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The Experience with Pedestrian Precincts in Central Places of Medium Order A Case Study of Erlangen (Bavaria)

After the first pedestrian precincts had been established at the end of the sixties and the beginning of the seventies only in big towns, this innovation reached almost every medium sized and smaller city in the last twenty years. When establishing a pedestrian precinct in a medium sized town a universal problem is that — especially the retailers and their organisations — often suspect a deterioration of the accessibility which means to some extent a reduction of the shopping attractiveness and a decrease in sales. Therefore retailers often oppose the opening of pedestrian precincts or demand at least that the accessibility restrictions for passenger-car traffic, caused by the establishing of traffic-reduced zones and pedestrian precincts, should be counterbalanced by new car-parking provisions around the pedestrian precincts. In this context it is often emphasized that especially the afflux of spending power from out of town would be reduced by restrictive measures put on passenger-car traffic, because the inhabitants from the hinterland would then tend to visit other central places which offer a higher level of car parking provisions or prefer to go shopping in hypermarkets in the suburban region.

The following case study will deal with the city of Erlangen and — after a short introduction into the general conditions of town development as regards the retailing situation — try to show what impact the establishing of a pedestrian precinct had

- on the structure of the shopping facilities
- on the streams of the customers in the central business district and
- on the structure of the city visitors (respecting for example their place of residence, the use of transport means).

If compared with the situation in other German towns of medium order Erlangen could be taken as an example for town planning and traffic policy which, on the one side maintains quite a good accessibility for customers without being, on the other side, forced to flood the city with parking facilities and access roads.

1 Town development policy in Erlangen

Erlangen is a town in Northern Bavaria with about 100.000 inhabitants. The retailing development policy has always been influenced by the fact that the city of Nuremberg (about 500.000 inhabitants) is only 20 km away from Erlangen and therefore a great rival for the local retailing locations. Since the late sixties an intensive town planning policy has

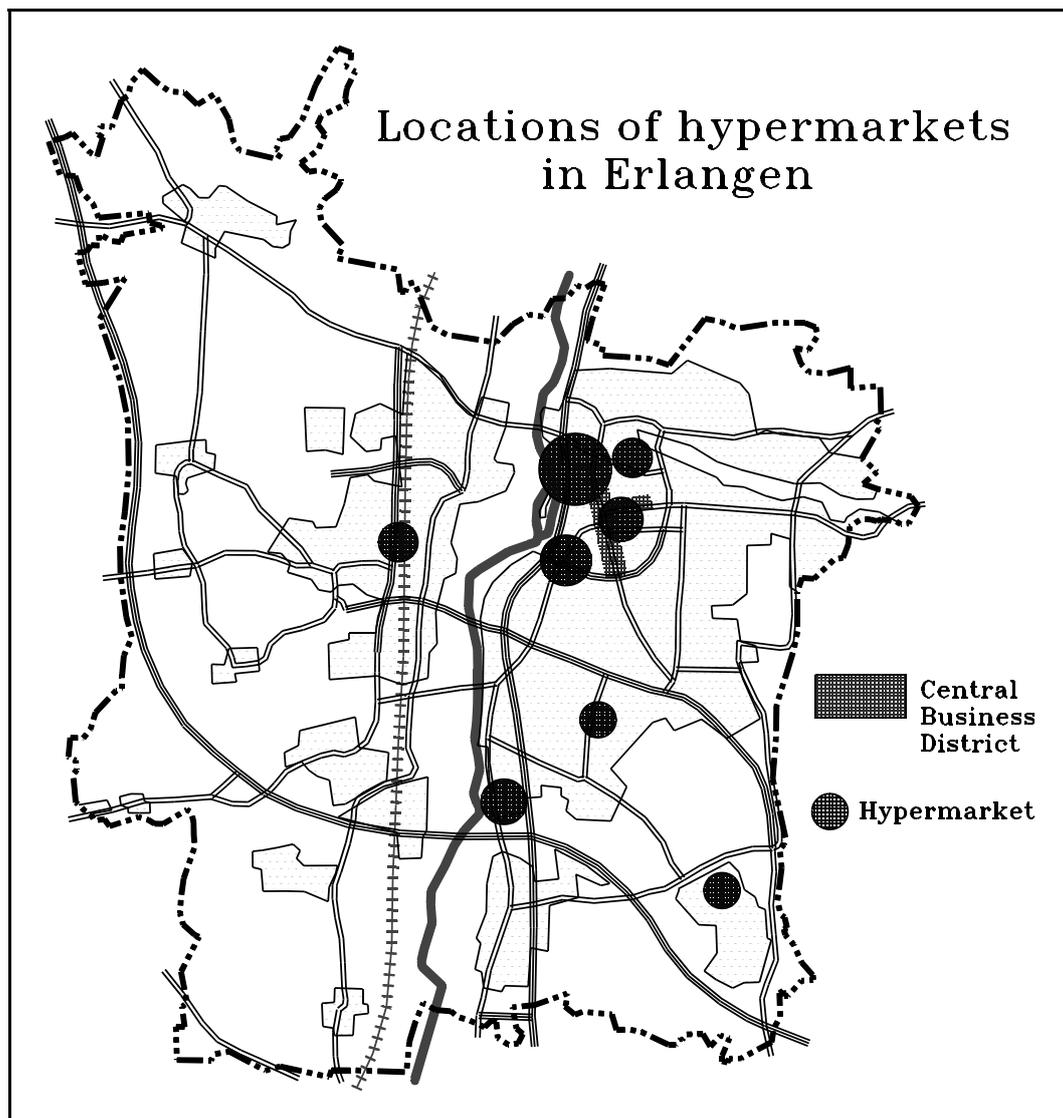


Fig. 1: Locations of hypermarkets in Erlangen

been practised of which one aspect has been the intention of the municipal government to achieve a high retailing attractiveness in order to keep the drain of spending power to

Nuremberg as small as possible and to prevent the afflux from the hinterland of Erlangen to Nuremberg. This economic aspect is integrated into a general line of town planning policy which wants to strengthen the inner urban central region and counterbalance the centrifugal forces which caused the exodus from the inner cities.

In Erlangen, like in all other West European towns, hypermarkets were established at peripheral locations in the past 30 years. But town planning has been quite restrictive concerning the construction of hypermarkets in suburban parts of the town. Therefore presently we find only eight hypermarkets in Erlangen (see fig. 1), of which

