

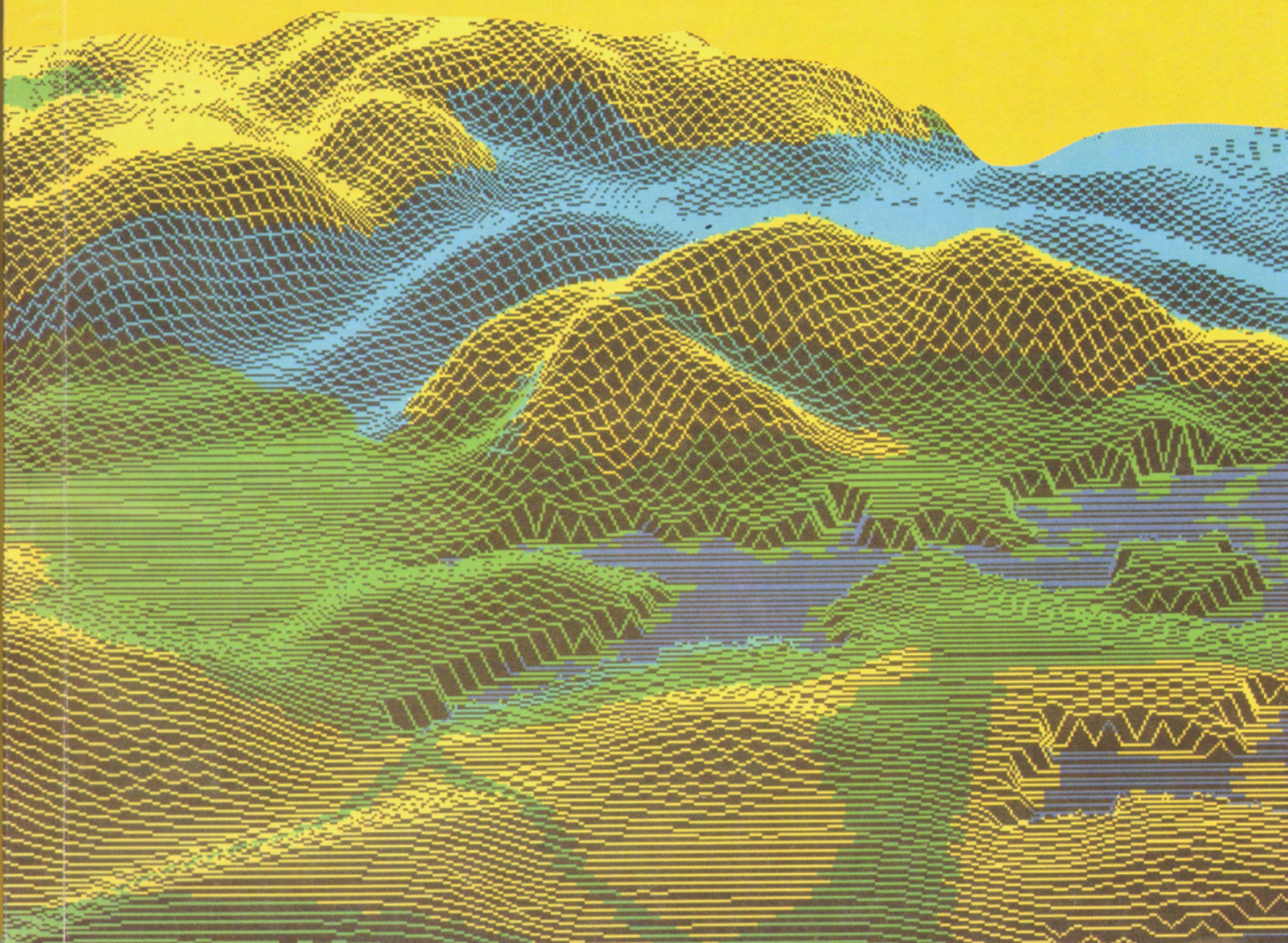
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CASE STUDY: BRNO

Antonín VAISHAR - Oldřich MIKULÍK - Jana ZAPLETALOVÁ -
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Abstract

In the sphere of communication policy, the basic question consists in the relation between mass public transportation and individual transportation and the transportation relation between the centre, subcentral parts of the city and its suburbs. The privatisation of retail is completed and finished. The basic problem also is the relation centre - subcentral zones - suburbs. Location of green spaces in the area of the city is disproportional. In Brno, there are strictly defined areas of the protection of nature. The major instrument for decision making is Territorial Plan. Factors of decision-making process are discussed.

