residents were allowed to develop and integrate their wishes for their streets into the planning process. This was accomplished through neighbourhood gatherings, a facilitated workshop, and meetings with the administration. The result was a high demand for benches, plenty of green, and small public places within the residential areas. Traffic will only be a secondary function of Vauban's residential streets.

Citizens planing their streets: a variety of traffic scenarios were simulated during a local meeting. The participants became aware of how much space is taken up by private vehicles and left the workshop with a heightened awareness.



Photos: Claudia Nobis



Photo: Silke Bröck



Photo: Carsten Sperling



Photo: FAG

**One car for all (occasions):
Car sharing in Vauban.**



Photo: Carsten Sperling



Photo: Jean-Pierre Rosetti



Photo: Carsten Sperling

Living with the Sun

All new buildings within Vauban must be low energy houses (65 kWh/m²a) or passive houses (15 kWh/m²a). Vauban's energy will be provided by an efficient co-generation plant run by natural gas. For this reason, Freiburg's public utilities FEW are building a short-distance heating grid in Vauban.

According to the development plan, the facades of the houses have to face east or west on most of the building sites. This leaves little room for the construction of passive houses which require the main facade to face south. Still, Vauban will be Germany's largest passive house settlement next to Hannover-Kronsberg. There are 42 housing units in three passive house projects in the first development section alone. Following the suggestions of the Forum Vauban, the city of Freiburg has improved the conditions for the ecologically-necessary, economically-sound and technically-advanced passive house technology: in the second development section, another 50 housing units in passive house standard will be developed. In the Eastern part of the first section, Europe's largest solar settlement is currently being built on the foot of the Schlierberg mountain. 150 so-called plus energy houses are being built, which generate more solar energy than they consume in the course of a year.



Photo: Martin Kummrow



Photo: Studentenwerk Freiburg

Thermic solar installations in Vauban: The „Students' Organisation“ put a 143 m² installation on the roof of one of the refurbished barracks, producing 15,000 litres of hot water per day. The picture above shows a solar collector belonging to the building co-operative Vauban, GENOVA.

The picture to the right shows a small photovoltaic device on the roof of the „Baugruppe 14.“



Photo: Carsten Sperling

A model district needs to have solar collectors, of course: with the combined promotion schemes for solar energy by the FEW and the Vauban LIFE-project, the prospects of the quarter are „sunny“ indeed. It is especially due to the „Baugruppen“ (groups of future building owners) that there are fairly large solar installations: many „Baugruppen“ decided in favor of collective solar installations because they plan to have a joint supply line to the short-distance heating grid anyway. The size of the installations also reduces the costs considerably. Approximately 300 m² of solar collectors providing the district with hot water will be built in the first development section alone. The „Students' Organisation“ built Vauban's largest single solar collector installation (143 m²) on one of their refurbished old buildings. Photovoltaic devices are also being built in large quantities. The FEW, for example, is building a solar power installation on the roof of the community car park. The houses of the Schlierberg solar settlement are even recommended by the developer as „solar power stations,“ and some of the „Baugruppen“ also use solar power in their buildings.

One often needs to buy new household appliances when moving. People moving to Vauban can make use of a special offer designed to save energy: apart from a multitude of information about saving energy in a household, there is a special promotion scheme for energy-efficient household appliances.

Passive Houses in the 1st Section

Passive houses do not need elaborate active systems for generating energy. Their heat requirements are almost entirely covered by so-called internal gains, passive-solar gains, and a technically simple heat recuperation system. There is no need for a conventional heating system.

In the following, we will describe the passive house projects of the first development section.

The Project „Gärtner-Passivhaus“

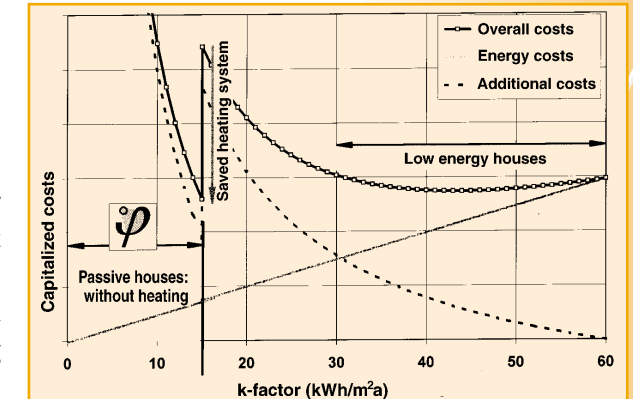
The „Baugruppe Gärtner-Passivhaus“ built 6 three-story terrace houses and one four-story apartment building with 13 housing units in passive house standard (15 kWh/m²a). The buildings were set in such a way that an inner court was created which can be used by all the residents of the project. The entire construction, with the exception of the basement, is made out of wood.

