

Traffic planning and Public Transport in Freiburg
31st May, Tsukuba 3E Forum

Traffic planning and Public Transport in Freiburg

Part 1:

- General statements about mobility
- Historical political decisions in Freiburg concerning mobility planning

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Mobility in the city …

… **is a political task**

… **needs (rare) space:** Car traffic in average needs ten times more space per person than public transport!

… **generates noise**

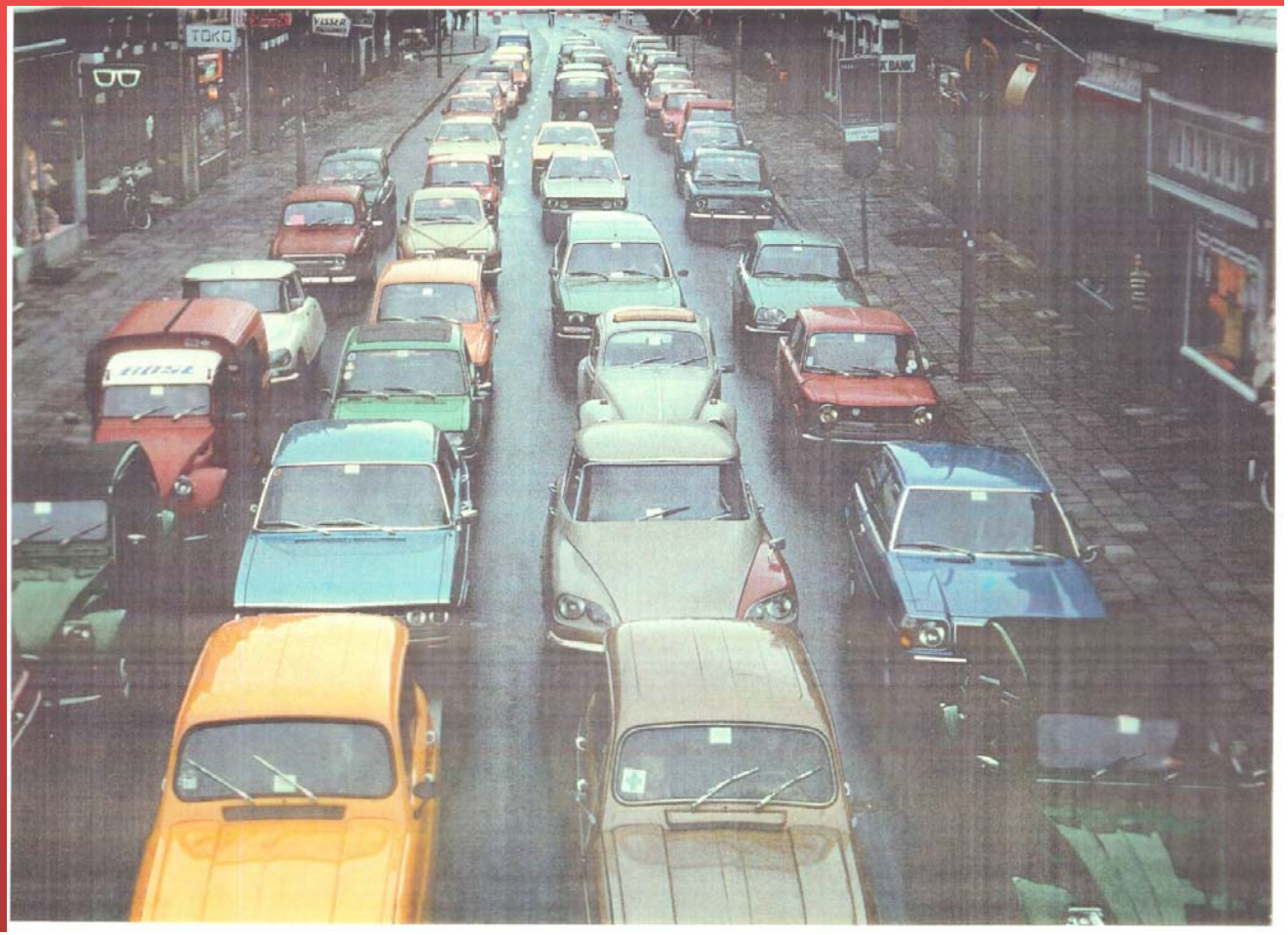
… **causes air pollution:** About 20 percent of CO^2-emissions in Germany are generated by car – passengers of public transport in average are causing only 1/3 of CO^2 emission like car drivers

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Experiment: Need of space ► car versus bus

Traffic jam on a four lane street



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Experiment: Need of space ► car versus bus

Drivers without their cars



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Experiment: Need of space ► car versus bus

Same number of drivers taking the bus



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1901: Start of the electric Streetcar

Even the first lines went through the city center. “Into the heart of the city.”

