

“Quartier Vauban”

Sustainable District in Freiburg, Germany

Vaubanallee

Sebastian le Prestre de Vauban 1633-1707, als Generalkommissar der Befestigungen Frankreichs Leiter des Freiburger Festungsbaus 1679-1687

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Freiburg, Germany



Distance from Freiburg's city centre: 3 km

Brownfield redevelopment

Bottom-up planning approach including potential residents

Celebrated as a model "Sustainable district"

Photo: Meila, 2006

Key Facts

Population: 5,000

Housing units: 2,000

Total area: 41 ha

Jobs on-site: 600

Density: 122 persons / ha

Construction start: 1998

Implemented Vision

- Compact district: short distances
- Alternative energy and transport concepts
 - Ecological-oriented energy use (local heating concept)
 - Low car strategies/concepts
- High liveability
 - Green spaces
 - Family-friendly
 - Social diversity
- Prioritised allocation of land: private clients and cooperatives, self-help models over investors



Key Aspects

- Housing
- Public Spaces
- Transport



Houses



Implementation of an ecological local heating concept, with **low-energy** construction methods

Housing units: 2,000

Net housing density: 95 per ha

All housing units are low-energy constructions

Multiple, mainly small building cooperatives

Houses



Most buildings are based on **zero-energy and energy-plus** construction



One central parking garage at the edge of the settlement



Houses

A low-energy usage of **65 kWh per square meter per year** is achieved by multi-story attached buildings with passive solar design and district heating systems

The use of **solar** technologies is widespread

Green Public Spaces

Water conservation through collecting rainwater and use indoors, green roofs, pervious pavements, unpaved tramways, and drainage sloughs



Public places and free spaces have been planned and designed
as **green** as possible

Green Public Spaces



Green spaces contribute to urban cooling, the opposite effect of urban heat-radiating by hard surface

Residents benefit from a clean, fresh and flavoursome local climate, ...

Green Public Spaces



65% of the residents who moved to Quartier Vauban came from elsewhere in Freiburg

... a beautiful urban landscape ...

Green Public Spaces



Quartier Vauban's inhabitants are predominantly **walkers and cyclists**

... and recreation areas (for walking ...

Green Public Spaces

Residential blocks are separated by green spaces.



... resting ...

Green Public Spaces

This **family-friendly** district includes play areas for children

The high availability of green spaces **reduce the need to travel** to access recreation areas

... and playing)



Sustainable Transport

Car Ownership

	Number of cars per 1,000 people
Germany	566
Freiburg	374
Quartier Vauban	160

Quartier Vauban has a low level of car ownership and promotes non-motorised and public transport