info Architecture:
Thilo & Baeriswyl (Basel)
Size of Property: 2656 m²
Dwelling Space: 2120 m²
Effective Area: 750 m²
Date of Completion: 09/99



Photos: Carsten Sperling

Small windows and access galleries – a close-up of the northern facade of the first four-story apartment building out of wood in passive house standard.



The effect of improved insulation: on the one hand, the costs of energy are reduced through an improved k-factor. On the other hand, the thicker the insulation, the more expensive. The overall costs go up with improved insulation. It is only by dispensing with a conventional heating system that the passive house becomes profitable again.

Graphic: Passivhaus-Institut



Large windows facing south – the houses of the „Baugruppe Gärtner Passivhaus“.



Oriented toward the sun: the southern facade of „Passivhäuser am Dorfbach“.



Photos: Werkgruppe Freiburg

The Project „Passivhäuser am Dorfbach“

On the southern edge of the Vauban area, the „Baugruppe Passivhäuser am Dorfbach“ built four three-story terrace houses in passive house standard. Wooden constructions and a high percentage of natural building materials are a special quality of this project.

Entrances, guest bathrooms, kitchens, and storage rooms are on the northern side of the houses, whereas the dining- and living rooms with large terraces face south and towards the garden. The rooms appear spacious because of the very large windows, protruding balconies, and the absence of supporting inner walls.

The heating energy consumption does not exceed 13,2 kWh/m²a. The ventilation system with efficient heat recuperation and pre-heated fresh air provided by a heat-exchange system minimises the costs of heating and makes the installation of radiators obsolete. Additionally, there is a collective solar installation for hot water and heating on the roof.

Further ecological building measures:

- utilisation of rainwater for flushing the toilets and irrigating the gardens
- greening of facades and roofs



Typical for a passive house: small windows to the north and solar collectors on the roof.

info Architecture: Werkgruppe Freiburg (Miller-Mayer-Wirth, Freiburg)
Size of Property: 1098 m²
Dwelling Space: 838 m²
(from 178 m² to 208 m²/unit)
Effective Area: 287 m²
Fertigstellung: 01/99

Solar Region Freiburg

The model district Vauban is a satellite project of the „Solar Region Freiburg.“ The „Solar Region Freiburg“ was selected as a decentralised exhibition site for the World Fair EXPO 2000. This world-wide project consists of seven leading projects demonstrating the innovative power of a region in utilising solar energy and showing how this contributes to the development of several sectors of society:



Southeastern view of the passive house „Wohnen und Arbeiten“

The „Baugruppen“- Project „Wohnen und Arbeiten“

The dissolution of the geographic separation of living and working as well as a high social and ecological quality of life were especially important to the 31 residents of this four-story passive house project. The result was a building with 16 housing and 4 office units (from 36 m² to 168 m²). The access gallery on the northern side is a popular meeting point. The members of the „Baugruppe“ jointly use the washing and drying room, the utility room as well as the garden.

A thermic solar installation provides hot water in the summer, supplemented by a small co-generation plant using natural gas in the winter. Electricity is provided by a 3kWp photovoltaic device. 85 % of the primary energy is saved due to optimal insulation, the utilisation of active and passive solar energy, the triple-glass windows and the reduction of aeration heat losses. The building has a heating energy consumption of 13,2 kWh/m²a.

The „Baugruppe“ is using an innovative ecological sanitary system, the combined vacuum drainage system (see page 20).



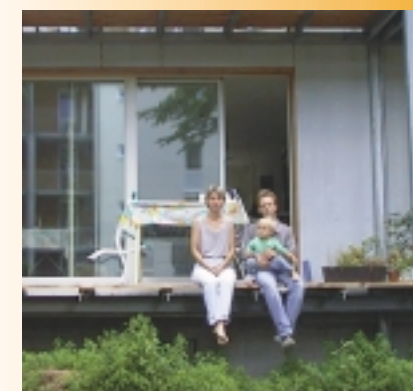
The co-generation plant of the Baugruppe „Wohnen und Arbeiten“ is situated in the basement.