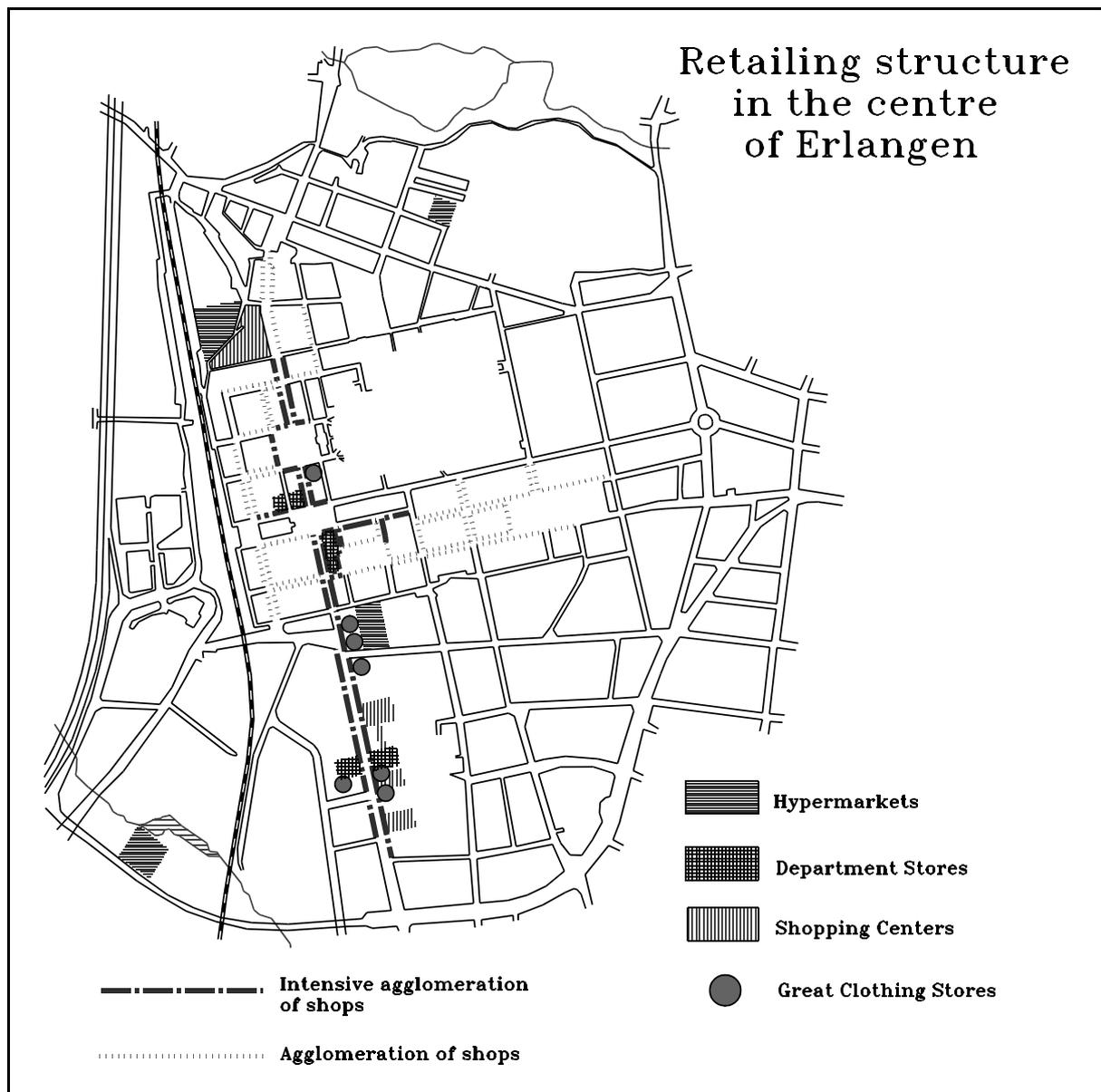


Fig. 2: *The structure of the CBD in Erlangen*

only four are in the suburb. Two others are at the edge of the central business district and two are located inside the central business district, a location which is quite exceptional for this kind of stores. In addition to that all of the suburban hypermarkets have only quite small surfaces (between 1,000 and 2,000 m²), whereas the hypermarket at the western edge of the CBD (about 3,000 m²) and one in the CBD (almost 6,000 m²)¹ have considerably larger selling spaces. These two great hypermarkets were established as a result of local government intervention in order to increase the attractiveness of the CBD.

Apart from preventing the settlement of too many hypermarkets at the periphery of the town, two great projects have been realized in the centre of the town in order to strengthen the retailing function in this area (see fig. 2). In 1970 a large shopping centre with 15,000 m² of selling space (including two department stores and two great clothing shops) was opened at the southern end of the traditional shopping district, whose main street is a north-south axis.² In 1976 an another shopping centre was opened at the northern end of the CBD with about 12,000 m² of selling space and the above mentioned hypermarket integrated. The creation of those two important poles in the CBD was strongly influenced by interventions of the municipality. In the last 15 years a lot of exclusively private investments were made between these two poles in order to increase retailing surface, and a lot of new shops were established there (e.g. a great clothing shop with 5,000 m² and a shopping centre with 8,000 m²).

Further directions in town planning have been the promotion of inner urban housing projects (urban renewal and compact housing constructions on former industrial sites), and the improvement of the living conditions by means of traffic reduction in the town, streetscape design and the creation of green areas in order to tone down the suburbanization process. With regards to the retailing situation this means that still an important part of the customers live within a short distance from the CBD.

2 The creation of a pedestrian precinct in Erlangen and accompanying measures

In 1985 the town council decided to establish — on trial for one year — a pedestrian precinct in the northern part of the major shopping street. The southern part was, at the same time, transformed into a passenger-car traffic free zone (which means it became almost like a pedestrian precinct). The trial was accompanied by an investigation which the author

1) For this hypermarket an extension of about 2,000 m² is planned in 1992.

2) This shopping centre was extended in 1990 by 5,000 m², which shows that it has been quite successful.

took part in (see HOPFINGER, KILLISCH, KAGERMEIER 1987) and which has supported the final decision of the town council in favour of a permanent establishment of the precinct.³

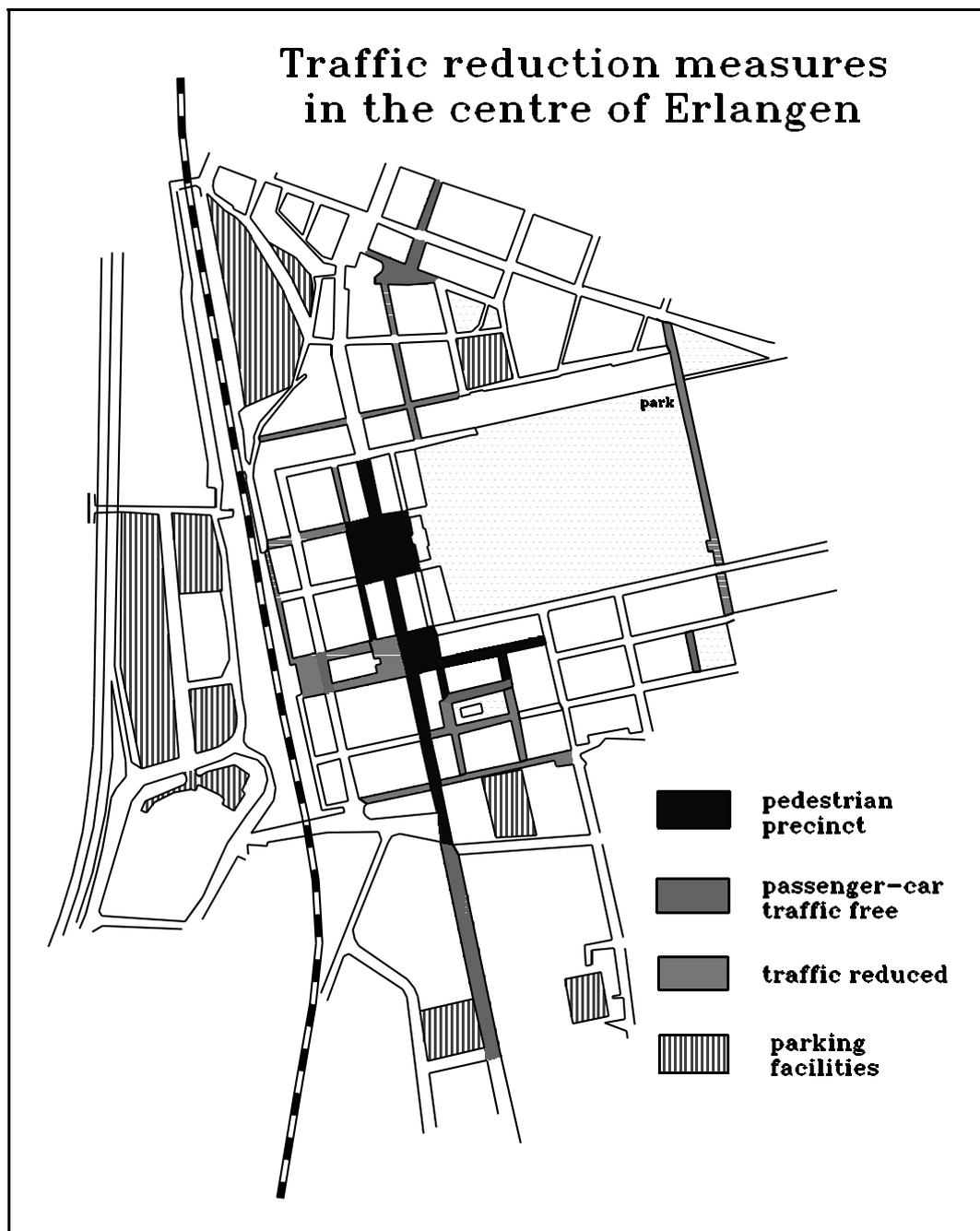


Fig. 3: Traffic reduction measures and car parking facilities in the inner city of Erlangen

3) I would like to express my gratefulness to Prof. Günter Meyer from Erlangen, the results of whose two former studies (MEYER 1978 and MEYER and FRISCH 1986) served as a basis for this investigation.

