

# Vauban



Location of Freiburg



Plan of Vauban

- location:** Freiburg, Germany.  
**dates:** planning begun 1993, construction 1997-2006
- type:** new construction on former military barracks, vacated 1991
- use:** residential, services, open space  
**size:** 38 hectares  
**people:** 5,000 residents, 600 jobs  
**actors:** City of Freiburg, Forum Vauban (NGO created by community members.)
- goals:**
- "to implement a city district in a co-operative, participatory way which meets ecological, social, economical, and cultural requirements."
  - all buildings to achieve at minimum low energy standard of 65 kWh/m<sup>2</sup> heating energy; additionally, 100 units built to 'passive house' standard of 15 kWh/m<sup>2</sup> or to 'plus energy' standard. ('plus energy' houses produce more energy than they use).

energy use	KWh/m <sup>2</sup>
Heating energy, goal	65
Heating energy, achieved	45

systems	
district heating	x
combined heat & power	x
solar panels	x
solar cells	x
biomass and refuse	x
wind power	
natural ventilation	
forced vent.w/heat recovery	x
non-renewable energy	x
individual metering	

construction
wood, concrete, steel thermal-bridge free construction
low energy house construction

special projects
Passive House Vauban
alternative sanitation concept
10 passive or plus-energy houses
10 existing buildings renovated

amenities
community house

site ecology
preserving existing trees
reducing traffic
preserving some buildings



### process and history

In 1991, French troops vacated an army base just 2km SW of the City of Freiburg that they had inhabited since the end of the second world war. The City of Freiburg purchased the property from the German government, with the intention of creating a new and dense city district named Vauban.

Vauban would be tied to the public transport system and would alleviate the housing shortage while stemming suburban-type development. Independently, a volunteer- organized NGO called 'Forum-Vauban' was created in 1994 by local citizens who wanted Vauban to be developed from socially and environmentally sustainable principles. Forum Vauban received funding from the EU's LIFE- Programme and the German government, and was able to become a well established citizen's body directing much of the new development. Publicity campaigns brought together future residents with experienced architects, builders, financial institutions, and other important partners, and began to shape both the form and the residential composition of Vauban.



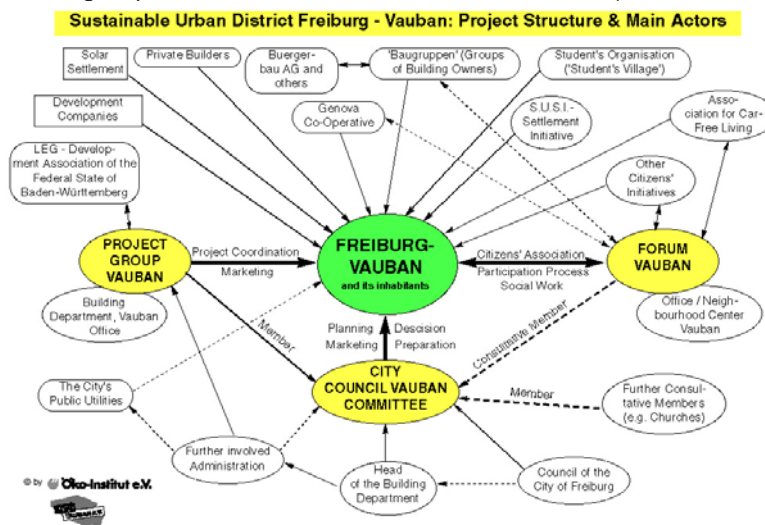
**process and history, continued**

The City of Freiburg, well known as being 'at the fore of the ecological movement', and receptive to the idea of resident participation and grass-roots influence over the project, formed a partnership with Forum Vauban as project consultant, and in 1995 recognized the Forum to be the official legal body of the new development. Two city bodies were responsible for working with Forum Vauban to create the new district; a Vauban Committee formed through the City Council, and 'Project Group Vauban', comprised of staff from the building department. Regulations determined by the city council and building and planning departments such as building heights, general development structure, low energy construction standard, the traffic concept, and water management, framed the project within which the Forum could operate; financial and marketing concerns for the city were also represented by the council and the Project Group. A large component of the project were the 40 co-building/ co-housing groups that were established by future residents. Because discounts are available to groups of people that decide to build together, this method of cooperation allowed people of more moderate income levels to create new housing that suited their needs, while building community stability and community interaction from the start.