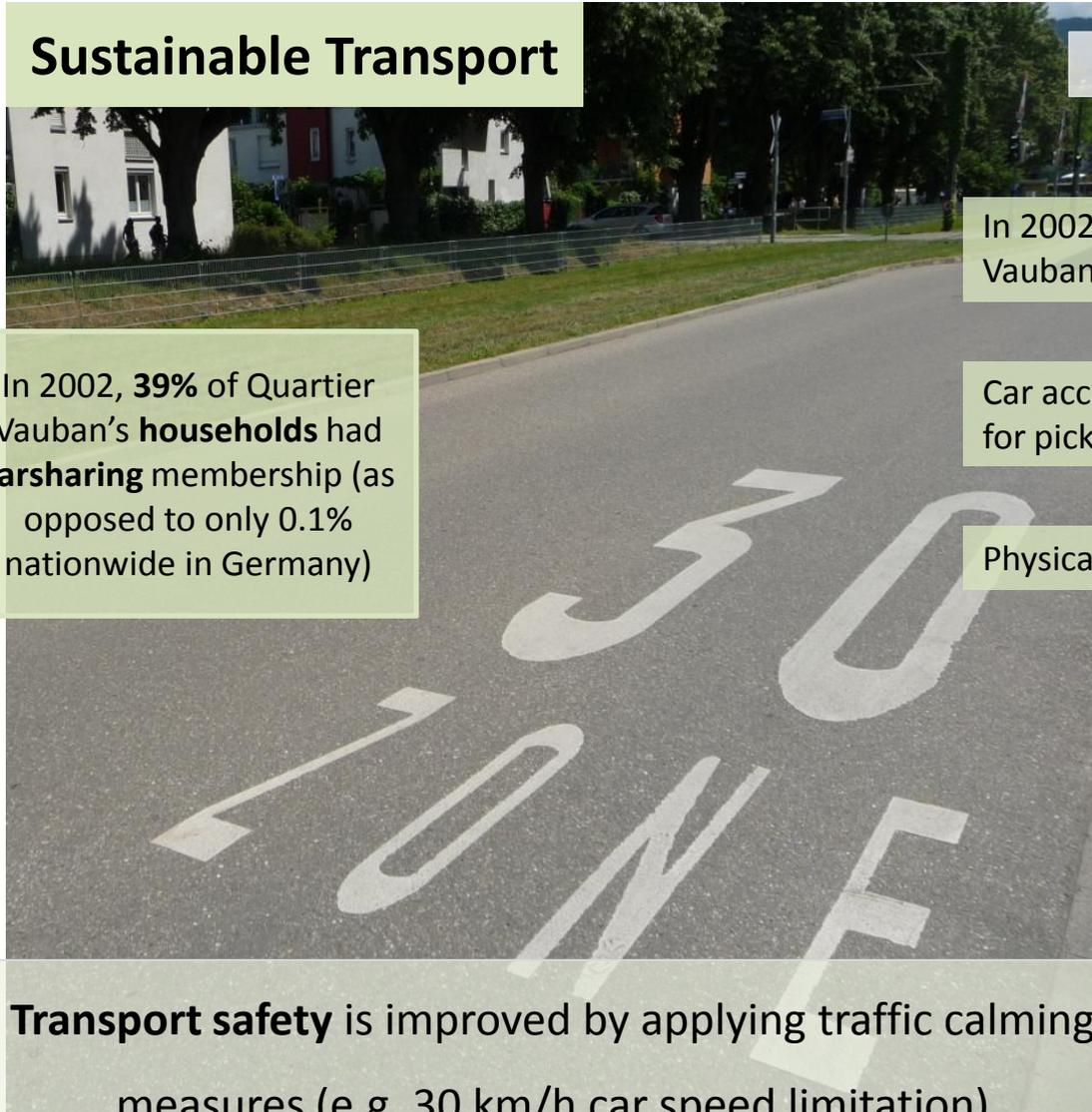
Sustainable Transport

Design strategies and policies were implemented to:

1. Restrict car use
2. Promote non-motorised transport (walking, bicycle use)
3. Promote public transport

The objective of a short distance district required compact land use planning, favouring non-motorised modes of transport

Sustainable Transport



Restrict car use

In 2002, **40%** of the households in Quartier Vauban **did not own a car**

In 2002, **39%** of Quartier Vauban's **households** had **carsharing** membership (as opposed to only 0.1% nationwide in Germany)

Car accessibility to residential streets only for picking up and dropping

Physical barriers restrict access for car users

A key principle was to make **car use less convenient** than other transport alternatives

Transport safety is improved by applying traffic calming measures (e.g. 30 km/h car speed limitation)

Sustainable Transport



Restrict car use

VERKEHRSBERUHIIGTER BEREICH

- Schrittgeschwindigkeit ist einzuhalten
- Fußgänger dürfen die Straße in ihrer ganzen Breite benutzen
- Kinderspiele sind überall erlaubt
- Parken nur auf gekennzeichneten Flächen
- Besondere Rücksichtnahme aller Verkehrsteilnehmer untereinander erforderlich