Access galleries are very popular in Vauban. These „semi-public“ spaces are often used as meeting places. They also make the utilisation of the dwelling space more flexible, allowing for individual basic plans and even retrospective changes in the sizes of the housing units. The picture shows the northern view of the project of the „Baugruppe Wohnen und Arbeiten“.

1. New Living and Building (Project Solar Settlement Schlierberg in the quarter Vauban, see page 23)
2. The Future of Work (Project: Solar Factory)
3. Citizen Participation (Project: „Regio“-Solar Installations)
4. Leisure and Tourism (Project: Solar Cable Railway Schauinsland)
5. Research and Development (Project: Solar Refrigeration, University Hospital)
6. Financing and Marketing (Project: promotion scheme for solar energy)
7. Training and Education (Projects: Solar Tower and „Solar Educational Centre Euregio Freiburg“, Richard-Fehrenbach-Gewerbeschule und Handwerkskammer)

info

Architecture: id Architektur - Michael Gies / Oliver Common (Freiburg)
Size of Property: 1902 m²
Dwelling and Effective Space: 1476 m²
Date of Completion: 07/99



Always facing South: terraces in passive houses.

Further ecological building measures:

- extensive greening of roofs
- utilisation of clay plaster for interior walls
- ecological sanitary concept



Photos: Andreas Delleske

SolarRegion Freiburg

■ A New Way of Building

Building in „Baugruppen“



„Baugruppen“- day at the Forum Vauban: potential builders get together, groups exchange experiences. This strengthens the feeling of community and the identification of the residents with the new district.

Photo: Carsten Sperling

Important development goals in Vauban are the creation of a great variety of housing and to enable people from different social classes to buy apartments. „Baugruppen“ (groups of future building owners) are a good way of achieving these goals because they make building less expensive and more flexible. Forum Vauban regards the formation and consultation of these „Baugruppen“ as one of its chief concerns. The idea is simple: several households get together, decide on a piece of property, collectively plan a building, hire an architect and craftspeople, and thus save money and time.

Those who have decided to become builders get together on the basis of personal contacts and are usually responsible for the entire construction of the building as well as the legal work. This means that the members of a „Baugruppe“ have to invest a lot of time and energy and need to be open to discussion and compromises. The experiences collected so far show that building in „Baugruppen“ is rewarding in several ways.



In order to save costs, building owners can complete much of the interior work themselves depending on skills and experience.

Photos: Silke Brocks



Because of the scale of construction, one can negotiate for much better prices than when building an individual house. The overall costs for buildings with equal quality standards are therefore much lower than if a building were bought ready for occupancy from a development company. The financial aspects are only one consideration, however. Many people wish not only to live in an attractive district, but also in a house where they know all their neighbours. Due to the intense interactions during the planning and building phase, the future neighbours form a strong group long before they move in together. The individual and communal needs can be taken into consideration throughout the entire planning process: by influencing the architectural design, deciding on the size and layout of the housing units, choosing construction materials and designing collective spaces such as staircases, entrances or gardens.

During the first development section, around 15 „Baugruppen“ consisting of some 150 households built in Vauban - ranging from small groups building terrace houses together, to large groups consisting of more than twenty households building multi-story buildings. Among these builders are families with children and grandparents, singles, single mothers and fathers, and business people.



Photo: Carsten Sperling

Like many other groups, the „Baugruppe 14“ has chosen to build galleries to have access to their maisonette apartments. You can see a small corner of the solar panels on the roof. Many ecological measures are easier to realise and less expensive when building within a „Baugruppe“. This promotes ecological building.



Photos: Carsten Sperling

On many construction sites in Vauban, clay is used for some of the interior walls and floors.



The Maisonette apartments of the „Baugruppe 14“: Families living in the upper apartments have access to the sunny roof terrace instead of the garden. The 45 members of the „Baugruppe“ use the bicycle rooms, storage room for baby carriages, and the front lawn collectively.

The picture on the left shows the terrace houses of the „Baugruppe Vauban '94“ (see also following page).



Photo: Jürgen Schneider

Examples of projects

In the following we will present some examples of „Baugruppen“- projects of Vauban's first development section.

„Baugruppe Vauban '94“

„Vauban '94“ built a massive four-story apartment building with 8 housing units (from 50 m² to 158 m²) and a small store (27 m²) next to 6 three-story wooden terrace houses (138 m² each).