The creation of a pedestrian precinct has been part of the policy of reducing passenger-car traffic in the centre of the town (see fig. 3). Increasing the retailing attractiveness was not the only aim of traffic reduction in the city centre, the economic aspect was only one part of a multifunctional concept to revive the town centre (see *Stadt Erlangen* 1974).

The traffic reduction concept included several measures:

- creation of *dead end roads* by establishing interruptions in former way through roads
- establishment of *traffic-reduced zones*
- *reduction of parking facilities* in the streets.

And in order to compensate for the reduced accessibility to passenger-car traffic there have been

- moderate constructions of *new car parking provisions* at the edge of the town centre
- a promotion of inner *urban public transport* and
- an intensive development of *bicycle traffic* opportunities.

Before being pedestrianized the major shopping street had been already a traffic reduced zone and was surrounded by streets which were also traffic-reduced and were redesigned in order to prevent retailing activities from concentrating too much in the major shopping street.

As regards the car parking facilities about 1,000 (from a total of about 5.000) places in the CBD — mainly parking-bays in the streets — have been canceled since 1972 and about 2,000 new car parking spaces have been constructed at the edge of the inner city (see fig. 3; *Stadt Erlangen* 1984, p. 1). If compared to the selling space this means that the increase in selling area has been higher than the growth of parking places; thus the parking facilities have diminished in proportion from about 4,6 places per 100 m² of selling space in the middle of the seventies to 4,1 places at the beginning of the nineties.

This shows that establishing a pedestrian precinct was not an isolated measure but that the local authority integrated it in a more comprising concept of inner urban revitalization which contained numerous accompanying measures to compensate potential negative effects. In the following I will now attempt to show what effects this had on the development of the shopping district.

3 The situation of retailing locations in the CBD

The above-mentioned general conditions set by the town planning authority have been favourable for the retailing development in the inner town. As a result of this policy Erlangen is the only big city (more than 100.000 inhabitants) in West Germany which, between 1978 and 1984 (years of retailing counts; APEL und LEHMBROCK 1991, p. 9 and 23) had a higher rate of increase in retail turnover than the rest of the town. The selling space in the inner city increased

from 109.369 m² in 1976 over 123.802 m² in 1981 (*Stadt Erlangen* 1984, p. 4) up to about 145.000 m² in 1991⁴, which means a growth of almost one third.

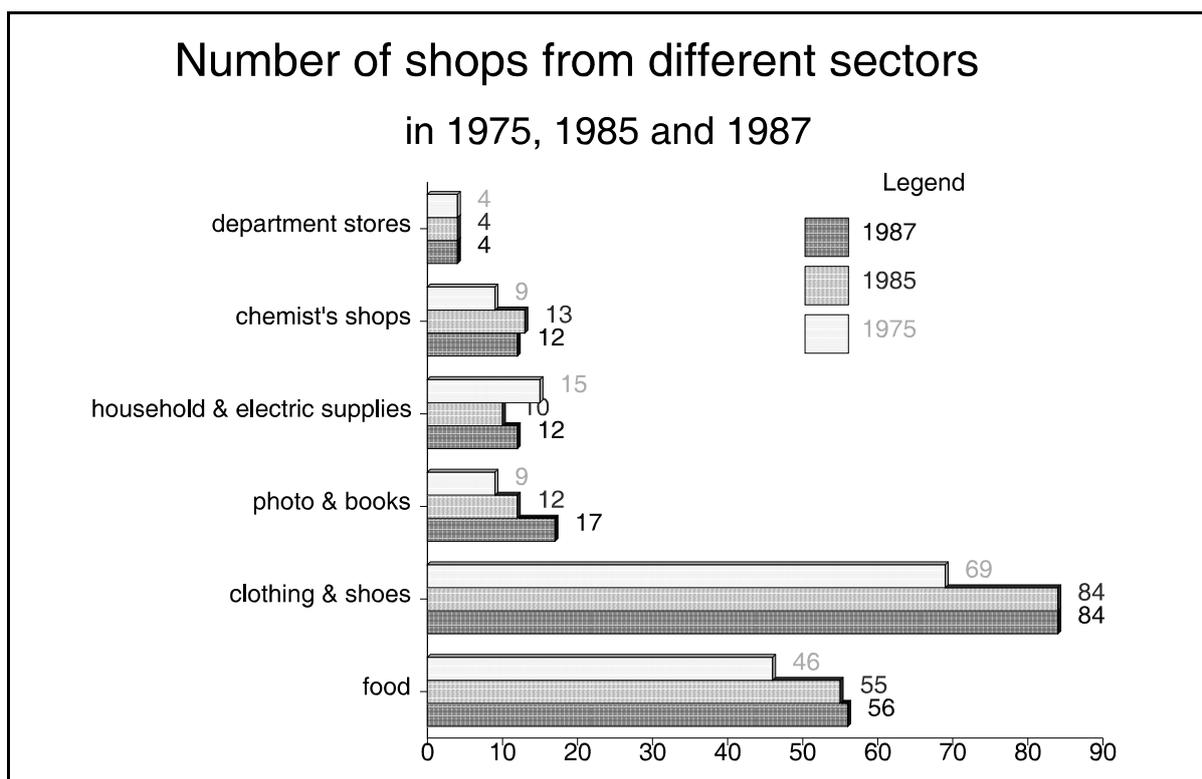


Fig. 4: Development of the number of stores from different sectors in the CBD of Erlangen between 1975 and 1987

Apart from this quantitative aspect there has also been an enormous change concerning the store structure. At first, this can be seen by looking at the number of stores from different sectors, the total number of which increased from 152 in 1975 to 182 in 1987 (see fig. 4).⁵ Between 1975 and 1987 the number of chemist's, photo and book stores increased considerably, whereas household supplies and electric shops decreased slightly. As was to be expected, the number of clothing and shoe shops increased, but the fact that the number of food stores also grew between 1975 and 1987 has to be regarded as an astonishing result.

4) Estimations based on the selling spaces of the recently opened stores.

5) Source: For 1975: MEYER and FRISCH (1986); for 1987: own investigations.

However if one takes the number of shop visitors as an indicator for the importance of these shops one can see a slightly different picture (see fig. 5).⁶ The number of visitors has increased by 20 % in all shops (excluding the department stores the increase has been 57 %). Besides the fact that the importance of the department stores strongly decreased in the last 15 years one can see that the importance of clothing and shoe shops grew considerably between 1985 and 1987 (this means after the establishing of the pedestrian precinct), which is in congruence with other studies, that point out a tendency of textilisation in the CBDs.