Road priority is given to other road users over cars

Car traffic is kept at a low level

Walking and playing areas are common

Quartier Vauban's streets are devoted to people

Sustainable Transport

Car parking spaces per residence: <0.5

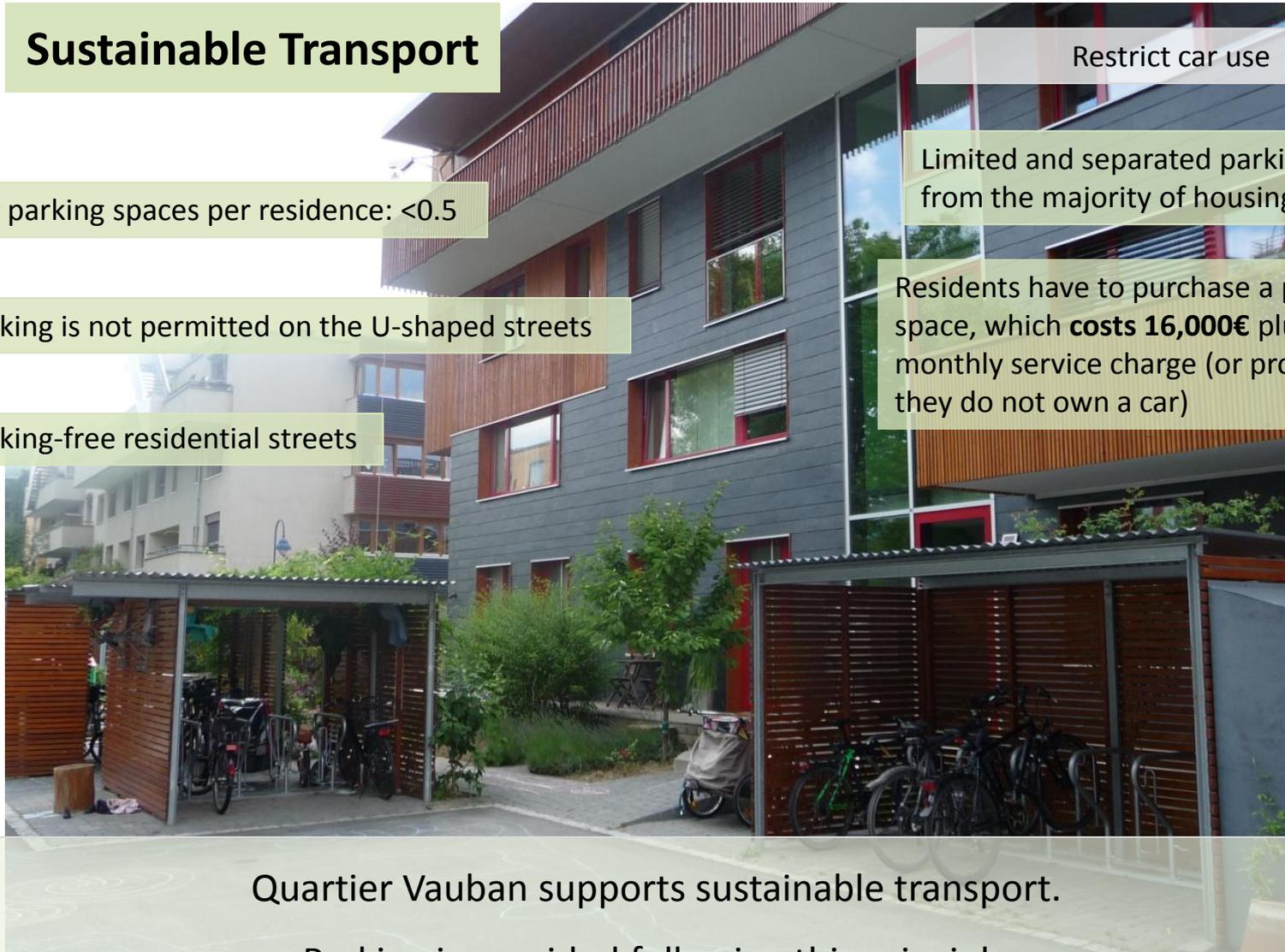
Parking is not permitted on the U-shaped streets

Parking-free residential streets

Restrict car use

Limited and separated parking from the majority of housing units

Residents have to purchase a parking space, which **costs 16,000€** plus a monthly service charge (or prove that they do not own a car)



Quartier Vauban supports sustainable transport.