The 40 inhabitants, consisting of families, singles, and single mothers and fathers, were especially interested in having a

basic plan for the apartment building that could be flexibly adjusted to all phases of life. Therefore, they chose a combination of staircases and access galleries. They also installed an elevator to make the building easily accessible for older people. The inhabitants also have a 50 m²-large communal room. The garden, wash room and utility room are also used collectively.



Photo: Carsten Sperling

Entry area of the terrace houses „Vauban '94“. Additional photos can be found on the previous page as well as on page 9.

info

Architecture:
Werkgruppe 1 - K. Wehrle and C. Brendelberger (Gutach-Beibach)
Size of Property: 733 m² (apt. build. - AB), 1.094 m² (terrace houses - TH)
Dwelling Space: 707 m² (AB), 795 m² (TH)
Effective Area: 298 m² (AB), 168 m² (TH)
Date of Completion: 03/99

Ecological measures:

- solar collectors
- Secondary water cycle
- collective connection to the public grids
- use of alternative construction material (e.g. straw and clay in the interior)



Photo: Silke Brocks

A lively construction site: in front of one of the „Triangel“ houses is a colorful fleet of excavators, tractors, Bobby-cars, scooters, and bicycles driven by children.

Ecological building measures:

- solar collectors
- controlled ventilation system
- use of wood and clay in the interior
- use of rainwater for toilets, washing machines, gardens
- hot water supply for washing machines

info

Architecture:
B. Weinacker, T. Harter - Architekturwerkstatt Amann-Burdenski-Harter (Freiburg)
Size of Property: 1.620 m²
Dwelling Space: 1.618 m²
Effective Area: 87 m²
Date of Completion: 09/99

„Baugruppe Triangel“

The two apartment buildings of the „Baugruppe Triangel“ are positioned opposite of each other, thus forming a courtyard with a garden used collectively by the 47 residents. The families, single mothers and fathers and people sharing apartments are designing, furnishing, and caring for the courtyard together. Furthermore, all residents can use a media room with telephone, computer and internet.

One can find maisonette apartments and apartments on each floor. They can be reached by exterior staircases and access galleries. The maisonette apartments can be subdivided into separate apartments, thus enabling the residents to react to the changing needs for dwelling space, e.g. for old people or students. The installations were also adjusted to fit this flexible concept; there is space for additional meters for electricity, water, and heating.

„Baugruppe Ökologisches Bauen“

The collective project of the group „Ökologisches Bauen“ consists of three equally broad, four-story terrace houses. The 4 maisonettes and 4 apartments (70 m² to 140 m²) can be reached by access galleries and an exterior staircase.

info

Architecture:
H. Burdenski - Architekturwerkstatt Amann/Burdenski/Harter (Freiburg)
Size of Property: 715,50 m²
Dwelling Space: 845,71 m²
Effective Area: 219,00 m²
Date of Completion: 02/99

Ecological measures:

- improved low-energy house with 45 kWh/m²a
- solar collectors
- controlled ventilation with heat recuperation
- greening of facades and roofs
- PVC-free construction material

The 26 residents, mainly families, collectively use the wash, utility and bicycle rooms as well as the front lawn. The latter is used as a semi-public place for meetings and communication. Oriented toward the street, it hosts a sand-pit and seating that invite people to play and spend time there.



Photos: Carsten Sperling

Invitation to linger: a facade oriented toward the residential street with access galleries and front lawn. The picture to the left illustrates the attractively designed transitional space between private and public areas.



The houses of the „Baugruppe Buntspecht“: the diversified colors and designs are a pleasure to look at. Large parts of the buildings – apart from the basement – were constructed with pre-fabricated wooden frames.

Photo: Silke Brocks



■ Space for Participation



Young and old come together: GENOVA-barbecue.

The building co-operative Vauban, GENOVA eG, was founded in 1997. The co-operative is building 36 housing units (10 of which are publicly co-financed flats) in the first development section of the model district Vauban. Another 70 apartments are planned for the second and third building section, which are to be completed in 2006.

GENOVA originated from Forum Vauban. GENOVA sees itself in the tradition of the classic co-operative goals of responsibility and self-organisation, collective building and living as well as the creation of communal property. GENOVA emphasises the issue of young and old living together. Furthermore, an ecological and inexpensive building concept was adopted by

the members collectively. People of different ages and life-styles as well as socially and financially disadvantaged people are all integrated into the project. The residents actively participate in the planning process - both where the architecture (orientation and design of the buildings, facades, colors, etc.) and the basic plans for the individual apartments are concerned. The participation takes the form of residents' meetings, workshops, a co-operative council, and also residents' representatives on the management team. The financial risks involved in the project are shared by all members from the very beginning.

