

# TEMPORARY HOUSING

## IN BRIEF

- Temporary housing as a topic in urban development has received very little attention so far.
- However, as a qualitative niche option, temporary forms of housing can certainly have an impact.
- Using the city of Vienna as an example, various scenarios and specific models have been developed and optimised with regard to their sustainability.
- In the future, strategic urban planning as well as real-world projects can build on these designs.

## WHAT IS IT ABOUT?

Metropolitan areas are faced with the challenge of providing their residents with a high-quality living environment whilst responding appropriately to a growing demand for housing. Temporary housing is a way to increase the supply of housing in the short term and to make efficient use of vacant land. However, temporary housing as a topic in strategic urban development has not yet been extensively studied nor discussed. The term temporary housing covers a variety of potential forms and fields of application. It refers both to the use of special dwellings that are only constructed for a certain period of time and then dismantled again, and to the temporary use of existing buildings that were not originally constructed as residential buildings. In practice, examples range from tents, yurts, and construction trailers to container settlements and exhibition halls to the re-use of buildings formerly used for industrial or commercial purposes. The duration of use ranges from a few days to several years. These examples already demonstrate that temporary housing has always taken place, especially in an urban context.

However, the underlying motives and reasons for temporary housing are quite diverse: in times of crisis or disasters, to create additional living space for many people in a short period of time, or as a deliberately chosen alternative to the conventional housing market.



Source: BOKU, Tasevska and Dimitrov

Temporary living box in a factory building

Despite the undeniable importance of temporary housing, it is surprising that the topic has received little attention in Austria, both in politics and in research. Using the city of Vienna as an example, it was investigated how temporary housing could be made ecologically, economically, and socially sustainable. A broad scientific analysis of the topic offers the possibility to consolidate several different objectives at the same time: the constructional-technical as well as the architectural-aesthetic quality of temporary buildings can be improved, instruments to assess the sustainability of buildings can be developed, possible locations in the city can be identified, and user groups and feasible areas of use can be defined. In addition, the topic becomes more tangible for strategic urban planning.

## BASIC DATA

<b>Project title:</b>	Urban pop-up housing environments
<b>Project team:</b>	Gazsó, A., Ornetzeder, M., Rose, G. in a national consortium led by BOKU
<b>Duration:</b>	03/2018 – 09/2021
<b>Funded by:</b>	WWTF
<b>Website:</b>	popupenvironments.boku.ac.at

## KEY RESULTS

Temporary housing represents a niche in the housing market and is aimed at distinct social groups. Essentially, these groups differ in two respects: how quickly the housing should be created and how well organised or in need of care the potential residents are. In addition to these social requirements, suitable locations must be found in the city.

**Urban pop-up housing environments and their potential as local innovation systems**

**APPROACH**

**Purpose** Temporary housing during heat waves  
**User group** People vulnerable to heat waves  
**Usage time** Several days to weeks  
**Lifetime** Several years  
**Capacity** Scenario for up to 48 people



**BEAT THE HEAT  
PALLET SHELTER**



**BUILDING**

<b>Characteristics</b>	Based on natural cooling principles
<b>Design</b>	Recycled construction elements Sustainable raw materials Minimal transport costs Easy and quick assembly Reusable and easy to store
<b>Main Materials</b>	Completely shaded by sun sail Standardized EUR-pallets Oriented strand board panels Straw insulation Wooden laminate Wooden beams
<b>Size</b>	Building 50 m <sup>2</sup> , Terrace 10 m <sup>2</sup> Up to 4 people per housing unit

Alternative accommodation housing model during hot spells

The analysis of these requirements, conducted together with stakeholders, resulted in five typical scenarios for Vienna: urban vacant lots, vacant factory buildings, inner-city business premises, water areas, and disused railway tracks. A separate, sixth scenario has been developed for future periods of increasing heat in the city: alternative accommodation for vulnerable groups of people during the summer months in cooler areas on the outskirts of the city.

For each of these six scenarios, specific building models, developed in cooperation with the Vienna University of Technology (architecture), are now available. Each has been optimised using a customised evaluation model. To ensure sustainability, each model was designed to make use of suitable existing and fallow or disused sites as well as removable modules and materials that allow for as many high-quality reuse cycles as possible.

## WHAT TO DO?

The scientific study of pop-up housing shows the diverse potential of temporary housing. The available space can be used more efficiently, provisions can be made for a short-term sharp increase in demand, and places for learning and experimentation can be created.

- Temporarily constructed and used buildings can be highly sustainable. Until now, such buildings have not been optimised in this respect. However, the available results and assessment tools can contribute to achieving this goal.
- Many of the specific solutions developed in the project (alternative sewage systems, local energy supply, ecological materials, easy disassembly, and recyclability) can also be used in conventional housing.
- Temporary housing models are diverse and represent an additional qualitative offer. However, they cannot satisfy the growing demand for housing in cities. Temporary forms, though, are particularly well-suited for specific needs (e.g., starter homes for the homeless).
- Clear organisational and legal frameworks are needed to make temporary housing socially advantageous and to minimise possible disadvantages (e.g. low housing quality, concerns about permanence).

## FURTHER READING

Rose G., Stocker M. & Ornetzeder M. (2022)  
 The Learning City: Temporary Housing Projects as  
 Urban Niches for Sustainability Experiments.  
*Sustainability* 14(9), 1-19. doi:10.3390/su14095198  
[mdpi.com/2071-1050/14/9/5198/pdf?version=1650942731](https://mdpi.com/2071-1050/14/9/5198/pdf?version=1650942731)

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