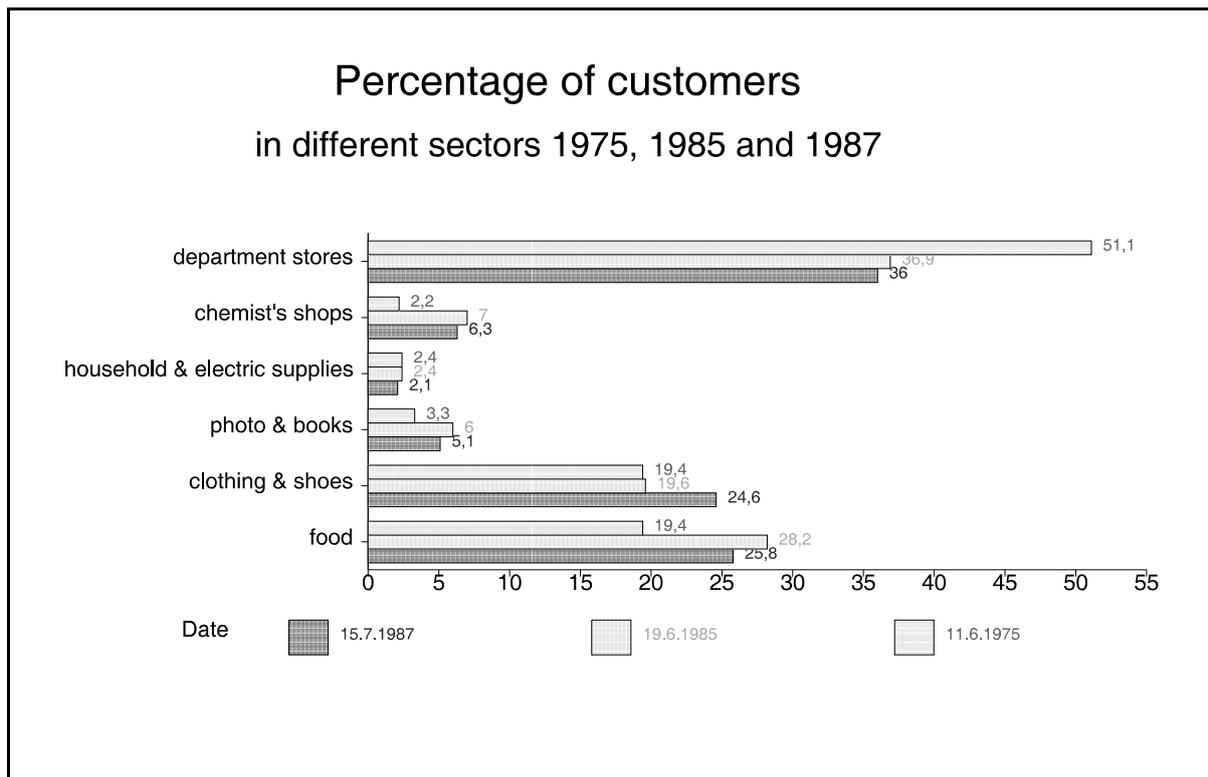


Fig. 5: Portion of visitors in different sectors in the CBD of Erlangen

A look at the distribution within the textile sector shows that the importance of small boutiques increased between 1975 and 1985, but slightly decreased after 1985, which is due to the opening of some large-scale clothing stores, that were able to raise their share of textile customers (see fig. 6).

6) Source: For 1975 and 1985: MEYER and FRISCH (1986); for 1987: own investigations.

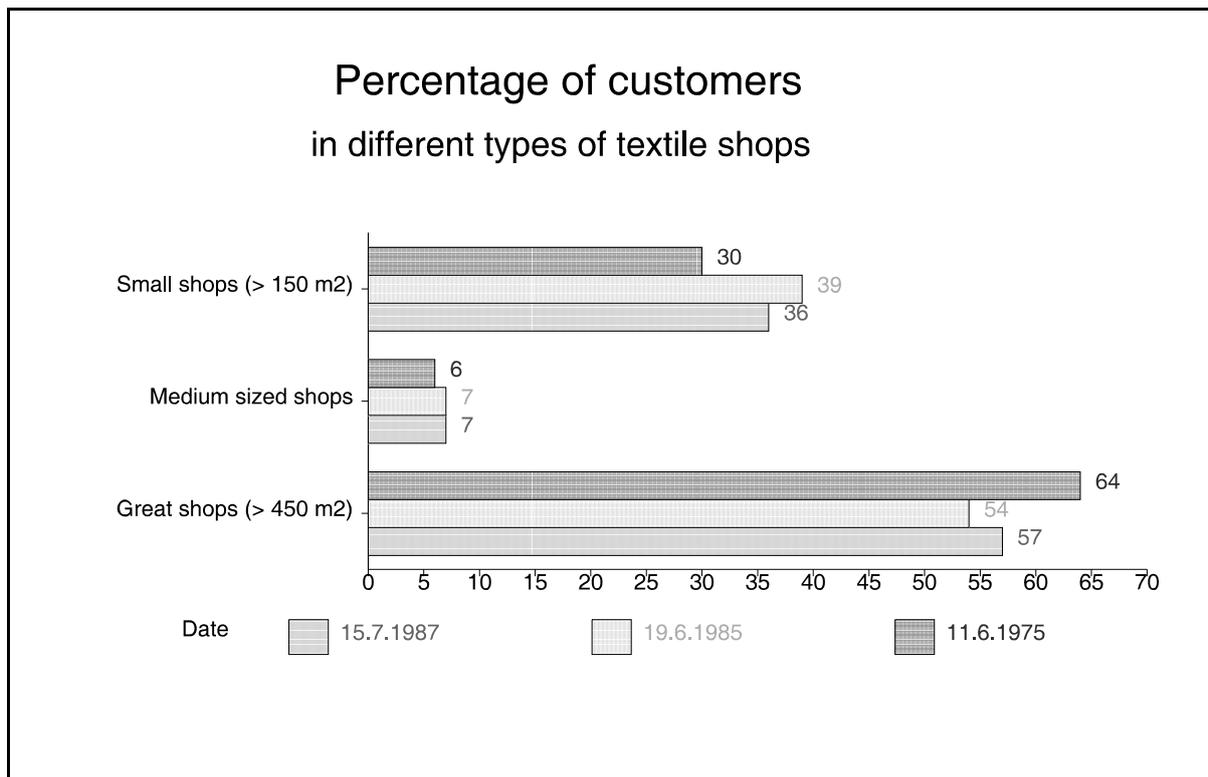


Fig. 6: Portion of visitors in different types of clothing shops in the CBD of Erlangen

A similar process has taken place in another sector. Unlike many other towns the number of visitors in food stores in the CBD of Erlangen has increased in the last 15 years. But the total number of visitors in all food stores does not reveal that in the inner city of Erlangen this sector also experienced great structural changes. The development in the food sector is characterized by a loss of customers in traditional supermarkets and a strong growth of the number of customers in extremely large and the specialized small shops (combined with a strong tendency towards chain stores; see fig. 7).

In addition to the number of visitors in the different sectors it is also important to have a look at the percentage of visitors in different parts of the CBD. In 1985 almost 73 % of the counted customers have visited shops in the major shopping street⁷ which means that before it was made pedestrian precinct there had already been a high volume of visitors in the main shopping street. As was to be expected the concentration process continued in favour of this main shopping street after its pedestrianization, and the portion of shop visitors slightly increased between 1985 and 1987 (see fig. 8).⁸ In those parts of the CBD, however, which were not pedestrianized, the percentage of customers decreased.

7) This includes the visitors of the 4 department stores who are all situated in the major shopping street. Excluded these visitors still almost 60 % of all visitors have visited shops in the major shopping street.

8) Source: For 1985 MEYER and FRISCH (1986); and for 1987: own investigations.

The concentration process has not been too strong so that it does not really endanger the other parts of the CBD. This might be due to the fact that — before pedestrianizing the main shopping street — traffic reduction measures were carried out in the side streets in order to increase their attractiveness. Nowadays there is a kind of division of