35 of the 36 GENOVA-households do not own private cars. The children are especially glad about that.



Photos: Carsten Sperling

■ GENOVA: The First Section

On September 8, 1998, GENOVA eG began construction on the first two four-story apartment buildings with 36 housing units (from 44 m² to 157 m²). Since August 1999, members of the co-operative have been renting the flats. The apartments comprise a total of 3,130 m² dwelling space, not counting the 50-m²-large communal house, a rentable guestroom, and a communal laundry.

The two houses are connected with access galleries which are linked by a bridge on the second and third floor. One of the buildings also has an elevator serving all floors and the basement. Apart from the apartments on the first floor, all apartments of the GENOVA are thus suitable for older people who can live there independently and with easy access. Flexible basic plans also enhance inter-generational living.

Every apartment has some private exterior space in the form of a terrace or balcony. All kitchens face the access galleries in order to facilitate social interaction between the apartments and passers-by. All free spaces of the property are organised as general free spaces for all residents.

A change of perspective: for children GENOVA has exciting views as well.

info Architecture:
P.I.A. Löffler-Schneider-Schmeling-Licht (Karlsruhe)
Size of Property: 2584 m²
Dwelling Space: 3180 m²
Date of Completion: 08/99



GENOVA's two apartment buildings viewed from the Southeast. A bridge at the front side of the first building links the access galleries of both buildings on the second and third floor (see picture in the upper left corner).



Ecological measures:

- improved low-energy house (48 kWh/m²a)
- solar collectors
- rainwater cisterns
- greening of roofs
- floors made out of domestic wood
- PVC- and FCH-free construction, no foams used
- regional building materials

Sustainable Water Management

With respect to the limited permeability of the upper layers of soil in Vauban, rain-water can infiltrate the ground with the so-called „Mulden-Rigolen-System.“ Out of the residential gardens, rainwater flows through open gutters into two ditches where the water is collected. At appropriate places, the ditches are connected to the ground-water strata with packages of gravel, which were inserted into the almost water-impermeable strata. Above these packages are enlivened layers of soil so that the rain-water is filtered before reaching the ground-water. This way, through condensation and infiltration almost 100 % of the rainwater remains within the district.

The „Baugruppe Wohnen und Arbeiten“ implemented an innovative, path-breaking ecological sanitation concept, the „combined vacuum sanitation system“: Biological waste, faeces and urine (so-called „black water“) is conducted from the water saving vacuum-toilets to a natural gas reactor with vacuum pipes. The reactor produces liquid fertilizer as well as natural gas that is used for cooking. The nutrients we eat are thus returned to agriculture and are not channeled into rivers or dumps. The remaining sewage from kitchens and bathrooms („grey water“) is used again after it has been cleaned in aerated sand-filters. The result is a completely sewage-free house.



Vacuum installation in the basement of the „Baugruppe Wohnen und Arbeiten“.

Photo: Andreas Delleske

Building and Waste

In order to reduce the considerable amounts of waste produced in the construction business, the brochure „Avoiding Waste in Construction“ was put together and distributed directly to the future builders in Vauban when they signed the property contracts. Furthermore, a concept for a recycling station to take care of scrap material on the spot has been developed.



Re-usable form-works help to avoid waste during construction.

Photo: Eva Luckenbach

Co-operation Partners in the LIFE-Project

The project „Realisation of the Model District Vauban“ (1997-99) was a joint project of

Forum Vauban e.V.



Freiburger Energie- und Wasserversorgungs-AG



Strom · Erdgas · Wasser · Wärme

GENOVA co-operative
Vauban eG



Stadt Freiburg i.Br.