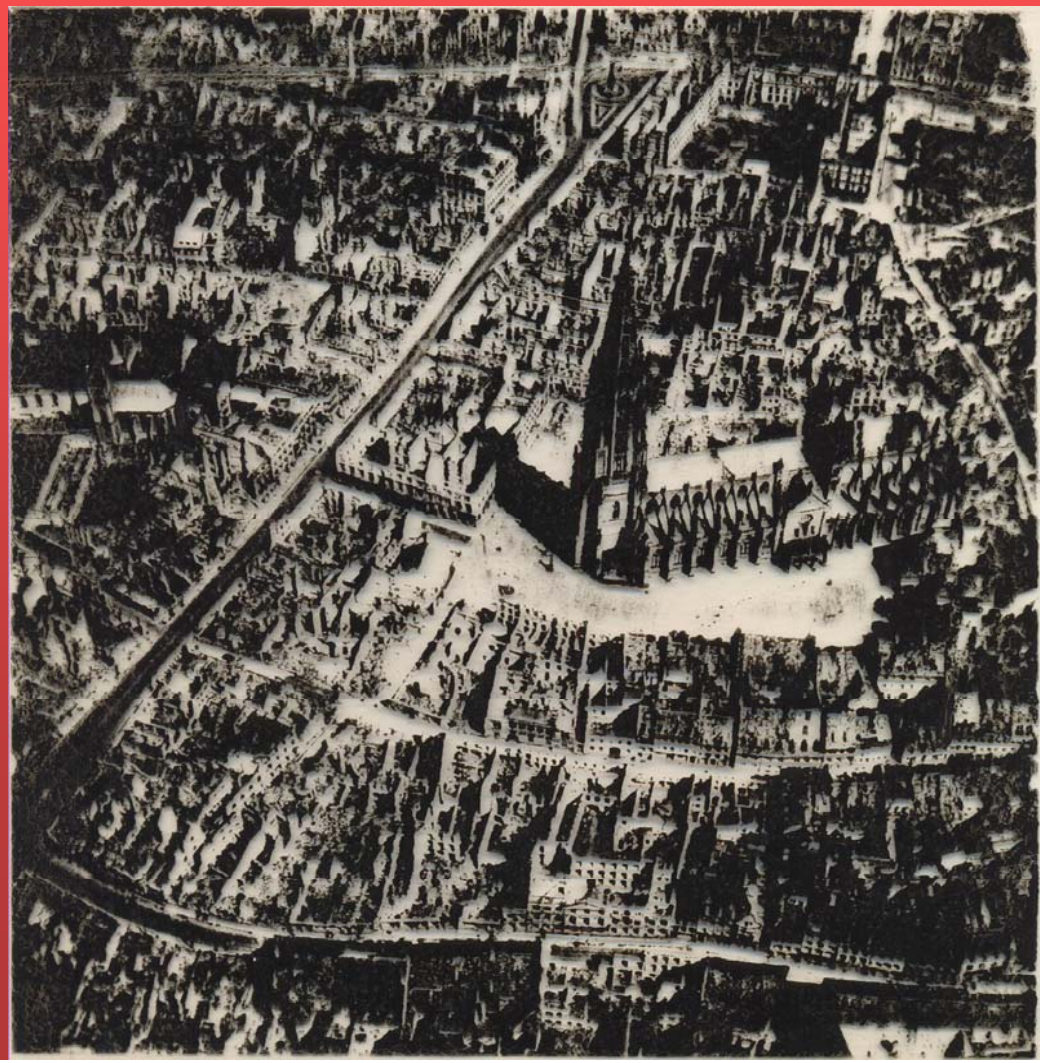
This hasn’t changed until nowadays.



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Reconstruction

In the second World War downtown of Freiburg was destroyed by 80 %.
The municipal council decided to rebuild the city center in the medieval ground plan



Consequence:

Not much space for mass mobility in the city center

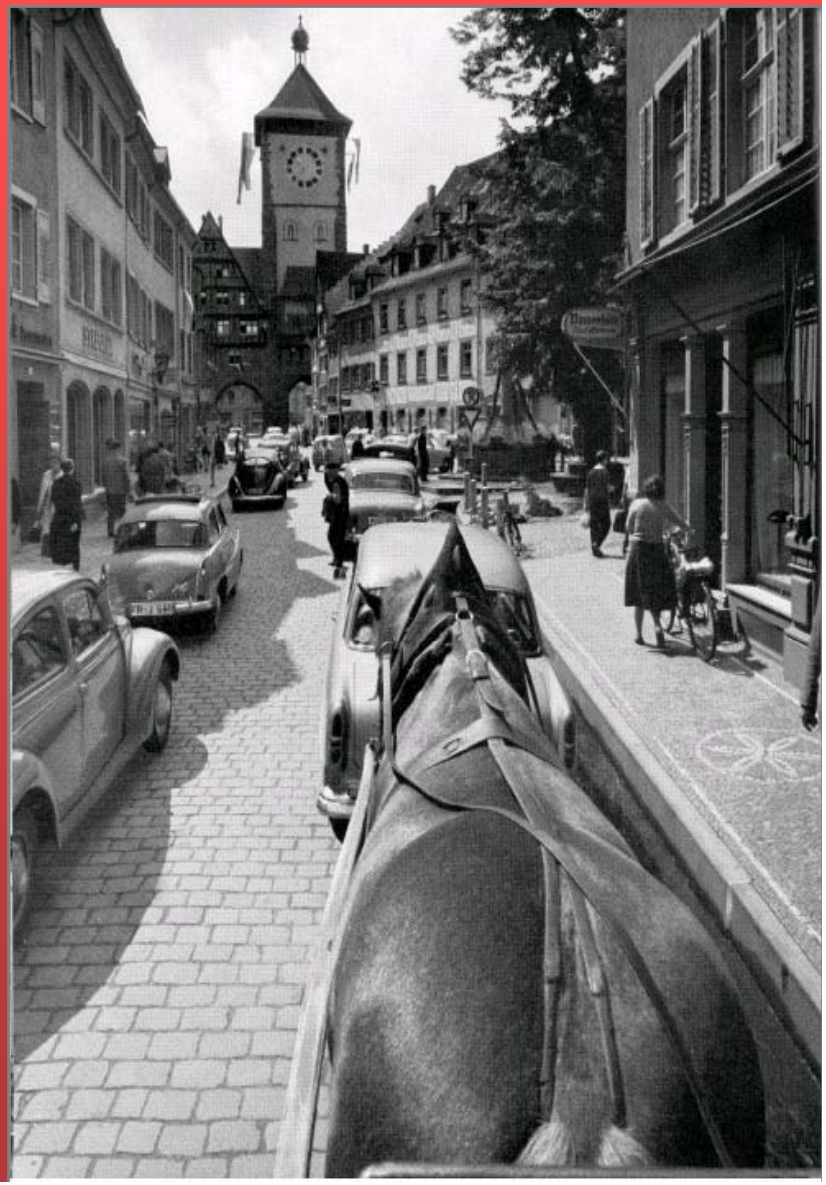
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Introduction of the pedestrian zone

Downtown until 1972:

In the narrow downtown streets the increasing number of cars led to a decrease of quality of live in the city center.



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Introduction of the pedestrian zone

Downtown since 1973:
The introduction of a pedestrian area raised the quality of the city center