Parking is provided following this principle

Sustainable Transport

Promote non-motorised transport

The **bicycle and pedestrian-friendly environment** is encouraged and supported by a mix of methods

Car-owning and car-free households use the bicycle for 61% and 91% of their trips, respectively

In 2002, **34% of the commuter trips** were done by bike

Bicycle parking facilities are widely available



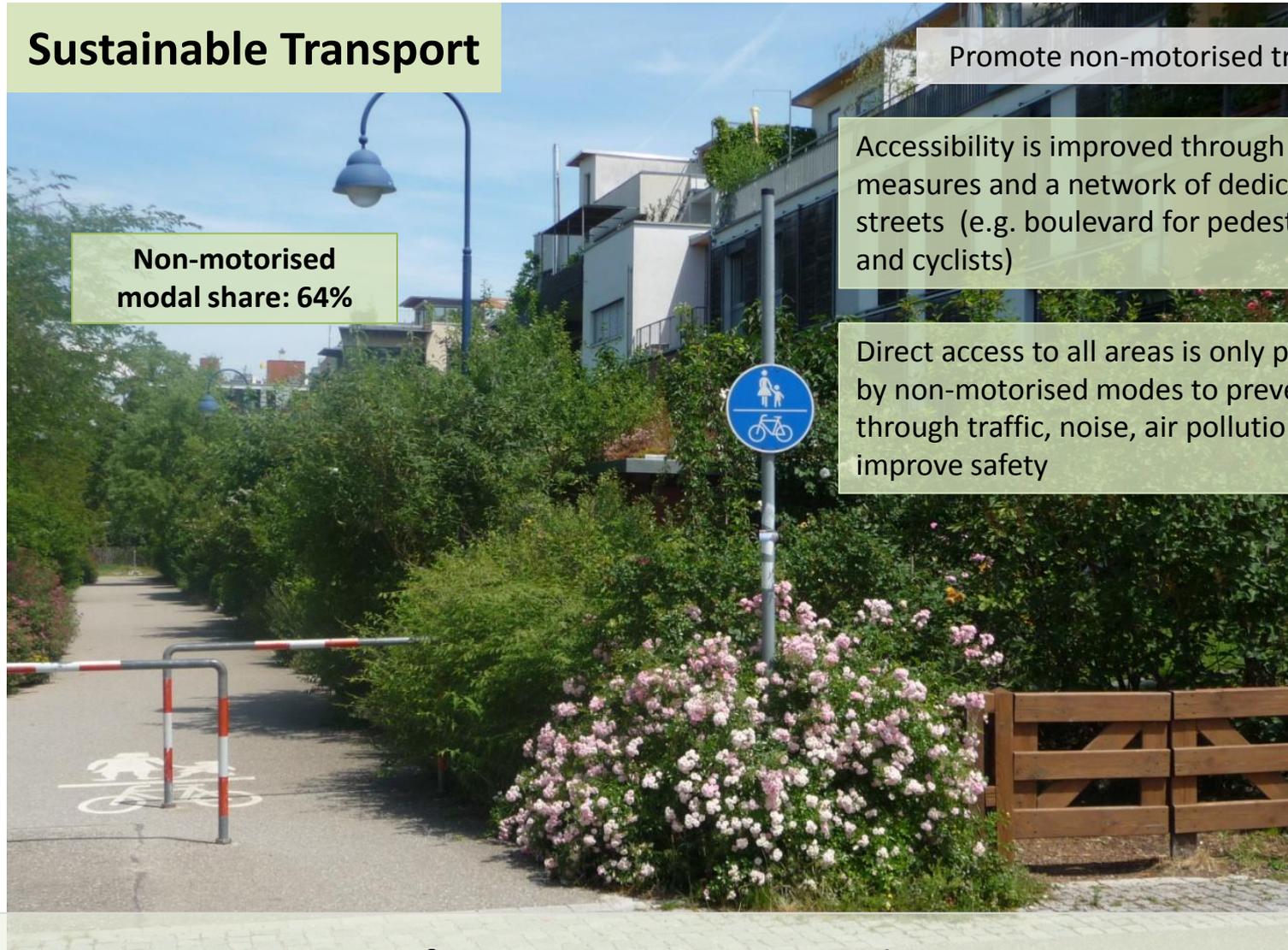
Sustainable Transport

**Non-motorised
modal share: 64%**

Promote non-motorised transport

Accessibility is improved through design measures and a network of dedicated streets (e.g. boulevard for pedestrians and cyclists)

Direct access to all areas is only possible by non-motorised modes to prevent through traffic, noise, air pollution and improve safety



Car free streets at Quartier Vauban

Sustainable Transport

Promote public transport

**Public transport
modal share: 19%**



Public transport connects Vauban with Freiburg's city centre

Sustainable Transport



Promote public transport

RegioTarife
im Regio-Verkehrsverbund Freiburg (RVF)

Das Verkehrsverbundverbund Freiburg (RVF) bietet Ihnen verschiedene Tarifoptionen für Ihre Mobilität im Regio-Verkehrsverbund Freiburg (RVF). Die Preise sind in Euro angegeben.