International Council for
Local Environmental Initiatives



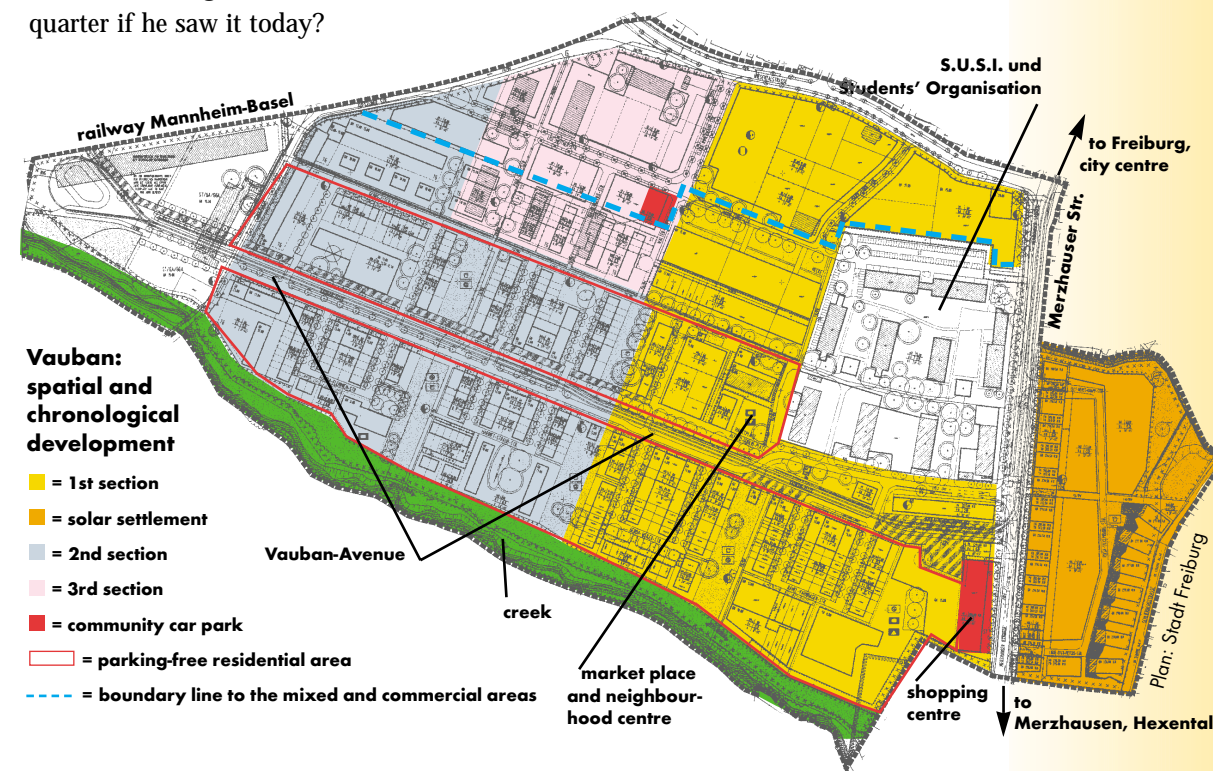
Funded by the European
Commission,
LIFE programme

Prospects

The first development section is completed for the most part. The new district with its new buildings and the refurbished buildings of the S.U.S.I. and the „Students' Organisation“ already provides a home to more than 1,000 residents. Playing children are more and more prominent on the residential streets, whereas the construction sites are slowly moving toward the second development section.

In the summer of 1999, the city of Freiburg began with the sale of properties in the second development section. A large percentage of these properties will be sold to „Baugruppen“. Again, more than 50 housing units in passive house standard can become reality. Construction in the second section will begin in the year 2000 and go on for approximately two years. The third and last development section will follow, and the entire urban development project will end by 2006.

Once the district is completed, there will be little evidence of the fact that the area used to be a military base. One of these remnants will be the name that the modern French army gave their base. Sebastien le Prestre Marquis de Vauban, after whom the barracks were named, was the most prominent urban planner and architect of fortresses during the times of Louis XIV of France. What would he think about the quarter if he saw it today?



Evaluation of the Sustainable District Vauban

The Öko-Institut is examining two development projects as part of the research project „Sustainable districts on urban conversion areas:“ The „Vorstadt Nord“ in Neuruppin and the former army base Vauban in Freiburg. The project is funded by the Federal Ministry of Education and Research.

The project wants to examine the ecological and economic effects of these model districts. One of the measures used is life cycle analysis. The research began in the spring of 1999 and will continue until the end of the year 2000. For further information contact Uwe R. Fritsche at the Öko-Institut (project coordinator, mail: fritsche@oeko.de, internet: www.oeko.de/service/cities/).