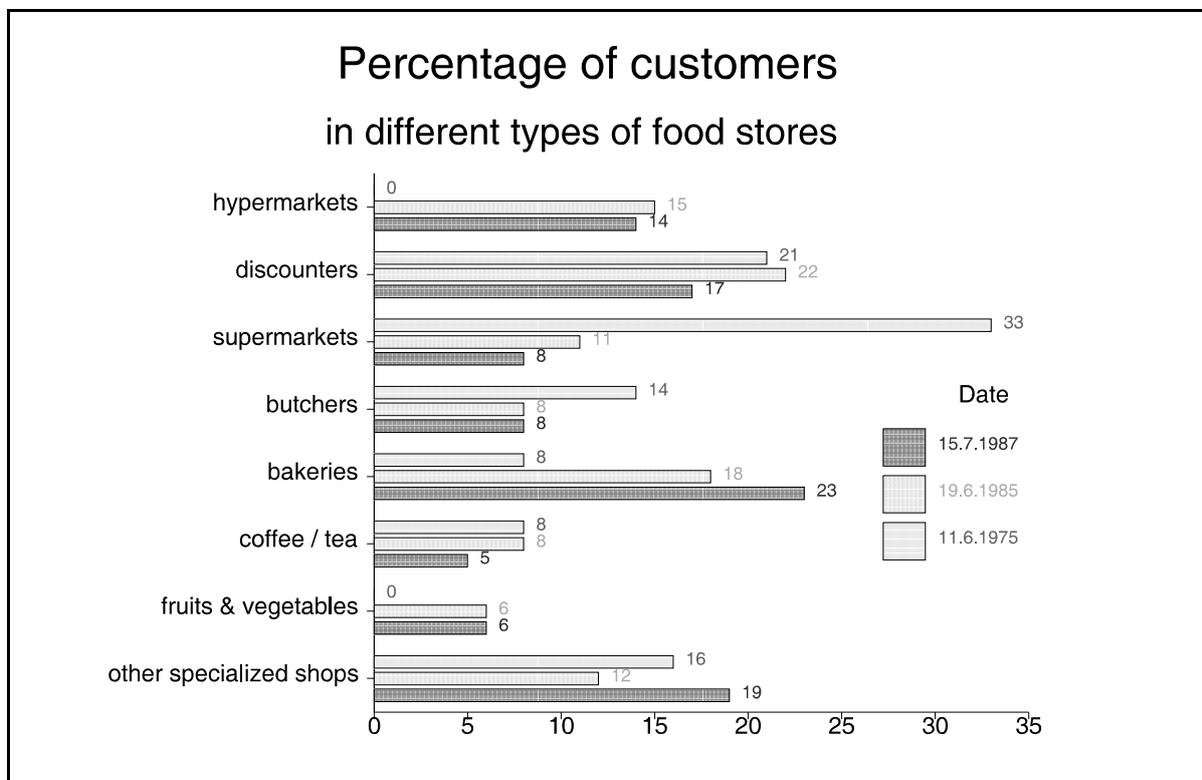


Fig. 7: Portion of visitors in different kinds of food stores in the CBD of Erlangen

labour between the main shopping street and the side streets. In the main shopping street one can mainly find the large-scale shops, whereas in the side streets highly specialized shops are located. This special function of the side streets will be supported by further traffic reduction measures in the next few years.

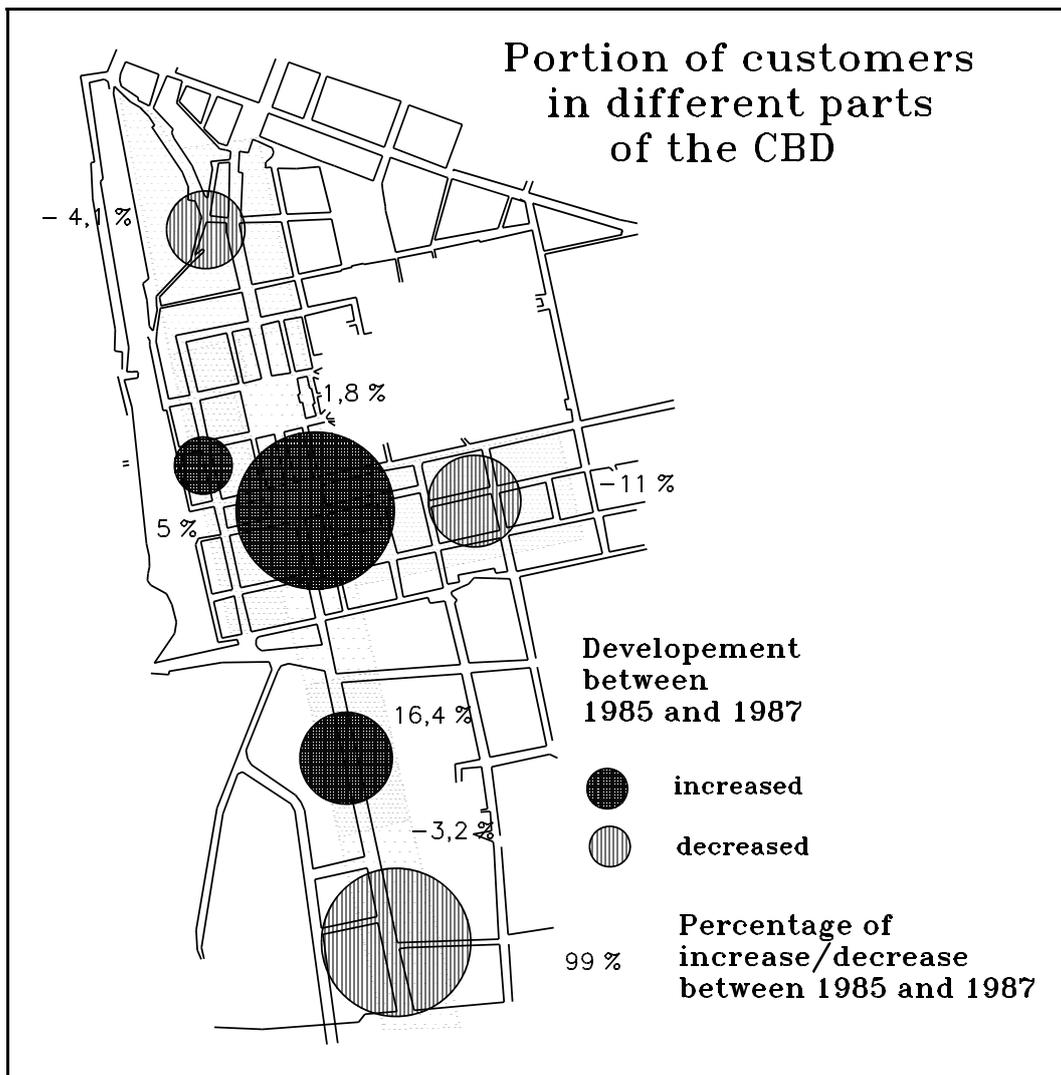


Fig. 8: Portions of customers in different areas of the CBD in Erlangen in 1987 and variations to 1985 (without department stores)

4. Characteristics of City visitors

Apart from the quantitative aspects of the visitor streams that frequent Erlangen's central shopping areas after the pedestrianization it's also important to have a look at the structure of the visitors of the CBD. Besides counts of the shop visitors there was a questionnaire survey of passers-by after establishing the pedestrian precinct in 1987. The results are compared to the situation in 1984, when the author took part in another survey (*BBE-Bayern* 1984).

The passers-by have been asked for what purposes they visited the inner city of Erlangen (see fig. 9). In 1987 the percentage of passers-by who said that they came to the town centre for work or education and for recreational reasons and the portion of passers-by which said they were here for shopping was smaller than in 1984. This means that the centre had become a more

attractive place for people to stay on their way to or from work/education in the shopping area in order to, for example, promenade, go window-shopping or have some coffee in one of the newly established street-coffeeshops.