Shrnutí

Ve sféře dopravní politiky je zásadní otázkou vztah mezi městskou hromadnou a individuální dopravou a rovněž vztah mezi centrem - subcentrální zónou a předměstími. Privatizace maloobchodu je úplná a byla dokončena. Základní problém tkví rovněž ve vztahu centrum- přicentrální zóna - předměstí. Lokalizace zelených ploch na území města je disproportionalní. Ve městě jsou přísně definována území ochrany přírody, avšak s malým vlivem na životní prostředí obyvatel. Hlavním nástrojem rozhodovacího procesu je územní plán. Ve studii jsou diskutovány další faktory rozhodovacího procesu.

Key words: communication policy, retail location, green areas, territorial plan, Brno

1. GENERAL CONDITIONS

1.1 Basic functions

In 1991 (census) 388,296 people lived in Brno, at the area of 230.2 km². The city originated genetically in favourable location at the junction of the Svitava River and the Svatka River in a contact zone between the flat Dyjskosvratecký úval (Graben) and multiform salients of the Českomoravská vrchovina (Highland) and the Drahanská vrchovina (Highland), at the area with a number of isolated elevations. The city of Brno has a multiform surface in altitude from 188 to 373 metres. Brno is the most important centre of Eastern part of the Czech Republic, former capital of Moravia (until dissolution of the former region, so called "lands" as autonomous parts of the country after 1948) with many super-regional functions. The nearest big city is Vienna, Austria.

The super-regional functions are as follows:

- commercial function, based on the tradition of trade-fairs (since 1959),
- industrial function, based on machinery production,
- university function, based on 6 universities and on the number of scientific institutes,
- cultural function, involving eight theatres and many other cultural activities,
- function of transportation nodal point, based on crossing highways D1 and D2 and other road and train communications and an airport,

- function of the travelling centre, based on organisation of significant events, using the Masaryk car-racing track historical sightseeing and general attractiveness of the area,
- judicial function as a residence of The Supreme Court and Constitutional Court of the Czech Republic.

1.2 Exploitation of land and structural development of the city after 1945

In the following chart we can observe particular ways of exploitation of land in Brno and the percentage of different ways of exploitation, out of total area of Brno, as given by its administrative borders. (Administrative borders of the city were extended step-by-step within concentration of settlement administration. Present administrative borders reach over the built-up area especially in NW quarter, whereas in the South and East, independent towns Šlapanice and Modřice immediately neighbour on Brno.)

arable land	5679 hectares	24.7 %
vineyards, gardens, orchards	2399 hectares	10.4 %
meadows, pastures	318 hectares	1.4 %
forest	6380 hectares	27.7 %
water areas	447 hectares	1.9 %
built-up areas	2113 hectares	9.2 %
other areas	5638 hectares	24.7 %

