

Vauban: A Sustainable Brownfield

ABSTRACT



A deviation from the standard essay format, this final project is in the form of a photo essay or photo discussion, and deals with the planning process, cooperative development, and liveability of the small community of Vauban, in Freiburg, Germany. Freiburg's history as an eco-city and the struggles its population has overcome (including the successful prevention of a nearby nuclear power plant development) created the foundation for a strong counter-culture and influenced the conception of Vauban. A public-community partnership with Forum Vauban (a community organization) and the creation of Baugruppen (groups of homeowners) provided a stable basis for successful participatory planning, cooperative housing development, and provided for the steadfast resolution of future conflicts between Vauban's citizens. The layout and design of Vauban focuses on car-free liveability, walkability, efficient public transport, 'passive' co-housing groups, rainwater management, and alternative forms of energy, including solar panels and a combined heat and power plant. Broad concepts of sustainability, and ideologies such as eco-socialism, will be discussed in reference to Vauban, and as well, to brownfield developments (the re-use of former military bases). Vauban is an interesting example of what one form of sustainable landscape can look like and lessons can be learned from the community's successes and concerns.

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History

In the early 1990s, the former French military base of Vauban, located in the southwest suburb of Freiburg in what is now southwest Germany, was seized upon by the university city of Freiburg as an opportunity to develop a model sustainable urban quarter (Scheurer, "Car-Free Housing in European Cities," 2001). Planning began in 1993 to house 5000 inhabitants and provide for 600 local jobs, and after three phases of development, the quarter was completed in 2006 (www.vauban.de).

Worldwide, and even on local levels, there has been no general consensus on how sustainable development as a theoretical concept can be universally translated into practice. The case of redeveloping military land is no exception, although the recycling of urban land as a measure to curtail urban sprawl is a valid explanation (Bagaeen, 2006). When and where former military sites have been converted (brownfield reuse), they have certainly promoted considerable new development; in particular, of neighborhoods situated on prime urban land, occasionally centrally located (Bagaeen, 2006). In the case of Vauban, an overall concept has taken the development to greater lengths, actually creating an essentially car-free, sustainable, and eco-friendly quarter.



Key to Vauban's success as a sustainable suburb has been the intense involvement and commitment of its citizens (including members of Forum Vauban and Baugruppen) and eco-minded, non-commercial private developers. The balanced and valued involvement of such actors allowed for a multi-partner initiative in the planning, construction, and maintenance of the neighborhood with a focus on traffic and energy minimization. Forum Vauban was recognized as the district's legal body in 2005; comprised of its citizens and receiving NGO status, the public participation association has been one of Vauban's greatest accomplishments as a model sustainable district to be adapted and emulated in other places (www.vauban.de).