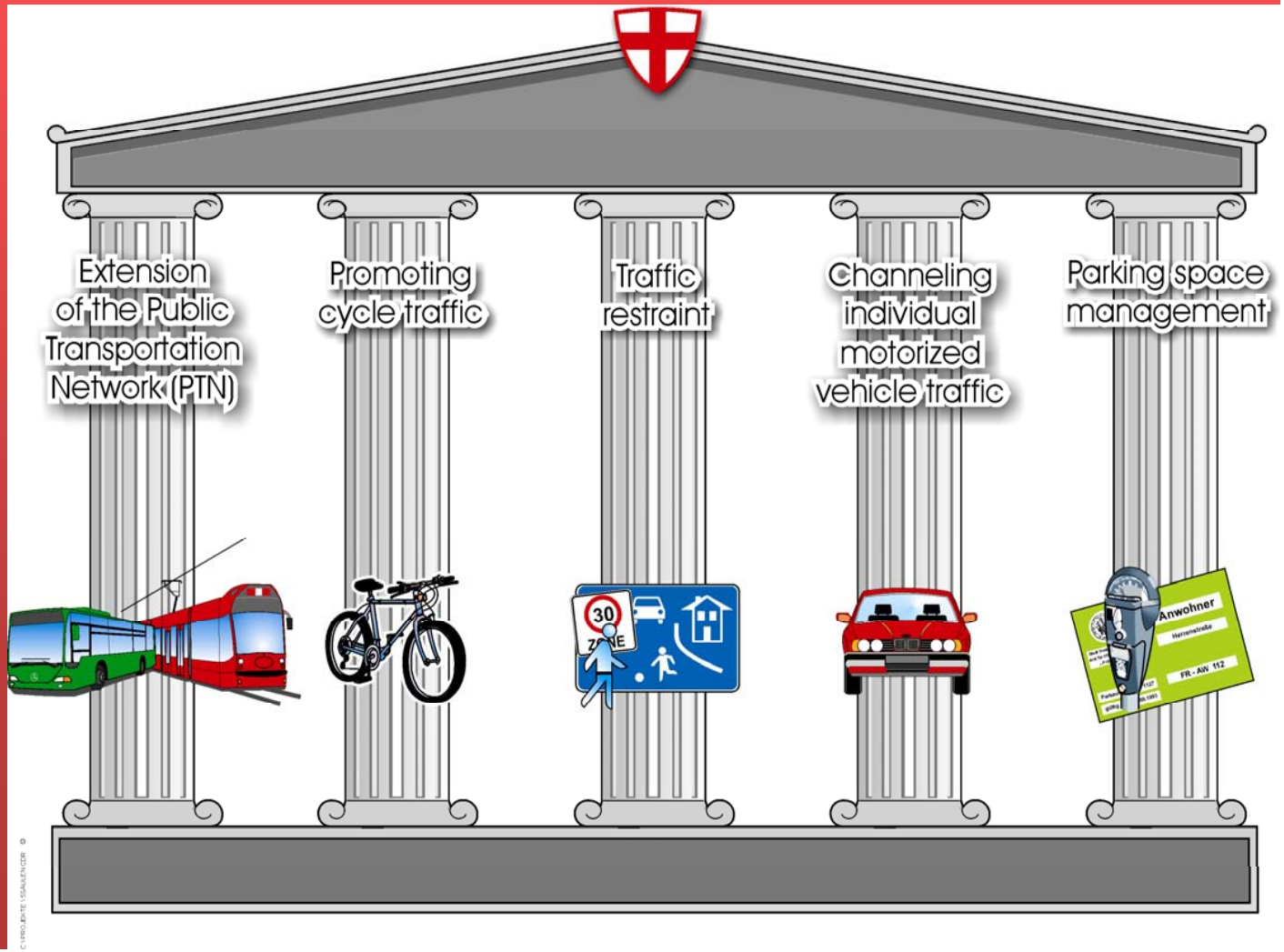
► Now it was necessary to guarantee that everybody is able to reach the city center without a car by other means of mobility



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1989: Cybernetics mobility concept

►Town-, life- and environmental-quality improved



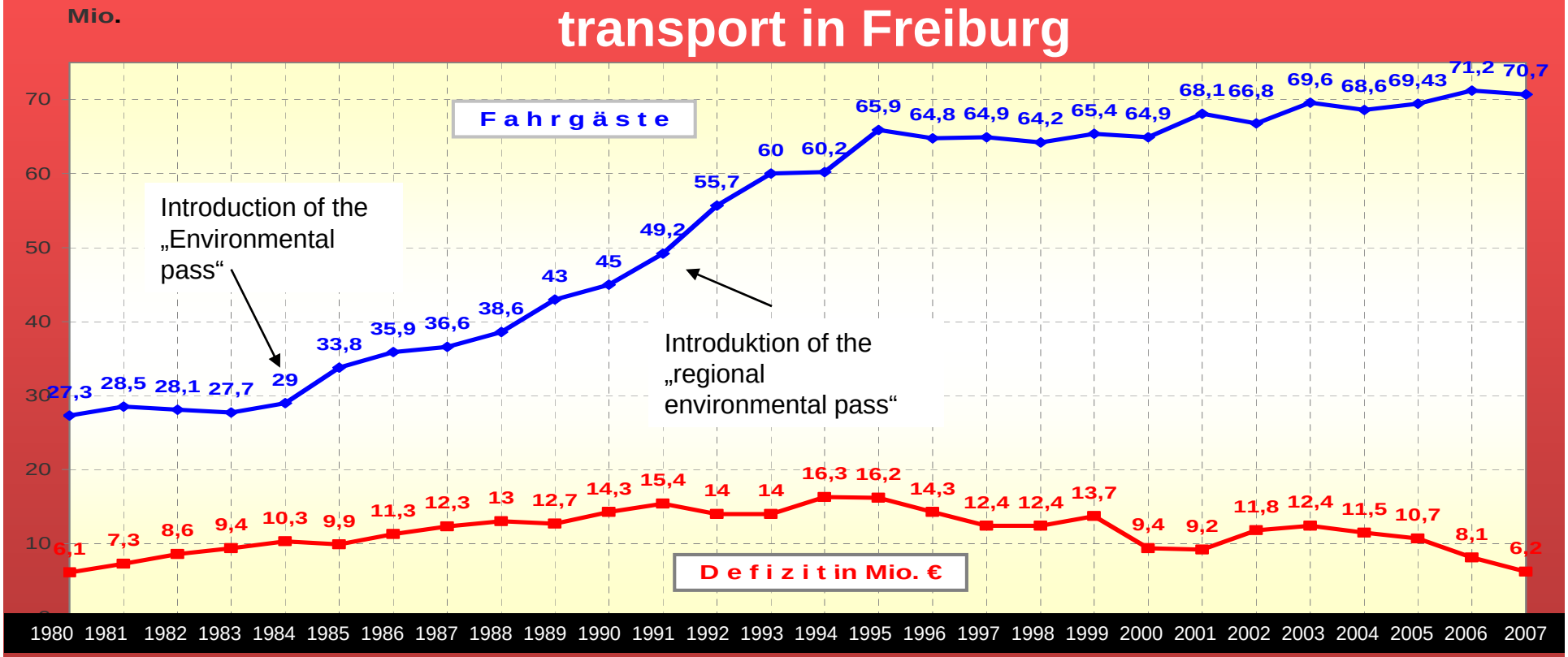
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Part 2:

- Public transport in Freiburg
- Fare system
- Quality of public transport
- Planning of new streetcar lines
- Connecting different kinds of mobility

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Development of the number of customers of public transport in Freiburg



Until 1984 the number of customers was constant ~ 28 Million Customers/Year – while the deficit was rising an rising

By changes of the image, the fare system and a better offer of public transport, the number of customers and the productivity increased

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1984: Freiburger Umweltschutzkarte

(„Environmental ticket“)

Freiburg has been the first city in Germany that introduced an „Environmental Ticket“ (October 1984). This has been the first important step for the enormous increase in the number of customers.

- **Introduction of a very simple – easy understandable – fare system**
- **Reduction of the ticket prices up to 30 %**
- **transferable monthly ticket**



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1991 Regio(Umwelt)Karte

(„Regional Environmental Ticket“)

In September 1991 the „Environmental Ticket“ – which was valid only in the busses and streetcars in Freiburg- was abolished and replaced by the „Regional Environmental Ticket”.

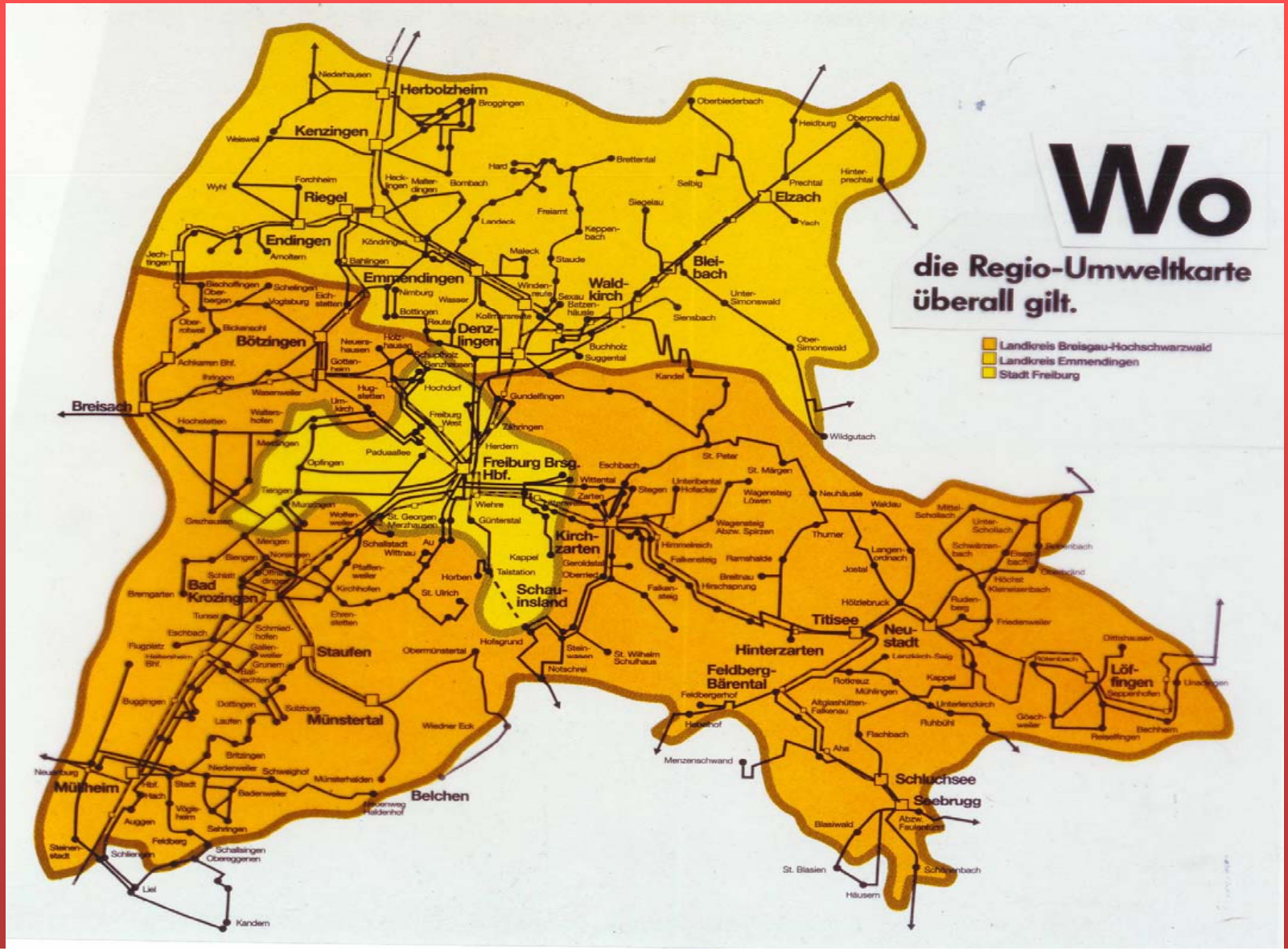
Valid without any „fare zones“ in

- **3 Counties**
- **17 transportation companies**
- **90 lines (railway; suburban train, streetcar, bus)**

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1991 Regio(Umwelt)Karte

(„Regional Environmental Ticket“)

Immediate effects of the introduction of the „Regional Environmental Ticket“:

- Every day 28.500 commuters changed from the car to public transport
- Increasing offer of public transport
- The city of Freiburg was relieved from a part of the car traffic

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Development of the offer of public transport

Even if the fare system is cheep and easily understandable you only buy a ticket, when the offer of public transport is useful and attractive for you.

But how has public transport to look like to be „attractive“?

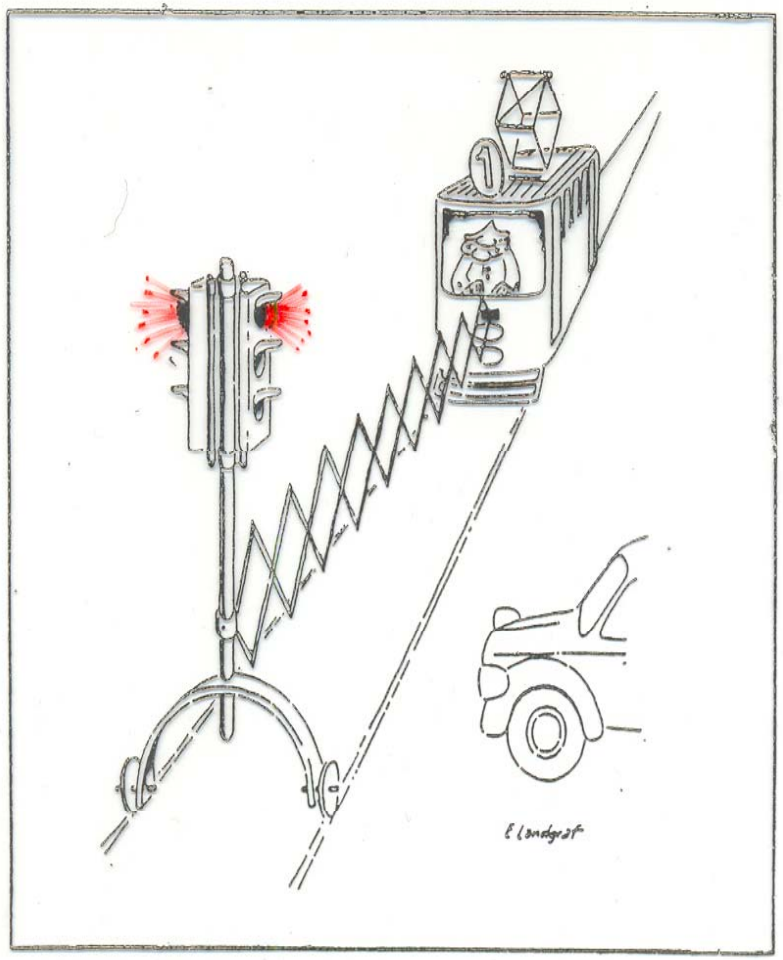
- **It has to be fast**
- **It has to be available by time (good frequencies)**
- **It has to be close to you (distance to the next station/bus stop)**