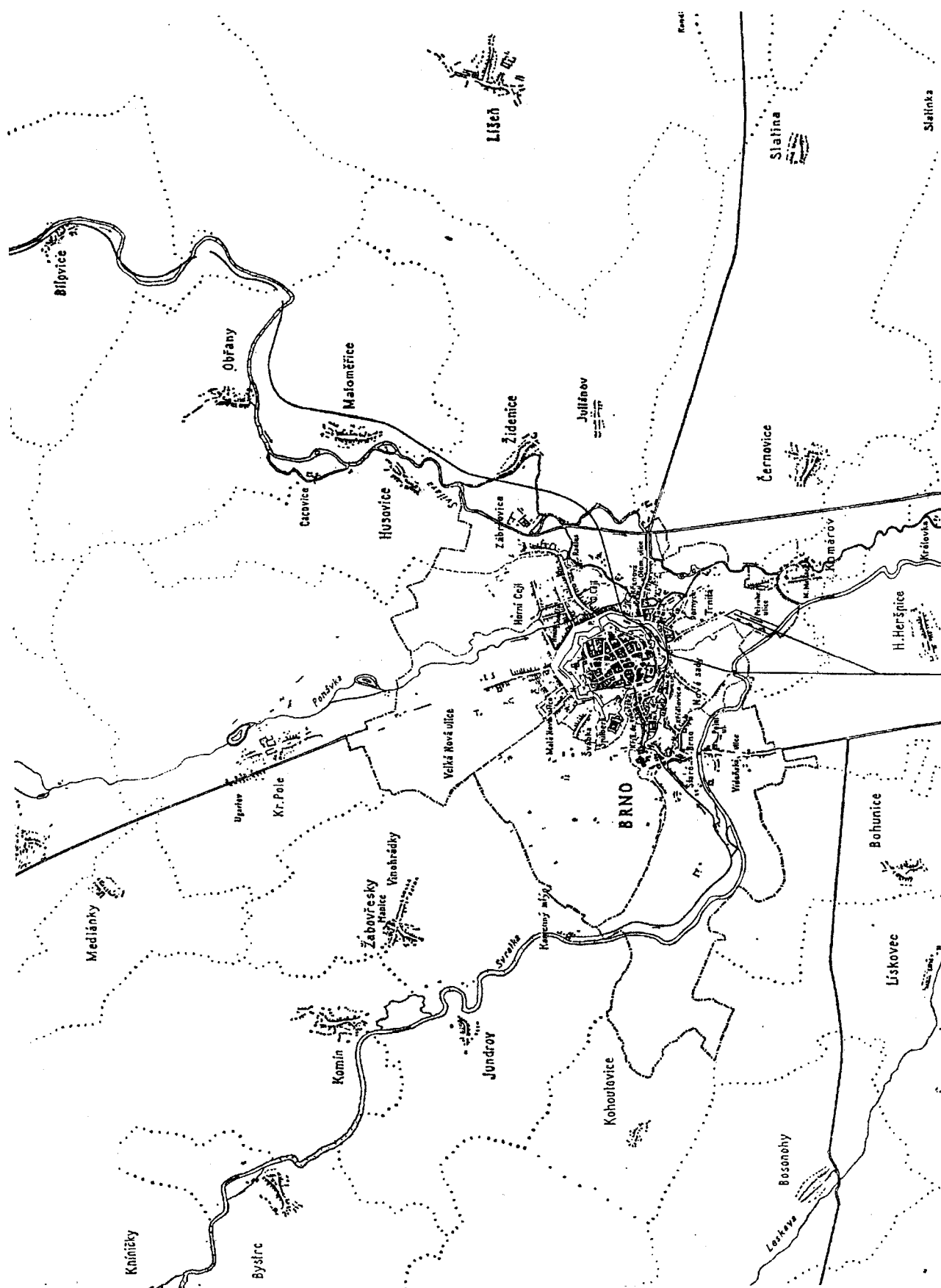


Fig. 1 Brno - 1850

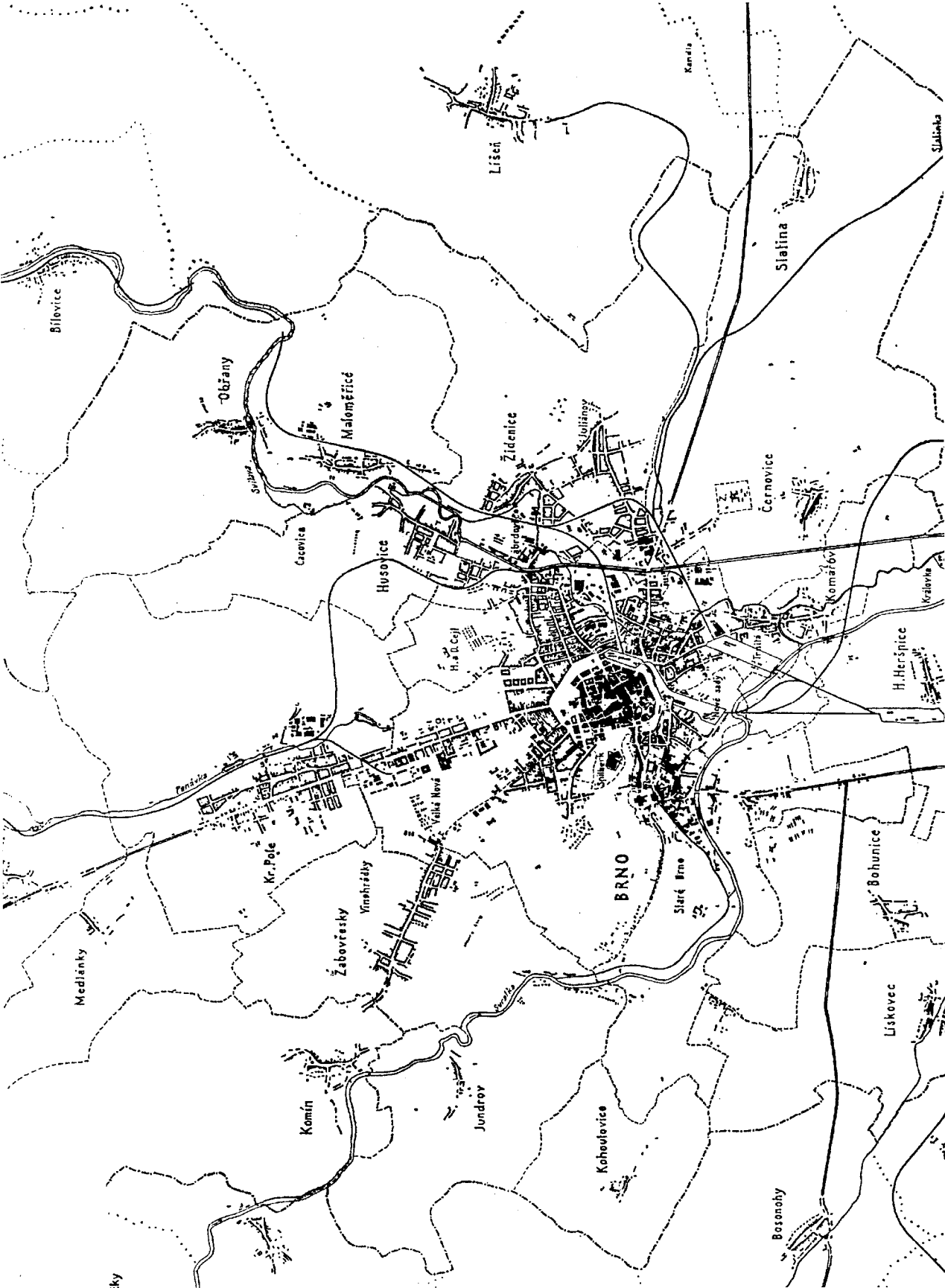


Fig. 2 Brno - 1919



Fig. 3 Brno - 1960

The population density in Brno as related to built-up areas is 18.377 people per km². However, the built-up areas and other areas (that is above all the areas of technical infrastructure) occupy only one third of the territory of the city. On the other hand, the areas of permanent vegetation (gardens, meadows, forests) represent almost 40 % of the city area. More than 36 % of the territory of the city is occupied by agriculturally exploited land.

In last forty years territorial development of Brno was characterised by following symptoms:

Conservation of a relatively small and underfurnished city centre, as a result of underestimation of service-trade sphere. The historical part of the centre is an urban reservation. This activity, though, had been limited to passive protection of material of significant buildings, not to maintaining the functional and living historical part. Because of the missing infrastructure, the centre of the town could not be fully utilized for tourism. The residential function was gradually displaced.

Dilapidation of considerable part of the zone near the centre. Insufficient maintenance of flats caused some streets to dilapidate and to be settled by inhabitants of a socially weaker class (often by Romany population). The situation in residential neighbourhoods near the old industrial area (near the railway station) became particularly very serious.

Construction of monofunctional residential suburbs. This type of government-managed or cooperative construction was preferred with no regards to its disadvantages (such as high demand on its operation, problems of social environment, technological disadvantages, architectural and aesthetic deficiency). Construction of retail and service enterprises and telephonisation came ten and more years later. Still it is necessary to manage a relatively highly demanding transportation capacity.

Growth of other industrial enterprises in suburbs (especially in the south) in connection to major road communications. Older industrial areas, on the other hand, got into environmental conflicts.