**ecological concepts**

The planning officially started in December 1993. The NGO "Forum Vauban" was founded in late 1994, became official body of the extended citizen participation in 1995 and has been responsible for the social work since 1999. The City of Freiburg formed a special committee from the City Council concerning Vauban. In this committee, representatives from political parties discuss the main Vauban issues together with representatives from the administration and further consultative members such as Forum Vauban. Besides many other political, administrative, economical and social contributors, three main acting bodies or institutions connected with Vauban can be identified (see graphic):

- Project Group Vauban (the administrative coordination of the local authorities dealing with the Vauban project),
- City Council Vauban Committee (the main platform for information exchange, discussion and decision preparation - decisions are ultimately made by the City Council) and
- Forum Vauban (the local citizens' association, being the legal body of the extended participation process, as well as being responsible for the social work within the district).



### the multi-family passive house

A multi-family passive house project called 'Wohnen & Arbeiten', or 'living and working' was developed in Vauaban as a way to test the passive house idea for multi-family uses, as well as testing an integrated ecological waste management solution. With the help of Forum Vauban, the architect and biologist who initiated the idea were able to generate interest in the project, which led to the creation of a co-building group that would realize the project. It was stated that throughout the process, "all participants received a lot of valuable information from Passivehouse-Institute in Darmstadt".

### model house

The building co-operative Genova eG, founded by members of Forum Vauban in 1997, was responsible for a very special building project featuring 36 housing units for rent and a socio-ecological conception. One of the two houses is the "model house" of the LIFE project ("Realisation of the Model District Vauban"), in which social and ecological measures were turned into reality with the help of an inexpensive and transferable concept which is applicable to similar projects. The original concept of a house for mixed use located directly at the market place could not be realised because the City of Freiburg did not allocate the lot to Genova.

The model house combines ecological and social measures: improved low energy standard by using triple-glass windows and improved insulation, a large solar energy installation for hot water, use of rainwater cisterns, greening of roofs, floors made out of domestic wood and PVC- and FCH-free construction. Furthermore, 35 of the 36 households are car-free. Unusual social features are: Vauban's largest project with apartments for rent, extensive participation of the future tenants, the living project Young & Old, barrier-free access including lifts and access galleries for 32 of the 36 housing units, flexible basic plans as well as the shared use of guest rooms, wash room and drying room, communal house and garden.

Especially noteworthy is the extensive participation characterising the project. The intensive discussion of ecologically-sound building led to additional ecological measures in the building. The project with its ambitious ecological goals could be realised with as little as 1600 Euro/m<sup>2</sup> dwelling space including buying the property and is the most inexpensive new building in Vauban. The economic side of sustainability was therefore achieved as well. Projects in the second development section were orienting themselves at the example set by Genova.

### funding

Redevelopment fund of the Federal State provided about 6% of funds to clean area and develop infrastructure, also through credits raised by the city of Freiburg. No further subsidies. (builders and co-building groups receive support and tax-reductions granted by federal republic of Germany and Federal State of Baden-Wuerttemberg.) otherwise city paid.

For Forum Vauban, some money came from city, German Environment Foundation, EU's LIFE-Programme, and other institutions. Also, membership fees, donations, and moderate economic activities. Overall budget over 6 years, 2 mill. US. Fixed income from membership fees 10,000. US/yr. Est. 2000 budget, 150,000 US.

### results

The City's main objective to develop an attractive neighbourhood for young families was achieved perfectly. By January 2002 more than 20% of the inhabitants were children under 10 years old. The public demand, especially for co-building projects, was stronger than the amount of lots which could be offered.

In reference to the objective of developing a sustainable city district in a participatory way, the Vauban project also achieved a major success. It truly can be said that the project's structure integrates legal, political, social and economical participants from grassroot-level up to the city administration (see above).

#### Main Achievements Concerning Ecology

- All houses are built at least with improved low energy standard (65 kWh/m<sup>2</sup>a, calculated similar to the Swiss SIA 380/1 standard), about 150 units will have "passive house" (15 kWh/m<sup>2</sup>a) or "plus energy" standard (houses which produce more energy than they need).
- A highly efficient co-generation plant (CHP) operating with wood-chips (80%) and natural gas (20%) is connected to the district's heating grid. The estimated CO<sub>2</sub>-savings through good insulation and efficient heat supply are about 60%.
- The number of solar installations (solar collectors and photovoltaics modules) is constantly increasing. Sixty-five percent of the electricity needed in Vauban is produced on-site through CHP and photovoltaics.
- The ecological traffic / mobility concept was implemented with a reduced number of private cars to be parked in the periphery, good public transport and a convenient car sharing system providing a higher quality of life.
- About 40% of the households agreed to live without an owned car and receive financial benefits because they don't have to participate in the public car park.
- The new residential area was built around conserved old trees. These precious gifts of nature introduce the aspect of mature life into the young district. Public green spaces are developed together with the local inhabitants.
- Rainwater is collected separately to be used in houses or infiltrated into the ground and a new sanitary concept using vacuum toilets and a biogas plant was introduced by the co-building project "Wohnen und Arbeiten";

#### Main Achievements Concerning Social and Economic Requirements

- Due to the traffic concept, streets and other public areas become playgrounds for kids and places for social interaction.