An Overview

Dwelling space in Vauban

Students' Organisation:	596 DR
S.U.S.I.-initiative:	45 HU
1st development section:	422 HU
- private builders:	233 HU
- (of those in „Baugruppen“:	185 HU)
- co-operative GENOVA:	36 HU
- development companies:	153 HU
Schlierberg solar settlement:	210 HU
2nd development section:	ca. 645 HU
3rd development section:	ca. 85 HU
HU = housing units; DR = dormitory rooms	

10 Theses for Sustainable Urban Development



On the international conference UrbanVisions, more than 100 participants from 21 European countries discussed intensively about sustainable urban development and citizen participation. UrbanVisions, which took place in Freiburg on Oct 28-31, 1999, was organised by Forum Vauban e.V. and ICLEI, the International Council for Local Environmental Initiatives (see right). UrbanVisions was a preparatory event of the global conference Urban 21.

The 10 Theses, which are the conference's final document, are a contribution to the current discussion on sustainable urban development and will be presented on the conference Urban 21 in Berlin in July 2000. The recommendations are addressed to all stakeholders within a city.



Preamble

The city as the immediate environment of its residents is oriented directly towards their wishes and needs. This is an essential part of sustainable urban development. Therefore, the goal is to include all citizens in taking responsibility for their community, to broaden their scope for influencing the shape of their living environments and to thereby increase their possibilities for identification with their city or town. By adding elements of immediate citizen* participation to our representative democracy, the current trend of alienation from politics can be turned around.

* The word „citizen“ is not used in the legal sense but as a synonym for „resident of a city or town“.

Photos from the conference „UrbanVisions“: Diskussion about people's participation (upper left picture) and workshop „Planning for Real“.



The Sustainable City ...

... promotes an integrated planning culture

- Goals and measures of urban development are chosen at an early stage by integrating all relevant sectors of the administration, local politicians, external experts and citizen representatives or groups.
- Learning while planning: monitoring the chosen measures during and after implementation ensures the possibility of corrections at a later stage.
- The structures and procedures of the local administration are transparent.

... makes use of new forms of citizen participation

- Participation is practised beyond what is required by law, adequate methods are used.
- Sufficient resources (time, financial) are reserved for citizen participation.
- Participation becomes visible: the results have a direct impact on the implementation.
- Adequate opportunities to participate are offered to the citizens. The need for special incentives for those people who normally don't become active is taken into account. Existing neighbourhood structures can serve as starting points for local participation.
- Citizens see themselves as crucial actors in achieving a sustainable city. They demand more scope for involvement and make use of it responsibly.
- Independent organisations are preferred for the organisation of the participatory process.

... implements sustainable transport and mobility concepts

- Planning principles aiming at reducing and avoiding traffic, e.g. district of short distances, high density, mix of functions, polycentrality.
- Priority for ecologically sound mobility, like public transport, car sharing, pedestrians and bicycles.
- Promotion of car-reduced or car-free districts; reclamation of public space: streets as places of communication.

... promotes environmentally sound and healthy building measures

- Consistent use of resource saving building measures, use of healthy and environmentally friendly building materials and concepts.
- Integrated planning philosophies with regard to attractive design, taking into account the whole life-span of a building.
- The natural cycles are respected, the resources soil, water and air are used considerably, biological diversity is protected.

... has an ecologically sound energy supply and minimises energy consumption

- Minimising the energy consumption of buildings, e.g. by passive houses; insulation measures for new and old buildings.
- Promotion of co-generation and renewable energies, especially solar energy for heating, hot water and power production.
- Modern energy services, like least cost planning, contracting and demand side management.

... strengthens regional economies

- Concentrating on regional economic structures diminishes the instability of the economy, multiplies the net product obtained from national trade and increases the scope for democratically steering economic development.
- The regionalisation of material streams reduces transport volume and makes environmental impacts visible and appreciable to consumers and decision makers.
- The strengthening of the service sector contributes to the dematerialization of economic activities, can create new jobs, strengthens the participation of women in the economy and offers opportunities for regions undergoing structural change.

- Economic structures determined by small and medium size enterprises can react more flexibly to changes in the world market, develop productivity gains and turn innovations into marketable products more quickly.

... designs socially oriented living spheres

- Good accessibility to social and cultural facilities, places of education, shopping facilities, attractive public spaces, recreational areas and public transport.
- Mix of living and working space, accessibility for different social groups in the quarter
- Spaces within the neighbourhood for a variety of needs, ranging from privacy to communication.
- Encouraging the residents' identification with their city or town.
- Diversity of living styles, flexible use of living space in the various phases of life.
- Far-reaching participation and shared responsibility for tenants.