Preference of public transport of people to individual transport. Due to this, much attention was paid to infrastructure of public transport, especially trams, while the road-network and capacity of parking places was underestimated.

Suburbanising tendencies (for example people moving into the surrounding countryside, or construction of large working- areas or shopping centres near the city) have not occurred yet. Certain indications can be seen in the south, where large countryside villages almost border with Brno.

1.3 Social and economical structure

The number of inhabitants has been constantly increasing in the last 40 years:

In 1991 (the last population census) Brno reached 388,296 inhabitants. The structure of age, however, is regressive: there are 19.7 % people in pre-production age, 57.7 % people in production age, and 22.6 % people in post-production age. Actual continuous increase of the number of inhabitants is exclusively the result of immigration.

More than 60 thousand people commute to work in Brno, 33,500 people to schools (1991). If we consider also travelling activities, there are about 500 thousand people in Brno in a day.

People are employed in major sectors of economy (from the total amount of 203 763 people) as follows:

The most important industries are as follows:

engineering, electrotechnics, metal processing	62.8 %
textile industry	9.0 %
food industry	5.4 %
fuel and power industry	4.8 %
wood, paper industry	4.3 %
chemistry	2.8 %

Structure of services is as follows:

transport and communication	12.2 %
trade	17.2 %
science and research	6.2 %
communal services	7.6 %
travelling services	1.6 %
social services (incl. education and health)	33.3 %
other (incl. financial, judicial, administration)	16.1 %

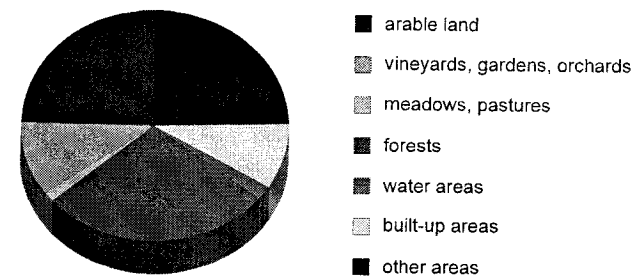
The data are from 1991, that is from the period of time when the economic transformation was at its beginning. Since then we can estimate a relatively remarkable drift of workers from the secondary to tertiary sector, especially into trade, financial and administration spheres.