Preiskategorie	1	2	3
Erfahrungstaxi	2,10	3,60	5,10
2x4-FahrerKarte	1,30	2,30	3,10
Einzelkarte	13,70	26,90	38,10
Kind	9,50	15,00	21,00
RegioKarte (monatlich)	5,30	10,60	16,00
RegioKarte (jährlich)	6,00	18,00	28,00

RegioKarte (verbundweit gültig)

Option	Preis
Standardkarte	67,00/Monat
Alte Karte	61,50/Monat

RegioKarte (monatlich)

Option	Preis
Standardkarte	67,00/Monat
Alte Karte	61,50/Monat

RegioKarte (jährlich)

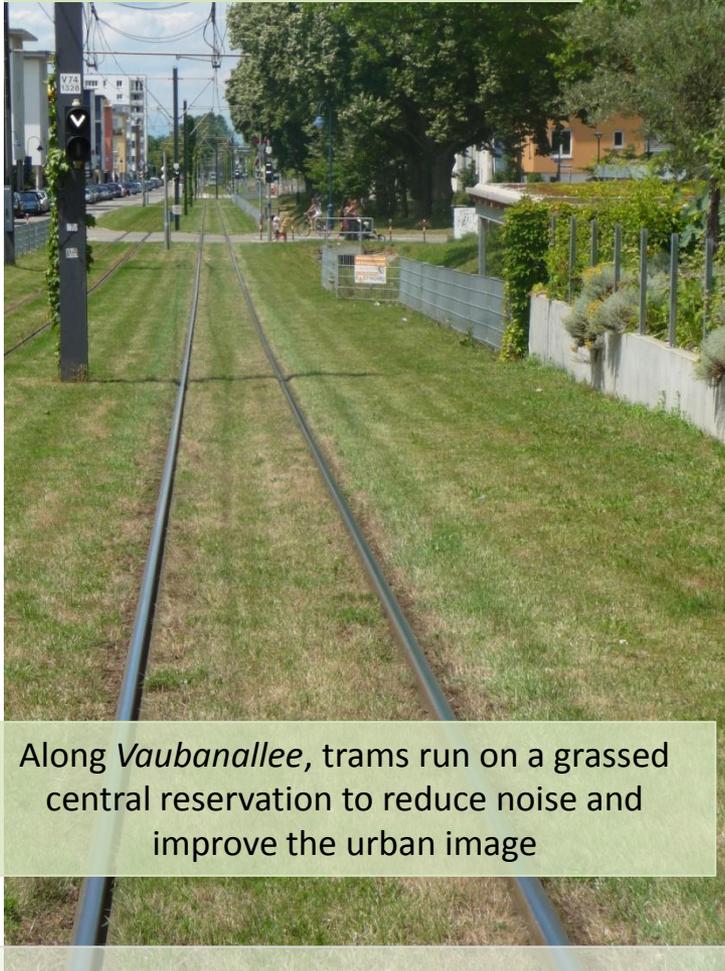
Option	Preis
Standardkarte	67,00/Monat
Alte Karte	61,50/Monat

The 'RegioMobilCard' promotes mobility services by offering significant discounts (e.g. 20 % on carsharing usage fees)