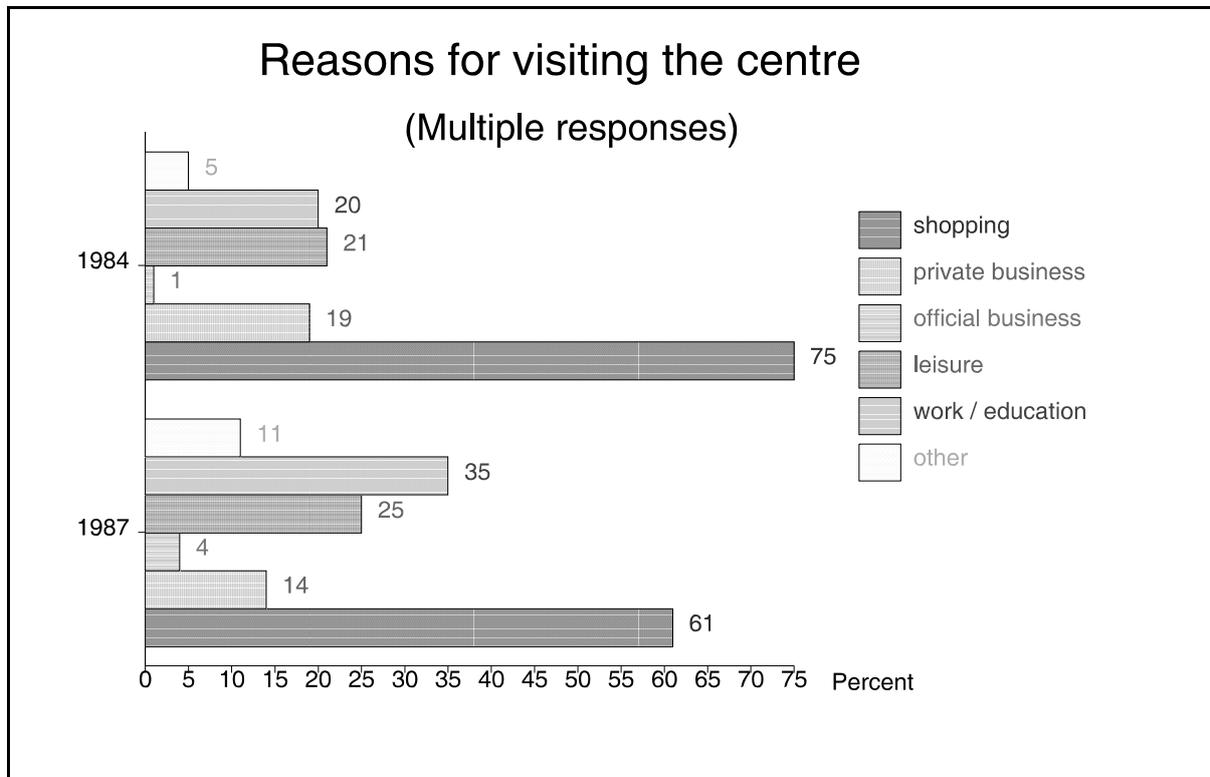


Fig. 9: Reasons for visiting the inner city of Erlangen in 1984 and 1987 (multiple responses; Number of questionaired passers by in 1984: 423 and in 1987: 446)

This also can be seen by looking at the number of passers-by in the main shopping street which were counted in 1975 (MEYER 1978), 1985 (MEYER and FRISCH 1986) and 1987 (see fig. 10).⁹ In addition to a general increase of passers-by, the at midday has risen particularly.

9) The low number of passers-by between 10 and 11 o'clock is due to a rainshower.

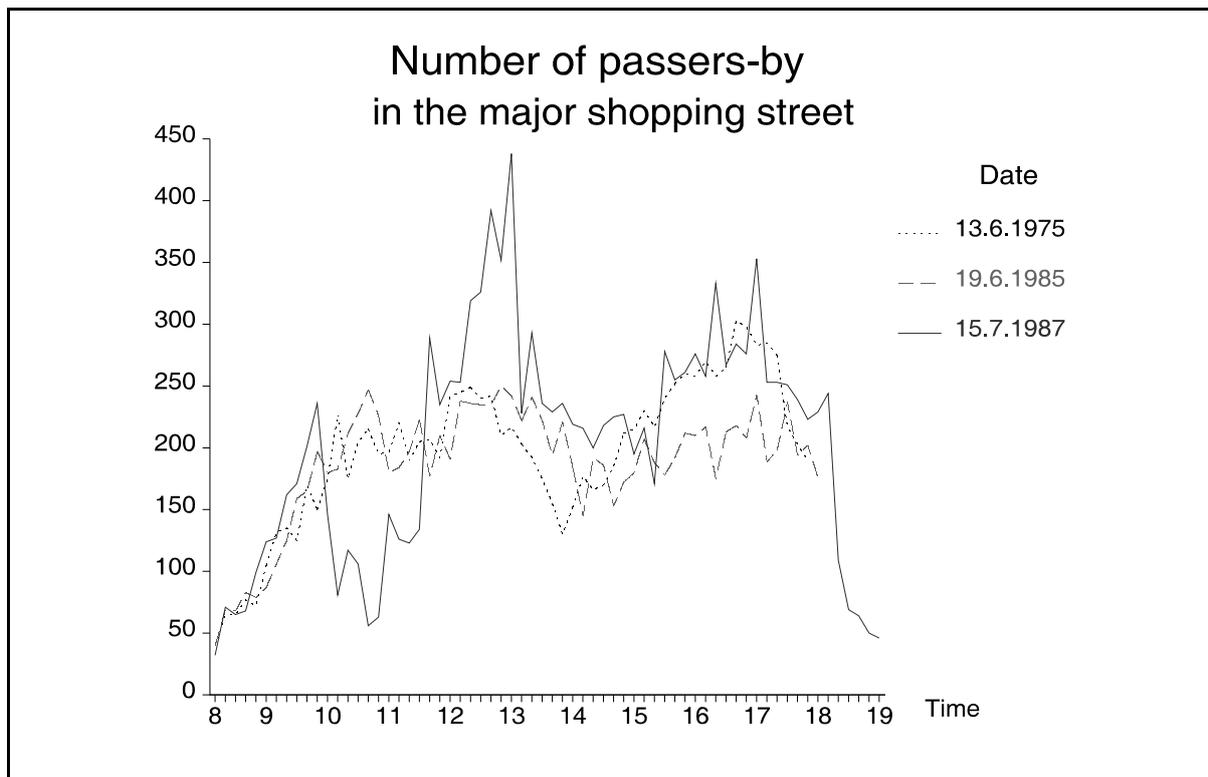


Fig. 10: *Number of passers-by in the main shopping street in 1975, 1985 and 1987*

As regards the economic effects of the pedestrian precinct it is important whether there have been changes in the portion of customers coming from outside of town (see fig. 11). Even if in 1987 the percentage of passers-by with shopping purpose from outside of Erlangen was slightly higher, one can say that the portion has not changed very much since 1984. As to the retailers' apprehension that the purchasing power afflux from out of town might decrease after the establishing of the pedestrian precinct and the reduction of the car parking facilities it can be seen that these fears were unfounded.

An important aspect for the understanding of the situation in Erlangen are the means of transport which people use to come to the centre of the town (see fig. 12). In 1987 almost 60 % of the passers-by used other means of transport than the car. The percentage of passers-by who come with their own cars even decreased slightly between 1984 and 1987, whereas the percentage of those using means of public transport or the bicycle increased.¹⁰

A comparison between the means of transport used by the passers-by from Erlangen and those who come from out of town shows that only 26 % of the passers-by from Erlangen used the car to come to the centre (see fig. 13). On the other hand about two thirds of the customers from the hinterland used their cars to come to Erlangen which is quite a high portion for a town of this size.

10) As far as the used means of transport are concerned there is no difference between those passers-by who come for shopping and the others.