1.4 Structure of administration and local government

Before the beginning of transformation in 1989, the city of Brno had been a district (it means the third highest

administrative unit in hierarchy, under central bodies and regions). It was divided into five sections with rights of municipalities. The structure of local government corresponded with political hegemony of the Communist Party and with centrally governed economy. Financial economy was based on re-distribution of all resources by means of the budget. Enterprises of individuals and organisations were possible and eligible only within boundaries that were politically set forth

Land Use



beforehand. As partial alternatives of the central power, there were some ecological and environmental activities at the end of the 1980's, but with no significant achievements. From the territory administration point of view it was considered negative that there were such large, spatially separated residential areas with tens of thousands inhabitants that did not have even a basic local authority.

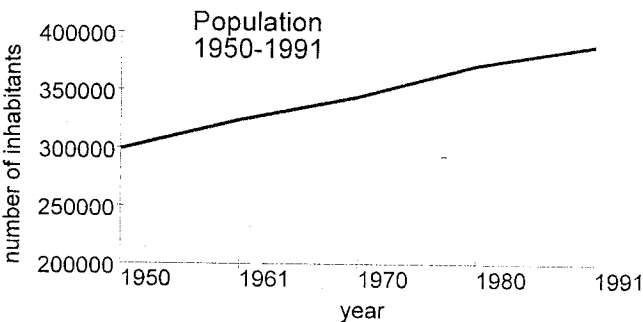
The period after 1989 can be designated as a period of searching optimum forms and methods of regional and local policy. In terms of administration, Brno is a city with special status, under the Act of Czech National Council No. 367/1990. The Town Council of Brno operates at the same time as a Council of District, therefore as an authority of the second level in the hierarchy of authorities (after central bodies). The city of Brno is divided into 29 municipalities. The territory of Brno is statistically divided into 48 cadastral territories and 272 urbanistic units.

The consideration of the level of conversion into free-market economy, that has been achieved, is essential for understanding the possibilities and methods of territorial decision-making. It is possible to state following points:

- Privatisation minor has been finished, in general. Free-market requirements influence the sphere of retail, services, and a part of small manufacture, with the exception of changing the thinking of businessmen. These changes will remain necessary for a long time.
- The process of privatisation major culminated in November 1994, when division of the property by means of coupons has been finished. We can expect an approximately three-year period of gradual concentra-

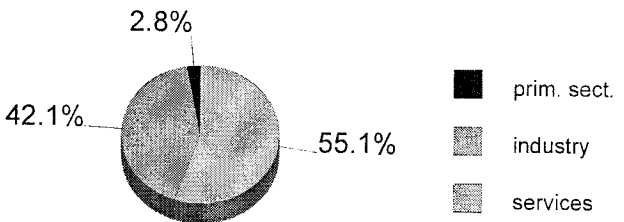
tion of property before industrial enterprises begin to be really influenced by private owners.

- The labour market has not been completely formed. An evidence of this fact can be seen, for example, in some prices that are controlled by the government, and the minimum rate of unemployment, which is under the rate of 2% for a long period of time.
- The most urgent problem of communal policy is non-existence of the market in tenements, as a result of legislative problems, as well as of an absence of free offering of tenements that could become subject of the market. This fact influences also the market with immovables and ground rent.



A basic conceptual instrument of territorial government in the city of Brno is a Target Area Plan. The first regulative plan of the inner city was elaborated in 1845-47. Following was the plan to build the territory up, 1924-33. In this period of time, Brno was one of progressive centres of European urbanism and architecture. Wide connections were described in the study of city region 1948-49. This study was replaced by a number of target area plans from that period, when economy was under central government. The last one comes from 1979-82. It directly established kinds of manufactures and their development or reduction, as well as the number of tenements. Considering the new conditions (for example changes in ownership of land and buildings) it was necessary to work out a new Area plan of the city of Brno 1994 (APCB).