There is **integration** of modes of transport

Sustainable Transport

Promote public transport



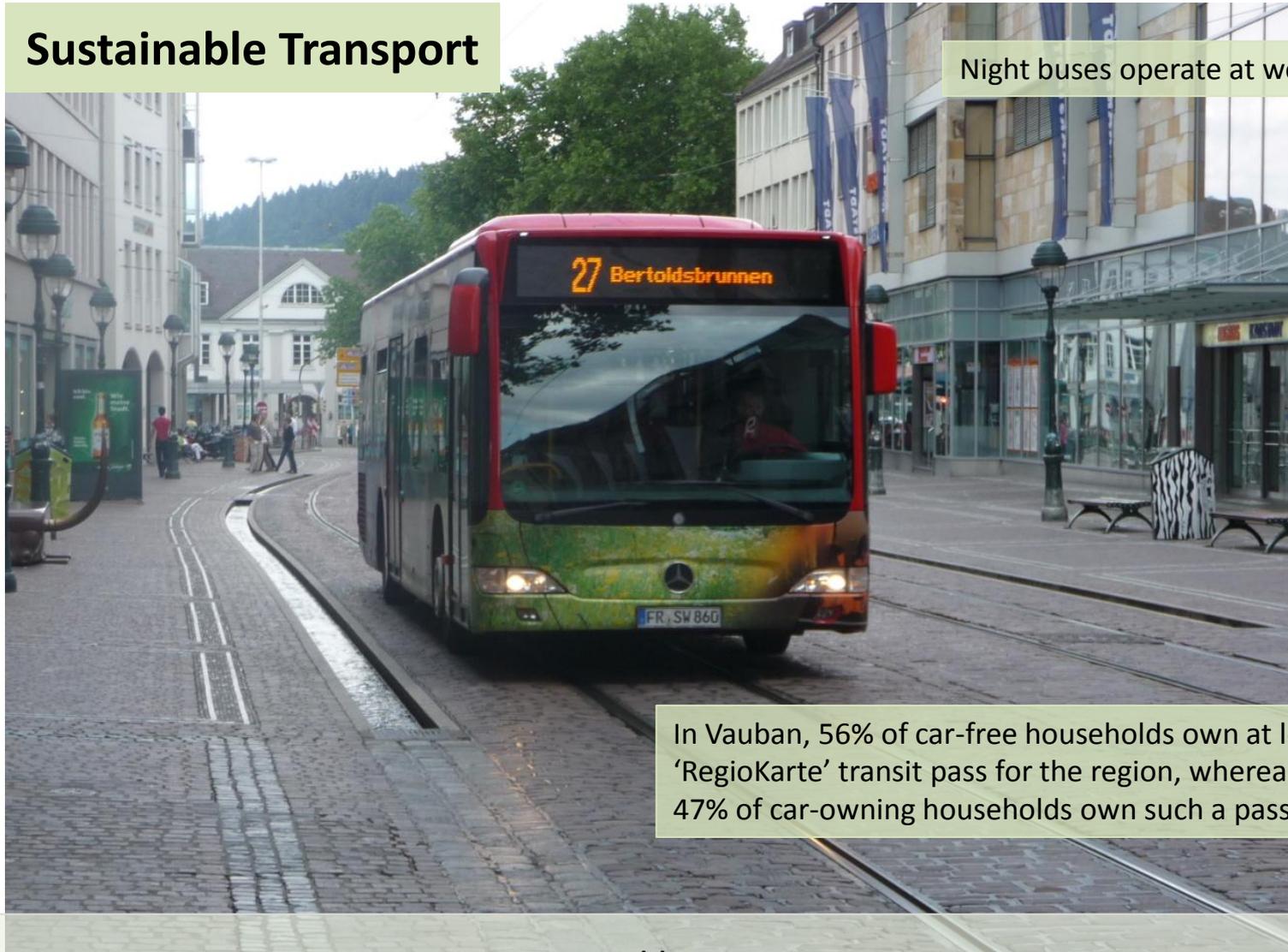
Along *Vaubanallee*, trams run on a grassed central reservation to reduce noise and improve the urban image



Public transport between Vauban and Freiburg's city centre encompasses trams ...