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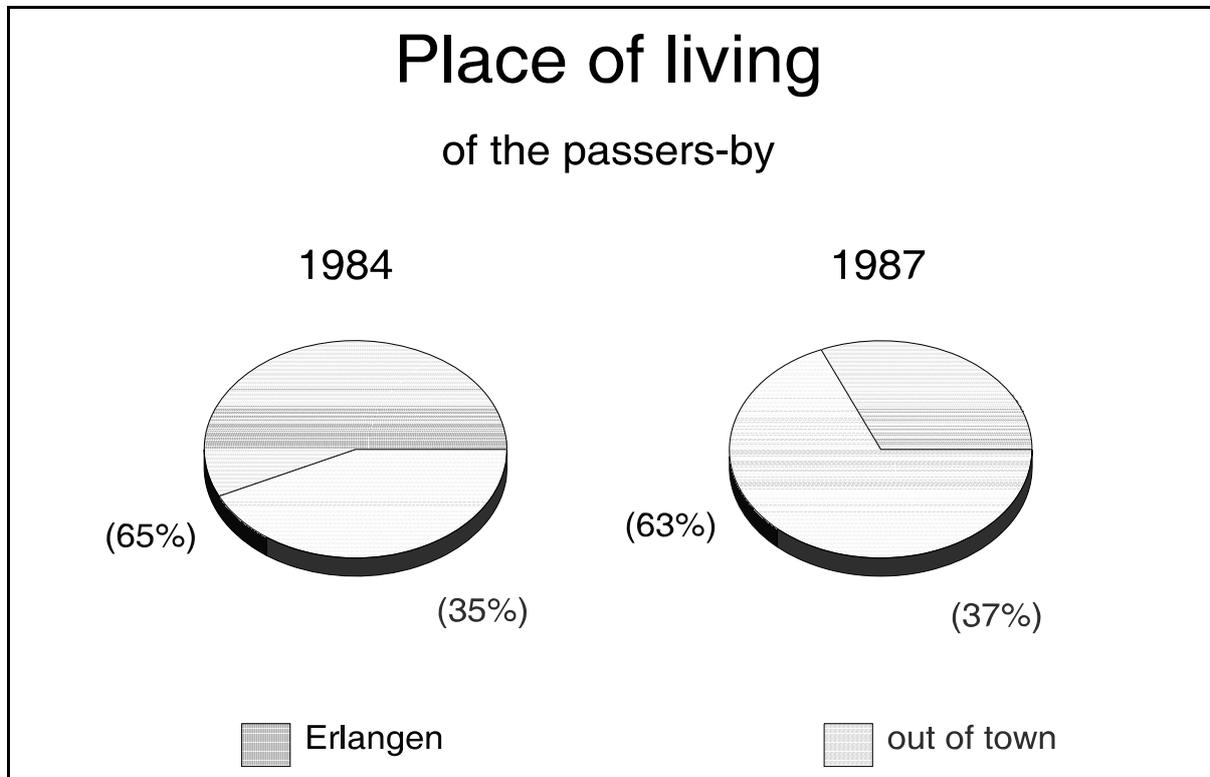


Fig. 11: *Place of living of those passers-by which visited the town centre for reasons of shopping in 1984 and 1987*

The passers-by who did not use a car to come to the centre were asked, whether they would have been able to use a car. Almost half of them¹¹ said they could as well have used their private car for that ride to the CBD. This means almost 30 % of all passers-by refrained from using the private car. In another study the author (KAGERMEIER 1986) has investigated the reasons why people do not use their own car in Erlangen. The majority of the answers referred to problems like the search for parking space or traffic jams on access roads. The conclusion which can be drawn from

11) 47,6 % of the inhabitants of Erlangen and 46,6 % of the passers-by from the hinterland.

this is that for a municipality that wants to reduce passenger-car traffic it is not sufficient to provide other opportunities of transport (e.g. a net of bike-lanes and attractive public transports), but it is also necessary to apply restrictive measures on passenger-car traffic so that the car is only used when necessary. As the example shows, this can be done without endangering the retail structure.

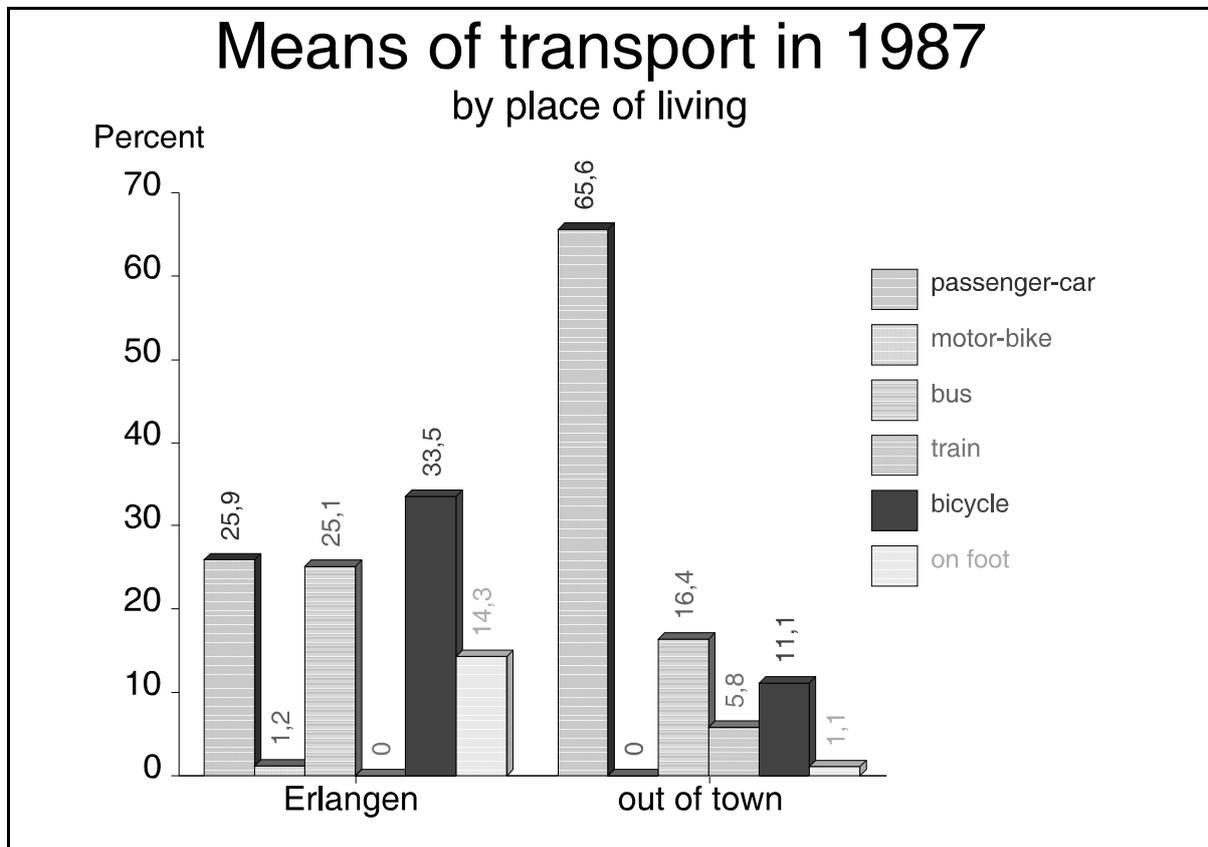


Fig. 12: Means of transport used in 1987 differentiated by place of living

5. Is Park & Ride a means to ameliorate the accessibility in medium sized towns ?

Even if the greater part of the inhabitants of Erlangen not use their cars to come to the centre, there is still a great portion of visitors from the hinterland who need car parks near the centre. One possible way to reduce the pressure on the car parking facilities in the CBD seemed to be an efficient Park&Ride facility: When establishing the pedestrian precinct the town council decided to install two new bus linea, the so called *City-Busses*, which connected the parking places at the edge of the centre with the CBD (see fig. 14) and could be used by showing the car-parking tickets.