- About 40 groups of building owners (co-building, co-housing), the Genova co-operative (Wohn-Genossenschaft Vauban – Genova) and the self-organized S.U.S.I.-settlement initiative (Selbstorganisierte Unabhängige Siedlungsinitiative - S.U.S.I.) were established. Within these groups also people with moderate income level got a chance to participate because building groups, as apposed to individual builders, can receive several discounts so that homes become cheaper. These co-building groups also provide fertile ground for a stable district's community in giving rise to ecological awareness.
- Some co-building groups made building available even for people with rather low income. S.U.S.I. and Genova also offer apartments and rooms for people with low income. Further projects are planned.
- With the implementation of the extended citizen participation in 1995 and the social work in 1999, people were able to use this as a platform to express their needs, to receive support and to start own initiatives. Some examples are the activities in the community's district center, the community's festivals, events(at)the market place as well as the magazine "Vauban actuel" and the internet discussion-forum <http://www.vauban.de/forum/>. There are of course many others. The recently published "Vauban-guide" lists about 30 non-commercial initiatives or institutions being active within Vauban.

### Lessons learned

A real **participatory process** needs extra resources and has to include both planning and implementation. Just offering suggestions to official planners is not enough. Although city officials were open to take into consideration people's suggestions, the specific traffic concept of Vauban for example, would not have been established due to major legal obstacles; however, Forum Vauban, in being the official body of the participation process, using creative ideas with legal expertise, was able to convince planners otherwise. This was probably the NGO's most important role. In retrospect, the "outsourcing" of the participation was a major benefit for the project. The parallel working structures of Forum Vauban prevented collaborators to get trapped in old thinking patterns and made new solutions available. Participation needs a long-term perspective!

**Small is possible:** The most consequent way to let citizens participate in creating their neighbourhood is to offer them possibilities to plan and to build their homes by themselves - either as single builders or within groups. This means that they maintain the responsibility for the planning and building of their immediate neighbourhood. These groups need support from the official planning (co-building groups need more time to work out their concept and to apply for building lots) and from independant consultants such as NGOs, experienced architects, private enterprises and others.

The **balance of social groups is most important**. On the one hand, federal support is needed to include more people with low income: Apartments offered especially for low income groups remained limited because federal and state subsidies for such projects were almost cancelled. Private initiatives such as S.U.S.I. and Genova (see above) do not have the resources to fill the gap completely. On the other hand, it is the group of well educated, ecologically oriented middle class people who introduce the new life style and give Vauban its specific shape. These people are absolutely crucial for the success of such a pilot project!

**Recycling of old military and industrial areas slows down sub-urbanisation:** Peoples' wishes to live in a healthy environment can be fulfilled by the recycling of older inner city areas. In Germany(at)least it should not be necessary any longer to convert virgin land for housing purposes.

**The "development site status" is a chance and a burden:** This status allows the city to take responsibility for the entire planning and marketing without becoming dependent from private developers; however, the pressure to repay the credits (see above) within a limited time frame quite often counteracts the best possible solution.

Political actions are necessary too: The above described project structure provides a good platform to exchange information and to negotiate different concepts and viewpoints in order to find out the best common solution. However, this of course was not always possible. Forum Vauban also needed to learn how to use lobbying and publicity work to achieve its goals.

**More funding resources for small, independant groups are needed:** For a small, local NGO like Forum Vauban it is difficult to handle bigger projects economically. When funding rates are paid with a rather big delay sometimes the liquidity of the project is in real danger.

**New districts are "young districts":** This seems to be a natural thing because usually young families are looking for new homes. To counteract a monolithic age structure more effort needs to be made in order to attract older people to move into new districts.

**The meaning of "density" is relative to an individual's viewpoint:** In Freiburg, Vauban is known by some as a seemingly dense housing area. People see this as probably the district's biggest disadvantage; however, in comparison to this, visitors from Japan experience Vauban to be a rather desolate area!

**New districts also need to preserve their history:** What happened in the area before? Which signs of history can still be found? What is "the story of the new district"? The answers to these questions are also important to create an identity for the new community.

**Forum Vauban had to be shut down due to bankruptcy (caused by the European Community) in November 2004.**

contacts:

sources: <http://www.forum-vauban.de/life-en.shtml>  
<http://www.forum-vauban.de/>  
<http://www.passivhaus-vauban.de/idee.en.html>  
<http://www.vauban.de/info/abstract.html>

SECURE: [www.secureproject.org](http://www.secureproject.org) IVL: [ivana.kildsgaard@ivl.se](mailto:ivana.kildsgaard@ivl.se); City of Malmö: [tor.fossum@malmö.se](mailto:tor.fossum@malmö.se)