Sustainable Transport

Night buses operate at weekends



In Vauban, 56% of car-free households own at least one 'RegioKarte' transit pass for the region, whereas only 47% of car-owning households own such a pass

... and buses

Sustainable Transport

Daily grocery shopping takes place within Vauban reflecting the availability of local facilities and the functioning of the **short distance concept** to reduce traffic



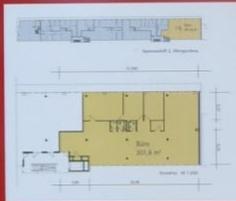
Mixed land use enables shopping trips by sustainable modes of transport

Sustainable Transport



Information service

- Die Top-Adresse für internationale Wirtschaften
- Niedrige Energiekosten
- Imagevorteile durch internationales Renommee
- Innenstadt- und naturnah
- Verkehrsanbindung durch Stadtbahn
- Tiefgaragen-Stellplätze



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41% of car-owners use a bicycle more than they did before living in Quartier Vauban

The **provision of local services and jobs, proximity** to the city center, extensive **non-motorised transport** infrastructure and good, low-cost regional **public transport services** contributed to **Quartier Vauban's sustainable success**

Sustainable Transport

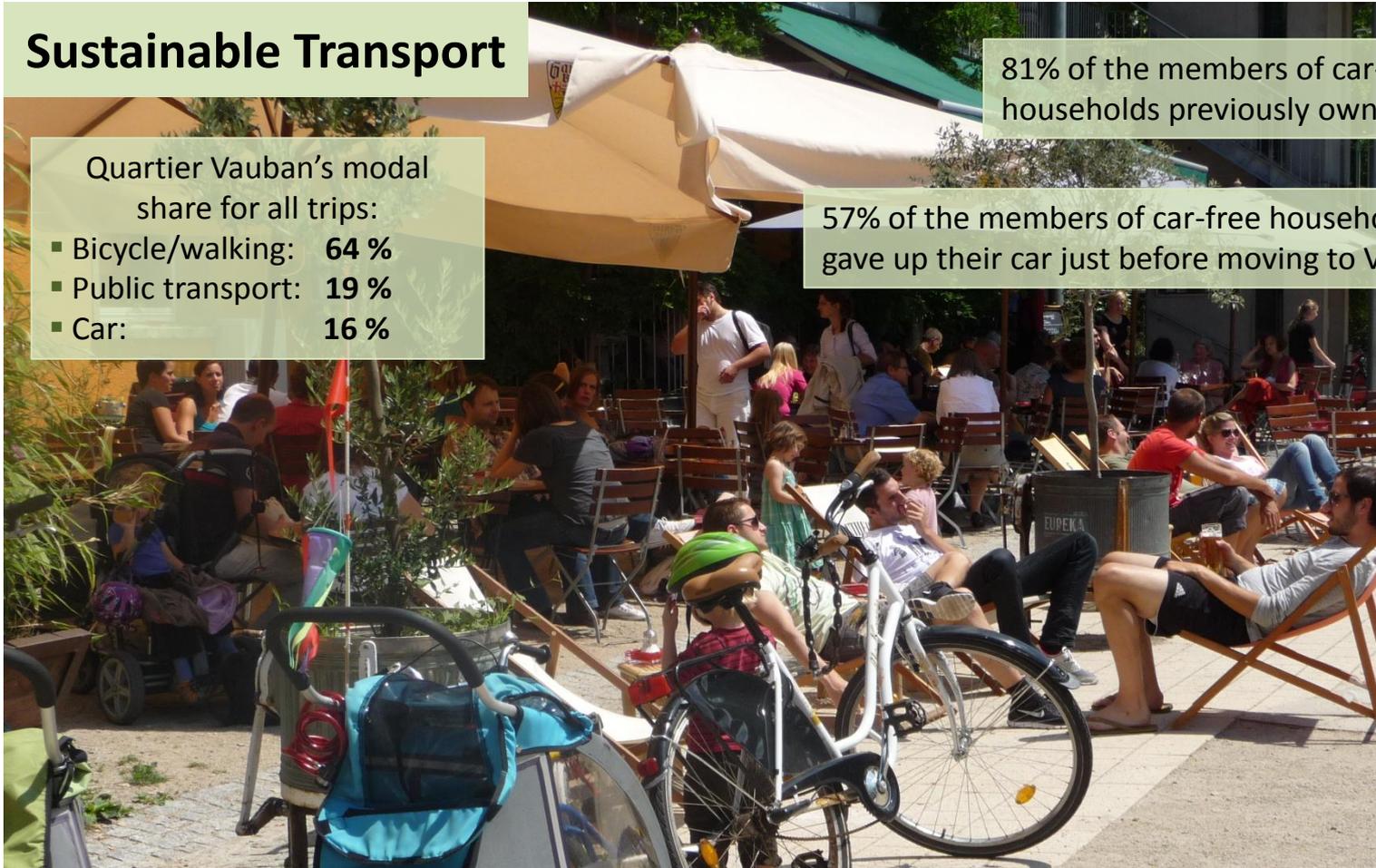
Quartier Vauban's modal share for all trips:

- Bicycle/walking: **64 %**
- Public transport: **19 %**
- Car: **16 %**

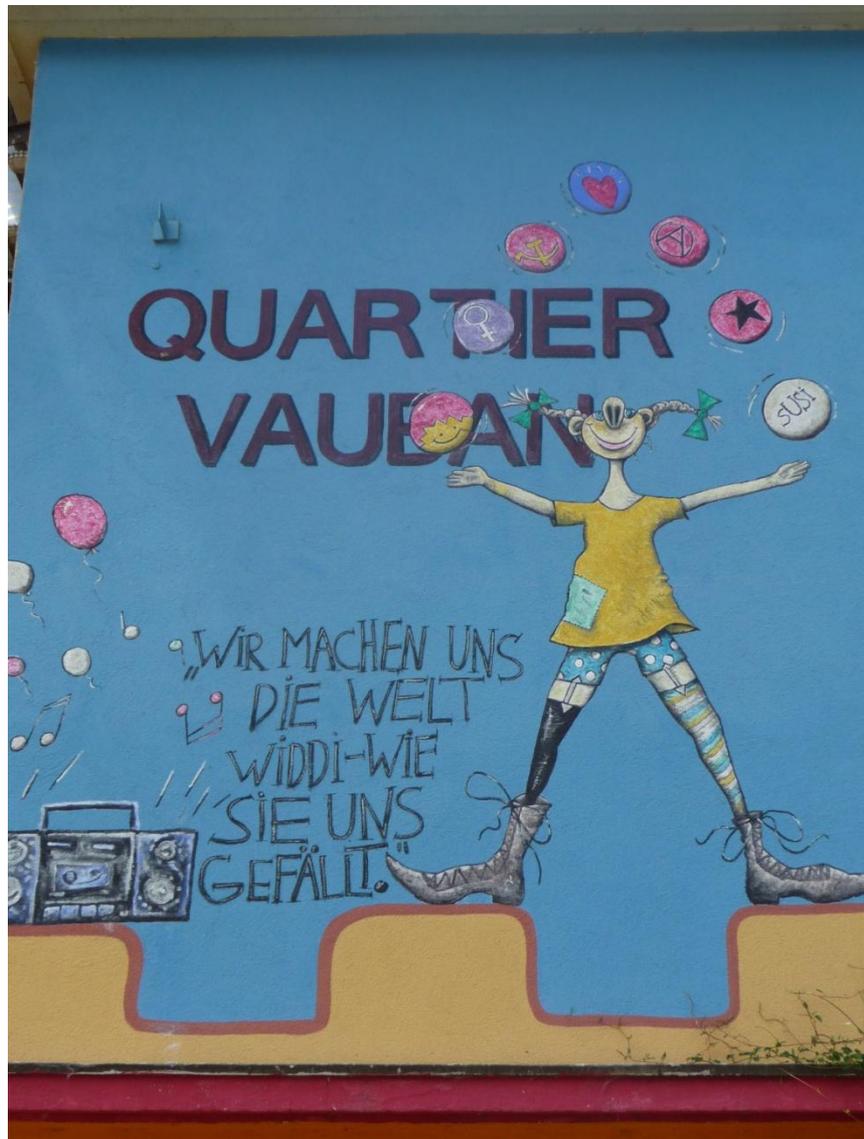
81% of the members of car-free households previously owned a car

57% of the members of car-free households gave up their car just before moving to Vauban

More than half of car-free households were persuaded to move to Quartier Vauban and sell their own car because of:
“the unique combination of carrots and sticks offered by the district”



Quartier Vauban



„We [the people] make the world as we like it!“