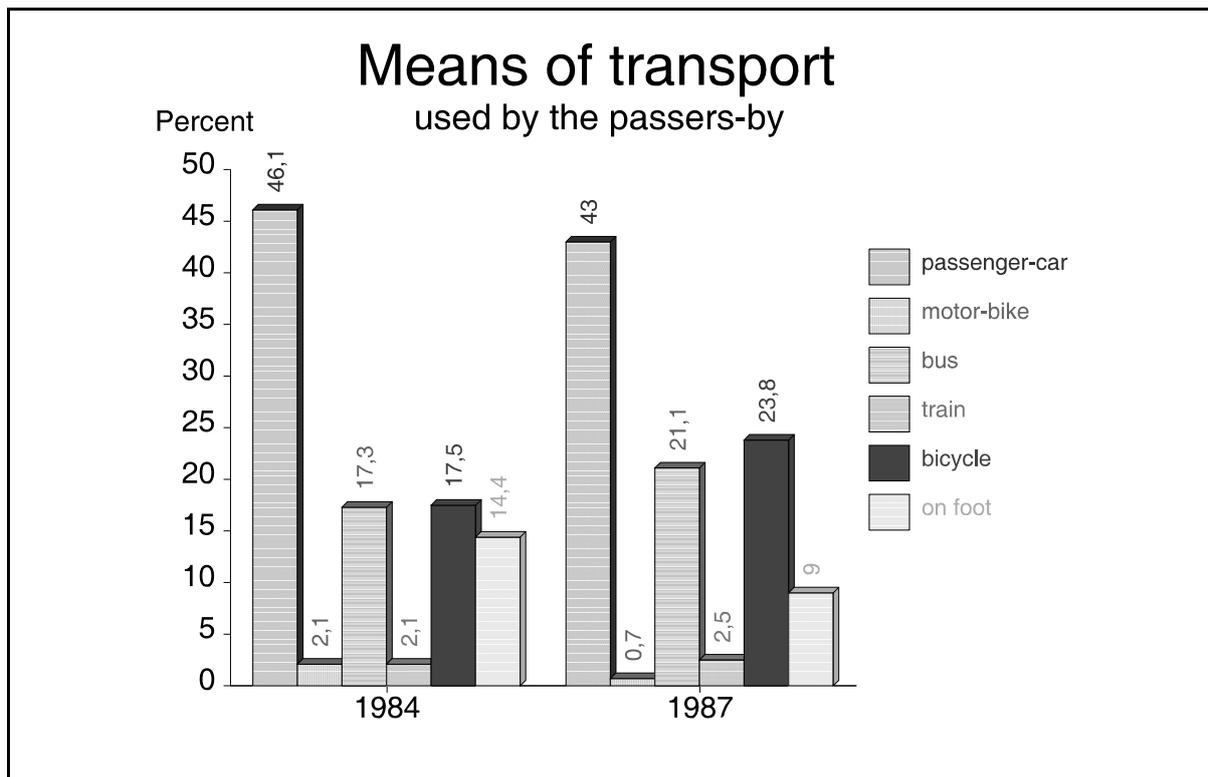


Fig. 13: *Means of transport used by the passers-by in 1984 and 1987*

An accompanying study showed this busses were only used by a few people, the majority of which were people who came to town with public transports anyway and used the *City-Bus* instead of other bus lines in the city. Less than 5 % of the people using the *City-Busses* had left their cars at a parking place and used the offered line as a Park&Ride facility (KAGERMEIER 1986, p. 42). The main reason for this weak utilisation of the offered Park&Ride facilities was that the car drivers who left their cars at the great parking lots preferred to walk to the CBD because they estimated that a distance of a few hundred meters was not long enough to use the bus (KAGERMEIER 1986, p. 70). It can be assumed that the main target group, people who try to park their cars as near as possible to the shops, have not been moved to leave their car at the great peripheral parking lots and use the Park&Ride opportunity. In 1989 the *City-Bus* was discontinued because even after 3 years the demand for this line had not increased. This experience can be taken as a hint for other medium-sized towns that the creation of a Park&Ride facility is not an efficient way of reducing the car-traffic in the centre without deteriorating the attractiveness of the CBD because the distances are usually not large enough to make such a system necessary.

Therefore it is now necessary to search for other ways of reducing the afflux of cars to the centre of the town without diminishing its retailing attractiveness. For distances of more than 5 km the bicycle is not a mean of transport which could handle an important part of the traffic. Therefore the only way to reduce traffic, without discouraging the inhabitants of the hinterland from coming to Erlangen, is to offer attractive public transport

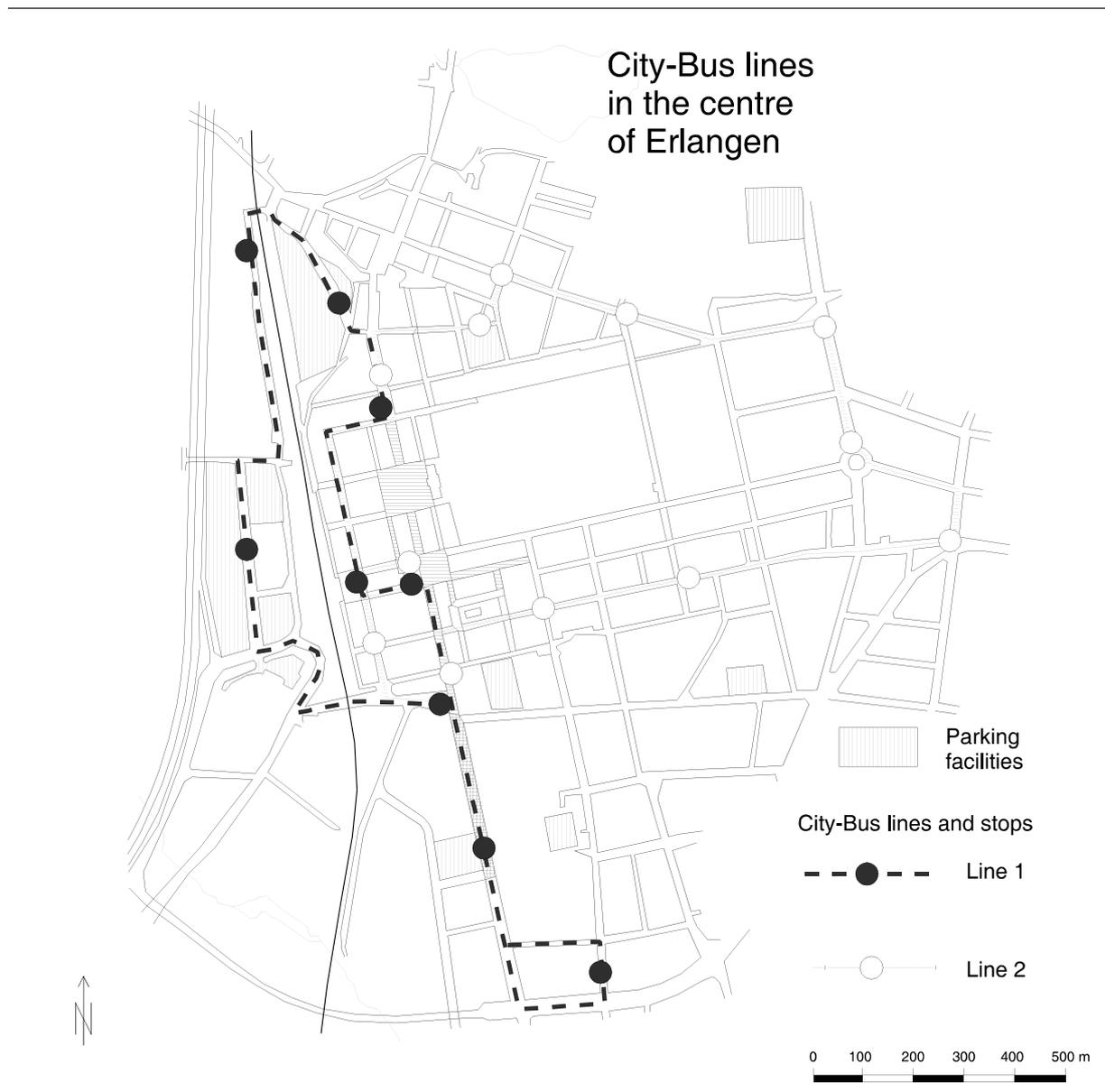


Fig. 14: Lines of the City-Bus in Erlangen

opportunities. Experience from other towns (e.g. Karlsruhe or Zürich; see LUDWIG 1990 and BRÄNDLI 1990) shows that a railway-based public transport system is far more attractive than a mere bus system. The town council therefore has decided in spring 1991 to elaborate a concept for a lightrail train system which would connect important places in the hinterland with the centre of the town (see *INTRAPLAN* 1991).

6. Conclusion

The example of Erlangen was supposed to demonstrate that it is not necessary to provide too many parking facilities for passenger-car traffic in order to strengthen the attractiveness of the central shopping area. It is obviously possible to maintain a vital retailing supply in the centre of a medium-sized town if one pursues an integrated long-term town planning concept which contains the following three elements:

- a land use plan which does not promote spacial function division and therefore does not settle too many central functions in the suburban belt at not integrated locations;
- a concept to counterbalance the exodus from the cities by providing attractive housing opportunities near or in the centre and thereby reduce the necessity to use motorized means of transport in order to get to the centre;
- an integrated concept to increase the attractiveness of bicycle use and public transports in order to change the modal-split in favour of public transport and not motorized traffic; good accessibility from the hinterland with public transports is also of vital necessity.

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