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Acceleration oft the streetcars by…

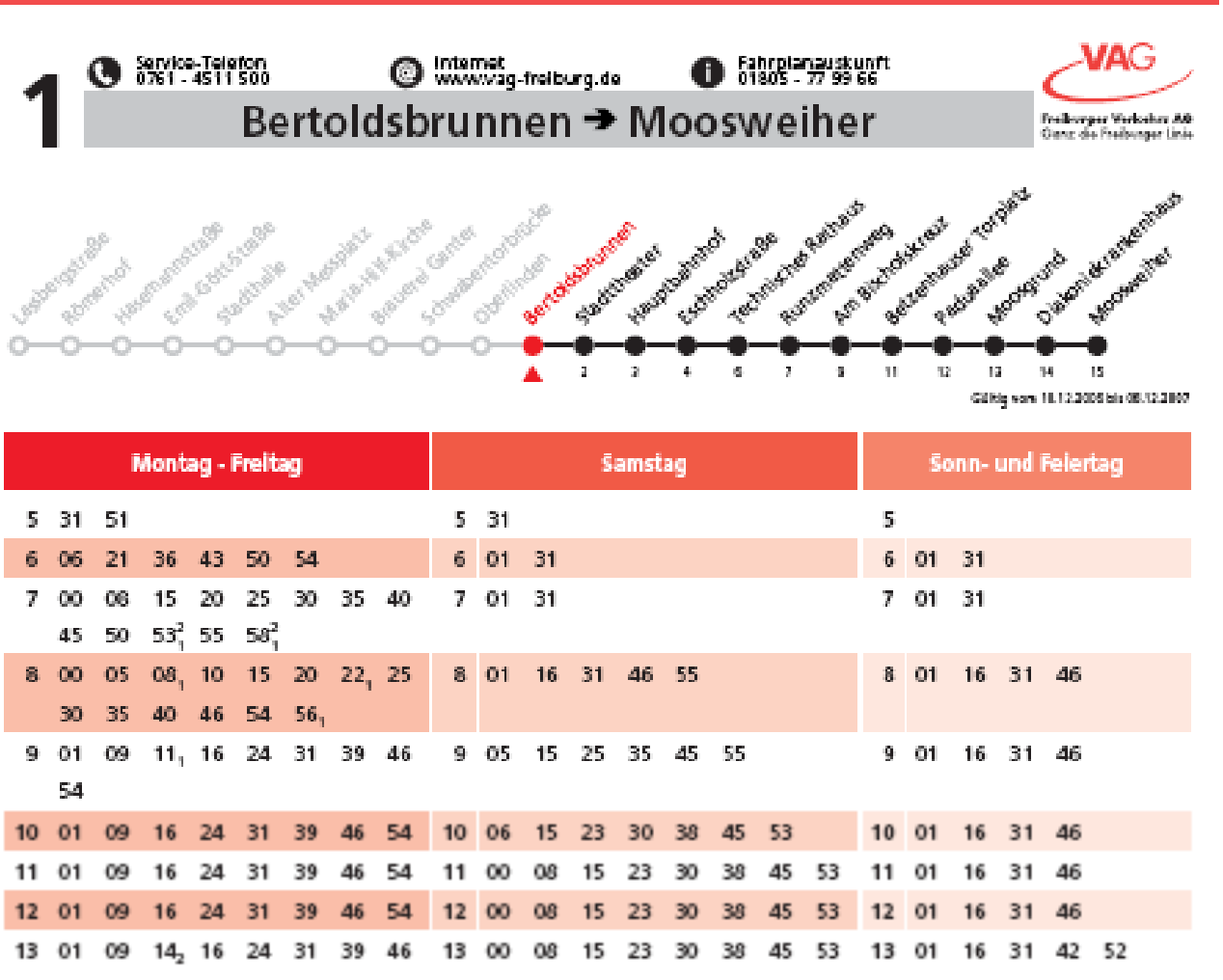
- priority at city lights
- lowfloor vehicles
- separate track for the streetcars (independent from the car traffic)



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Frequency

- Streetcar lines are running every 7,5 minutes
- Main bus lines are running every 15 minutes
- More dense frequencies in the rush-hour



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Bertoldsbrunnen ➔ Moosweiher

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1 2 3 4 6 7 8 11 12 13 14 15

Gültig vom 10.12.2006 bis 08.12.2007

Montag - Freitag									Samstag								Sonn- und Feiertag						
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Planning of streetcar lines close to the customers!