... mixes requirements with supporting measures

- Certain measures of sustainable city planning (ambitious minimum requirements) are part of the building requirements (local plan) or are required in the contracts.
- The implementation of additional voluntary measures are promoted through advisory services as well as by financial incentives.

... cultivates good contacts and exchange of experiences

- The exchanging of experiences between cities, experts and projects is vital for the spreading of good practise. Regional, national and international networks are excellent tools for this kind of exchange.

... has the courage to leave the beaten track

- The existing opportunities for initiative are used proactively to follow the goals of sustainable development. Unconventional solutions can sometimes make a big difference.

Publications

This list includes only the available publications in English language.

A complete list with all German publications can be found on the Forum Vauban homepage (www.forum-vauban.de). All prices include turnover tax and mailing costs. Payment is accepted by bank transfer or cheque.

A Journey Through the Model District Vauban ... the high quality print of this document.

The brochure with 24 coloured pages and many pictures offers good impressions of the development of the new quarter and explains the ecological measures and building projects.

1999. 24 pages, 60 photographs, 10 Euro (within Europe), 20 Euro (elsewhere)

UrbanVisions

— Documentation of the conference in October 1999

UrbanVisions was a conference about sustainable urban development and citizen participation with 130 participants from 21 countries. The documentation is a collection of the abstracts of the lectures and excursions which were given during the conference. Part of the documentation is the coloured leaflet "10 Theses for Sustainable Urban Development", which are the conference's final document.

1999. 94 pages, 20 Euro (within Europe), 30 Euro (elsewhere)

Vauban on the web

Forum Vauban welcomes you to its homepage www.forum-vauban.de in English and German. On the open homepage www.vauban.de you can find information and links to several projects within the district (only in German).



The conference UrbanVisions was funded by the Deutsche Bundesstiftung Umwelt.



**Excursion organised
by Forum Vauban**

Photo: Carsten Sperling

Publisher: Forum Vauban e.V.,
Texts: Silke Brocks, Laurenz Hermann, Eva Luckenbach, Claudia Nobis, Carsten Sperling, Georg Steimer, Ralf Tiltcher

Editor, Layout:
Carsten Sperling Publications

Translation: Hilke Kuhlmann

Printing: Schwarz auf Weiss,
printed on recycled paper

**1st edition, October 1999, updated for
Adobe Acrobat in March 2000**

■ The Association for Citizen Participation Introduces itself

Forum Vauban e.V. is a non-profit organisation with approximately 300 members. Since 1995, it has been the legal body for the citizen participation accompanying the planning and building of Freiburg's new district Vauban. The main goals of the Forum are:

- Far-reaching citizen participation during the planning and building process of the district
- Supporting the founding of „Baugruppen“ as well as counseling building owners
- The realisation of a socio-ecological model district.

A small team of full-time professionals as well as an honorary executive board and several working groups contribute to the thematic and organisational work of the association. The Forum is being financed through membership fees, donations, moderate economic income, and public grants. One of these grants was the project „Realisation of the sustainable model district Vauban,“ coordinated by the Forum Vauban and funded by the EU environmental programme LIFE.

Citizens bring in their ideas on several levels. There are working groups meeting approximately every four weeks working on the topics of traffic, energy, „Baugruppen“ or women's issues. Other topics, like the design of the residential streets and the green belts, were discussed in workshops which were co-organised by the city of Freiburg. Furthermore, the Forum Vauban organises residents' meetings, informational gatherings, and practical workshops. It also publishes the district magazine „Vauban actuel.“

Forum Vauban has consulting status in the meetings of the city council's official working group Vauban. During these meetings, representatives of the city council and the administration discuss questions concerning the development of Vauban before these are brought to a vote in the city council. The Forum Vauban was successful in passing on many suggestions from the citizens to the decision makers.

Since the planning phase is almost complete, the thematic work of Forum Vauban is slowly shifting from ecological concerns of urban planning, e.g. energy and traffic, to social and cultural issues. As part of this shift, the city of Freiburg has chosen the Forum Vauban as the legal body responsible for enhancing the social interaction among the residents of the new district during 2000-2002. This new area of work will consist largely of developing a concept for the use of the new neighbourhood centre where much of the social and cultural life of the quarter is to happen.

In the long run, Forum Vauban will become the citizens' association of the new district, representing the interests of the residents in public discussions. Furthermore, the association wishes to be a forum for the various interests of the residents of the district and would like to help maintain a high level of citizen involvement in the quarter.

Forum Vauban