Employees in major sectors of economy



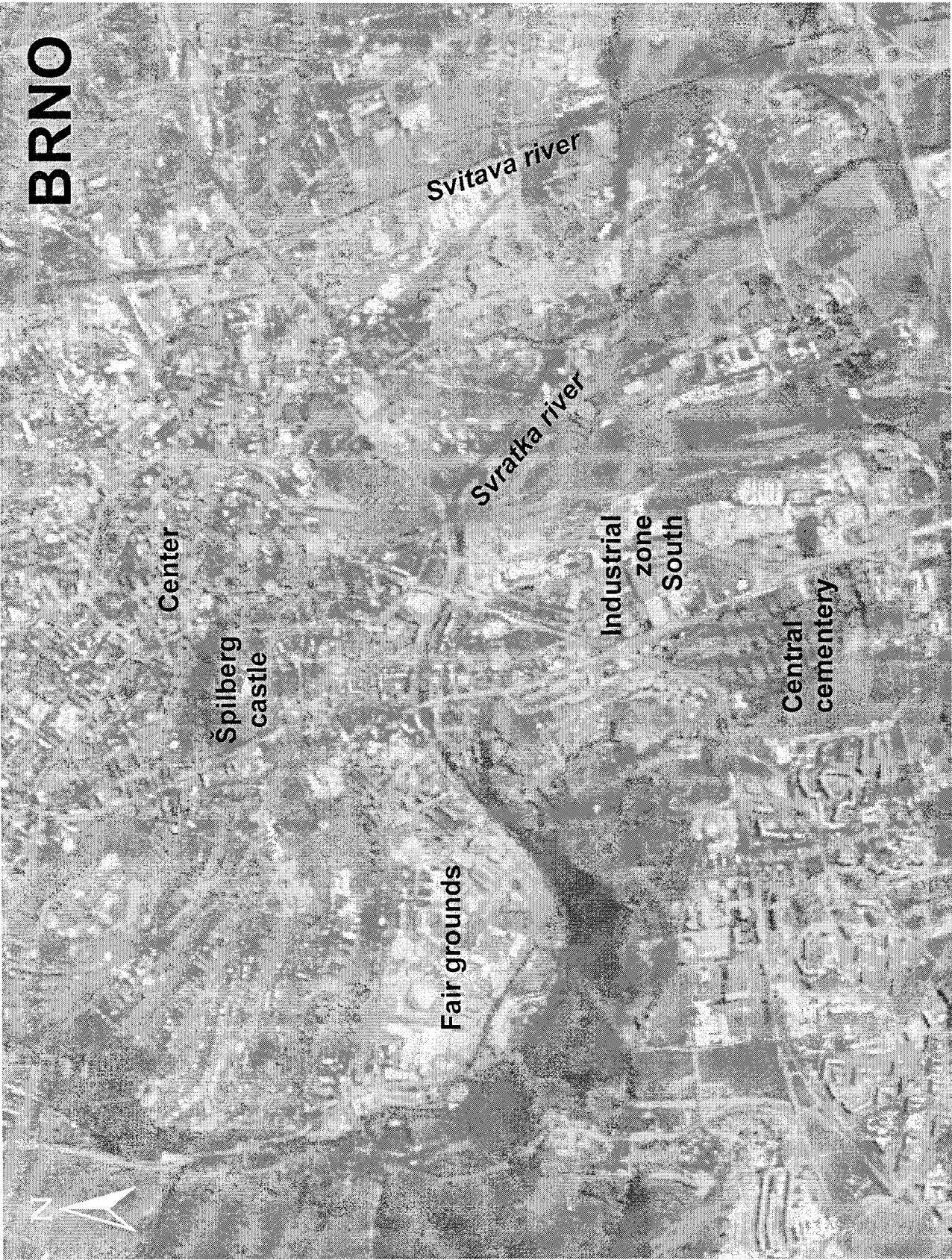


Fig. 4 Panchromatic satellite photography taken by SPOT sensors, which shows central and southern part of Brno.

source: © SPOT Image - commercial product

Purpose of the APCB is to protect public concerns, co-ordinate building activities of investors, initiate conditions to draw foreign funds, co-ordinate concerns of the city with its sections, invest the city-owned money effectively, submit requirements for government subsidies and development projects, respond to regional co-operation. Strategic goals of the APCB were formulated as follows:

Brno - a European city: support of supra-regional functions, improvement of traffic connections, development of telecommunication,

Brno - a rich city: support of significant business projects

Brno - a habitable city: development within humanistic and ecological measures,

Brno - a functional city: proportional development backed by functional technical infrastructure,

Brno - a cultural city: preservation of cultural and natural heritage and identity of the city, development of the university function.

A part of the APCB design was also response to the changes of socio-cultural conditions. We record decline of political activities. These activities are being shifted to local levels. Measure of individual responsibility is increasing, but also the factor of risk is increasing rapidly at the same time. Loss of social securities leads to stress, and conflicts are not excluded at those places, where social problems interfuse with ethnical problems (Romany population). Socially endangered groups consist of retired people, families with small children and unemployed people.

There is a remarkable differentiation of income levels and ways of life of inhabitants, which is reflected in social differentiation of the city. Because it gets complicated to satisfy basic needs, these needs become more important for people as well as for differentiation of peoples lives. This will be manifested in spheres of demand on dwelling, recreational activities, social and political activities and economical activities.

APCB has been discussed with concerned authorities of state administration, authorities of city-sections and organisations and it has been made public. Reminders having been incorporated, the plan was ratified in November 1994.

2. POLICY AREA I: TRAFFIC

2.1 Transport policy

Transport policy in the Czech Republic is controlled by the government (Ministry of Transport). Municipalities as such (in our case Brno City Council) can modify traffic regulations on concrete road sections in the city in collaboration with Traffic Inspectorate, Police of the Czech Republic to local conditions and needs. The situation at building local communications, bypasses, settlements or passages of superior communication

systems is similar. All of these are built according to approved plans for area development agreed upon by not only City council but also Road Administration of the Czech Republic, or Czech Railways, respectively.

In contrast, the network of city public transport system, its development and directing, building of parking places and their operation, establishment of pedestrian zones, paths for cyclists, motor vehicle restriction zones, etc. are under full control of the City.