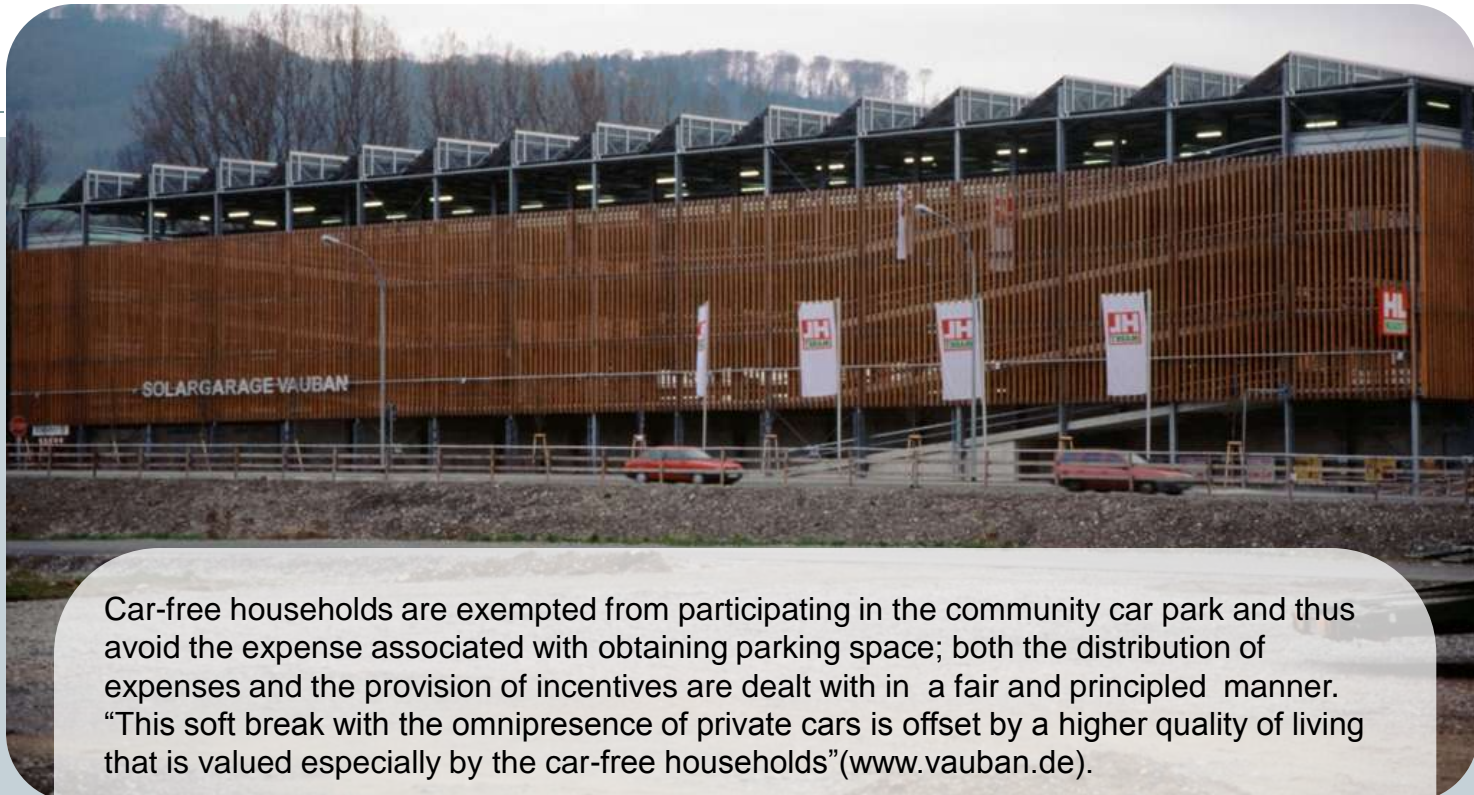
Car-Free



Constructing a sense of place, in both public and private spheres of man-made environments in a sustainable yet prosperous society, has involved prioritizing open and public spaces ahead of the car and its associated infrastructure (www.cabe.org.uk). In order to maintain demand for such car-free spaces, high quality design has been a key focus of Vauban's planning and development (Urban Task Force, 2005).

Vauban has incorporated 'car free' and 'parking free' living into its landscape. Cars are not allowed to park in its residential areas, and are only tolerated for pick-ups and deliveries; otherwise, all private cars must be parked in a solar car garage located at the periphery of the suburb. To encourage car-free living, Vauban was planned as a district where food stores, schools, businesses, public services, and recreation areas were located as proximal to one another as possible, to facilitate ease of walkability. Its main road's speed limit is only 30 km/hr, and any cars driving into the residential areas cannot travel any faster than typical walking speed: 5km/hr (www.vauban.de).

Parking and Transit



Car-free households are exempted from participating in the community car park and thus avoid the expense associated with obtaining parking space; both the distribution of expenses and the provision of incentives are dealt with in a fair and principled manner. “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”(www.vauban.de).

Bus lines connect Vauban with Freiburg’s city center and the main railway station. A tram line and a suburban train are currently in the development phase. Car-sharing is also available as another means of transport for weekend trips and the like, with cars located in the solar car garage available exclusively to Vauban residents. Moreover, “residents who joined the car sharing organization 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, by way of the ‘Bahncard’”. Such incentives have proven very effective in reducing automobile usage (www.vauban.de).

Home Ownership



More than half of all participants in a 1999 survey on housing in Vauban, conducted by Jan Scheurer, indicated that the ability to obtain home ownership status was the most influential factor in their decision to relocate to Vauban. As well, the survey's participants placed a high value on the potential of having their input considered for the design of their unit and neighborhood, along with the growth of social unity associated with such projects long before their actual move in date; such opportunities are in fact very rarely offered with conventional suburban housing projects and have clearly given Vauban a competitive advantage over other more traditional low-cost housing projects (Scheurer, 2009).



Regeneration - the inherent adaptive nature of any particular housing project - is entrenched in Vauban's building design from conception, in order to optimize its ability to adapt to the demands of future generations (Urban Task Force, 2005).

Baugruppen



Co-operative housing projects, or Baugruppen, as they have been termed in Vauban, are characterized by the collaborative efforts of the involved residents, communities, and private eco-minded developers involved in them; these co-ops have demonstrated a reduction in the overall construction and related purchase cost when compared to the typically higher purchase prices of similar finished building units. In fact, this departure from standard pre-planned housing developments that are typically undertaken solely by larger development companies, has directly enabled lower income families to become homeowners (www.vauban.de).



Most of the housing blocks in Vauban have been sold to small co-ops of owner-occupied households. Baugruppen have effectively provided for both the individual and collective needs and desires of their residents through a joint plan which includes detailed building designs that typically exceed current environmental and social criteria. A diverse mixture of open spaces and structural solutions has been created; as a result of the successes of Baugruppen in Germany, a greater variety of lot sizes are potentially suitable for such projects. More significantly, the participatory planning process inherent to these projects in fact nurtures and rewards collaboration, as common interests and activities between potential neighbors are considered and incorporated from the outset; the likelihood of a friendly, yet resilient and sustainable social framework flourishing within such communities is thereby enhanced (Scheurer, "Car-Free Housing in European Cities," 2001).