(New) Streetcar lines have to be planned in the center of the urban developments.

They have to be planned where many inhabitants …

… are living
… are working
… are spending their leisure time



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Planning of streetcar lines ► Example: “Rieselfeld”

New residential area (75 hectare) built under strict social and ecological points of view.

The track of the streetcar is the central axis of mobility.

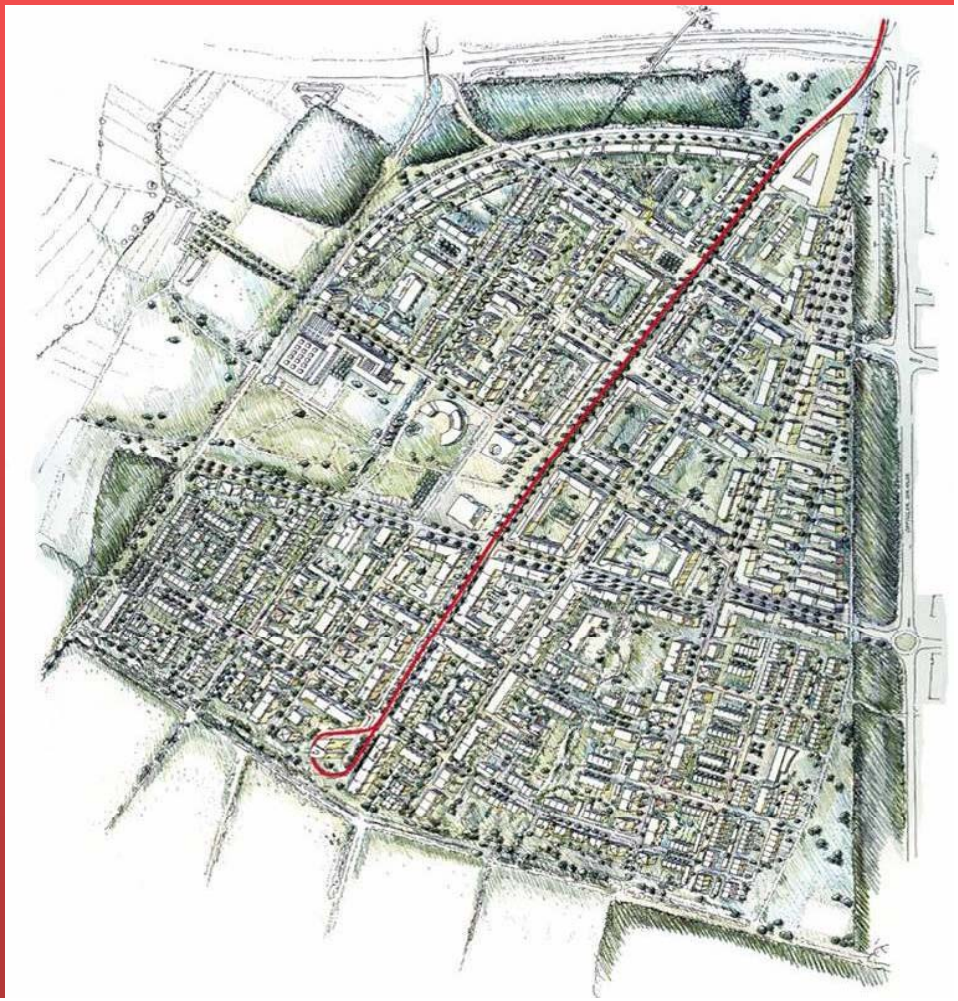
The new line was opened in 1997 when only 1000 inhabitants lived there



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Planning of streetcar lines ► Example: “Rieselfeld”

- Streetcar planned as central axis of mobility
- No apartment more than 400 meters away from the next streetcar-stop
- Streetcar runs every 7,5 minutes
- Maximum speed for cars: 30 km/h



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Other factors for a successful traffic planning

Beside the speed and the availability (frequency and distance to the stations) there are other important factors for the success of public transport:

- **Good connections to the city center by public transport**
- **Close connection of all modes of mobility**
- **Extraordinary offers of public transport for extraordinary events**

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Example main station: Connecting different kinds of mobility

- Long distance and regional traffic of German Railway
- Three streetcar lines
- Central bus station for busses from the environs
- Parking house for bicycles
- Three parking levels for cars under main station



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Ticket for an event =
Ticket for public transport

- Concerts
- Sport events
- Fairs
- Big congresses



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