Due to important changes in the entire economic system of Czech Republic, which were caused by transition from the central planned to market economy, it was among other also national transport and fares tariff policy that have been changed. Similarly important changes in future forming of the traffic network were caused by split of the Czechoslovak Federative Republic into two separate countries: Czech and Slovak Republics. Analogous consequences can be seen after pronounced changes in orientation of foreign trade and restructuring of industry in the country. All the above changes logically reflect in size of transport flows and their channeling, which applies to both freight and passenger traffic. The chain of changes affects transport policy as well as organization of traffic, which again must reflect in the transport policy in the City of Brno. This is why we shall not only tackle organization of traffic inside the City itself but also a wider traffic system and its complex relations.

2.2 Location of Brno within traffic network in the Czech Republic

Brno represents an important traffic junction in South Moravia. All roads and railway lines in this area meet in Brno with all possible negative consequences of this arrangement.

In the southern sector of the town there is a crossing between the D1 motorway Prague - Brno - Vyškov (with planned extension eastwards and the linking highway D47 to Ostrava direction) and the D2 motorway Brno - Bratislava. There are other five roads of the first class and numerous roads of the second and third classes that radially converge in Brno. Brno is also a significant railway junction situated on the international railway route Berlin - Prague - Brno - Bratislava - Budapest - Balkan. In Brno the line links with other five railway tracks which connect Brno with other economic centers in Moravia.

There is also an airport in Brno, which complies with all parameters expected from an international airport: however, it can only be used for smaller types of aircrafts. The Brno Airport is located about 7 km from the centre, its utilization being minimum at present.

Traffic links inside the City are ensured mainly by road traffic. Prevailing traffic means for passenger

transport can be seen in public transport system which includes trams, trolley buses and buses.

The traffic system forms an integral part of City infrastructure. Connection of Brno to the network of regional and international traffic lines affects, and will be affecting in the future development, localization of new economic activities on the territory of the town, thus indirectly conditioning its economic prosperity. Line traffic structures play not a negligible role at organizing the territory and joint building of commercial milieu in the City. Transport facilities form pre-requisites for concentration of developmental activities and investments in their vicinity and thus also for development of the town.

2.3 Railway traffic

Parameters of the Brno railway junction are not satisfactory. The main railway station has short platform edges for contemporary international passenger transport, which cannot be extended. Its parameters are low both in terms of capacity and in terms of operational technology, not enabling introduction of integrated suburban transport. Its location and technical parameters do not facilitate its integration into the planned network of fast railway.

Some 2 million metric tons are annually loaded and unloaded in the Brno railway stations. Average daily numbers of passengers arriving to the Brno main railway station or leaving it amount to 70 thousand.

It has been discussed already many years between experts in Brno and the non-technical public whether the existing main railway station should be dislocated to peripheral neighbourhood southwards of its present location. Linking up with this intention and an already worked out project, the peripheral neighbourhood has been equipped with a new bus station. The problem is, among others, that the new location of the main railway station means more difficult transport connection for majority of residential parts. However, as final positioning of the main railway station still remains not clear enough, it is not possible yet to make a long-term conception of future development of the public transport system with all appurtenant impacts for economic life of the City.

As planned in the worked out projects for building fast railway, in the future Brno should be situated on the route of this railway line which is supposed to stretch from NE Europe via Prague to SE Europe. However, precise routing has not finally been decided on and this is the reason for working out several variants of how to link the City to the system of fast railway.

2.4 Road transport

As we have already mentioned above, the roads of both regional and supra-regional significance radially converge in Brno with the motorway crossing being situated in the southern sector of the town. There are

several feeders which connect the City with the existing motorways that either lead directly into the centre or open into the projected outer city ring-road. Similar situation can be seen in the case of 1st class roads.

Unfortunately, the outer circle has been so far built only in fragments with all negative consequences both for traffic as such and for quality of environment in afflicted parts of the town. By means of the built up highways it was possible to eliminate transit traffic from the City, whose major routes lead from NW and W areas of the country toward Southeast, South and East. Nevertheless, transit traffic in the direction from the North to the South, and to lesser extent also N-E and N-W still has to pass through the Brno City (highway effect).

It is very important at present to finalize the outer city traffic circle so that transit traffic meets with the internal city transport system as little as possible, and a certain part of internal city traffic can be transferred onto the outer circle. After certain efforts, construction of the so called Prague radial has been resolved and approved, which will help to find an at least partial solution for transit traffic in the western sector of the City for vehicles going on the motorway from Prague. Problems are traditionally connected with opposition of residential parts in routes of planned roads (real or assumed environmental apprehensions), newly also with difficulties in the sphere of ownership.

The present period of transition is characteristic of freight conversion from railway to road transport even in commodities for which the railway transport should be much more favourable. Opening of the country borders then have caused busier international road freight transport, which apparently shows also on communications in intravillan of the City.