Housing Implications



However, Baugruppen are not completely flawless as may be concluded; a closer scrutiny of Vauban's demographic structure is revealing. People with very little income encounter difficulties when looking for housing in the neighborhood, as the number of units for rent is relatively small. "Social flats" development subsidies were severely reduced in Vauban, and Baugruppen have only been able to compensate for such an issue in certain cases, since many owners are fondly attached to their residences because of their large respective investments of time and thought into the development of their community (www.vauban.de). Possible ways to alleviate this lack of rental housing might include incentives for homeowners to provide rental units to car-free families unable to afford outright homeownership, partial ownership (condo style management), or subsidization for lower-income families towards rent or a mortgage.

Solar Power



Vauban's housing blocks are equipped with photovoltaic solar panels, and all new buildings must meet the minimum standard of 65 kWh/m²a, which is higher than Germany's standard of 100 kWh/m²a for newly built houses (www.vauban.de).

Often Baugruppen achieved the status of passive houses, (15 kWh/m²a) and did not require conventional heating systems. Some houses have even been classified as plus-energy; they generate more energy than they use (www.vauban.de). Although the use of certain local and ecological materials was not mandatory, Baugruppen, along with the private builders who benefit directly from their long-term benefits, often incorporated such materials none-the-less.



Co-Generated Energy



In January 2001, it was decided that a high efficiency co-generation plant (CHP) fueled by wood-chips would be implemented by 2002 and connected to the Vauban's heating grid (www.vauban.de). This was successfully carried out and effectively maximized the reuse of what normally would be 'waste' fuel. Instead of just letting off heat generated in the production of energy, the CHP captures this thermal energy and efficiently re-routes it to supply relevant district heating needs.

When re-developing brownfields in Germany or elsewhere in Europe, it becomes imperative to address the incompatibilities of urban sustainability with economic progress. Different regions will need to realize their own competitive advantages, and therefore site planning for brownfields must take this into account; by so doing, steadfast, long-term partnerships between parties will be created and strengthened (Bagaeen, 2006).

Sustainability; Sustainable Development?



The literature on sustainability offers little in terms of any absolute or lone solution; despite many scholarly efforts, there is still no commonly agreed definition of what constitutes 'sustainability.' This is illustrative of the confusion inherent to debates on sustainability, the term itself so overused, and often misused, that it has lost any clear meaning (Bagaeen, 2006).

Although there is little doubt that the concept of sustainability is being increasingly used to guide planning and decision-making, its implementation is not yet that obvious (Bagaeen, 2006). Occasionally some projects and products, that can be classified as 'green-washed', have been deliberately misrepresented as sustainable entities over their entire commodity chains. Vauban is a interesting example, in that its residents have extremely vested interests in the planning, manufacturing, building, and functioning of their homes and lifestyles on the environment, to the extent that they have inherent incentives to deconstruct and illuminate any suspicious or unsustainable practices.



Eco-Socialism



Eco-socialist theorists have attempted to clarify how socialism could be linked to ecological sustainability. The world will not simply become eco-friendly if capitalism disperses; rather, it is also because socialism involves particular practices that engender a sustainable interaction with the natural world. Many eco-socialists have discussed a 'limits to growth' paradigm, a notion that could fit in quite snugly with the politics of socialism. Limits to growth, as opposed to the growth of limits, implies an ecologically focused approach to resource management and environmental sustainability. Nevertheless, eco-socialists and other radical ecologists, need to loosen their respective grips on certain of their core tenets in order to universally address solutions to environmental issues facing society through a particular ideology (Macdonald, 2004).

The case of Vauban stands as an shining example of how a locally appropriate and sustainable district can function progressively and efficiently, providing diverse benefits to its citizens. Any attempts to emulate Vauban's successes will require adaptation to address different municipalities, neighborhoods, and communities. Local facilitation of public participation process will still remain a key element in such projects aimed at effective and long-term amelioration of environmental degradation, energy consumption, and climate change issues, as well as their overall sustainability.

Conclusion



A clear description of the circumstances surrounding our current global energy consumption and related issues, along with workable long-term solutions for them, is what is needed today. The propagation of any one specific ideology that purports to resolve all the ecological issues confronting mankind today will likely “lead to the dissipation of that discourse’s true relevance,” as has been observed through the fetishization of the energy market and its products. However, a collection of numerous theoretical and conceptual ideas will better foment the “rethinking of our capitalist life-world, and, in turn, engender a relevant vision of ecological sustainability under socialism,” (Macdonald, 2004). Vauban’s public participation enacted through baugruppen and forum Vauban has provided the stage upon which multiple forward-thinking actors could collaborate with each other successfully towards a common ecological goal.

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