Ways of passenger car utilization have also recorded many changes. Before 1990, the majority of passenger cars privately owned by Brno inhabitants were used for recreation trips (weekend stays at summer houses, cottages and chalets, holiday tours), to lesser extent then for business trips and culture not speaking about their use for driving to work. It follows that the cars were mainly used for trips outside the city intravillan.

Since 1990, the situation has been gradually changing. In connection with privatization and with rising private companies and enterprising activities which are being run beside the main job, total annual throughflow of vehicles exhibits an increasing number of drives within the city intravillan.

The increasing business activities relate to increasing numbers of passenger cars. The number of passenger cars has increased from 232 per 1000 inhabitants (1990) to 286 per 1000 inhabitants (1994). The cars employed for these activities are characteristic of high mobility mainly within the city intravillan. All this is the cause to increased throughflow intensities on commu-

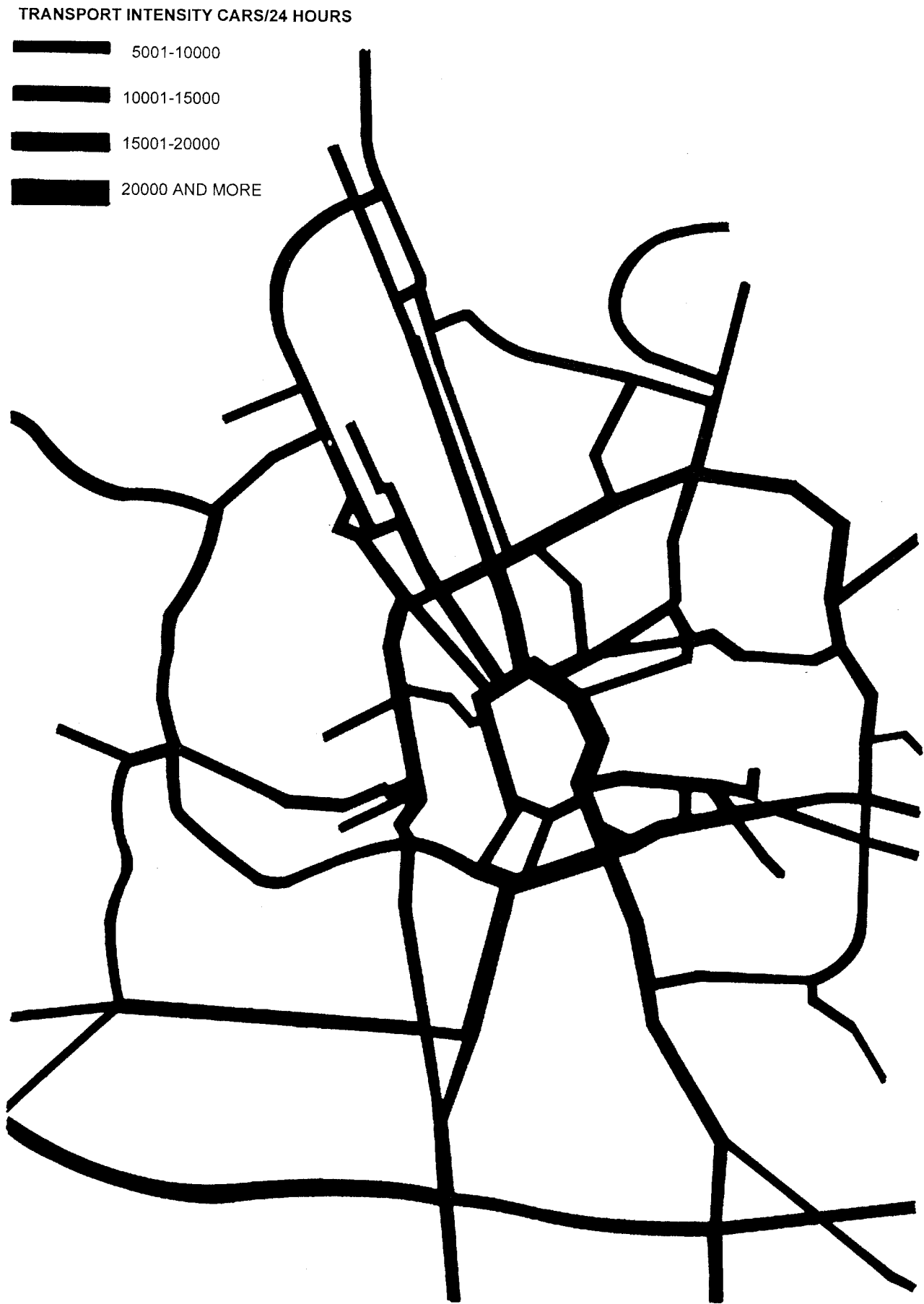
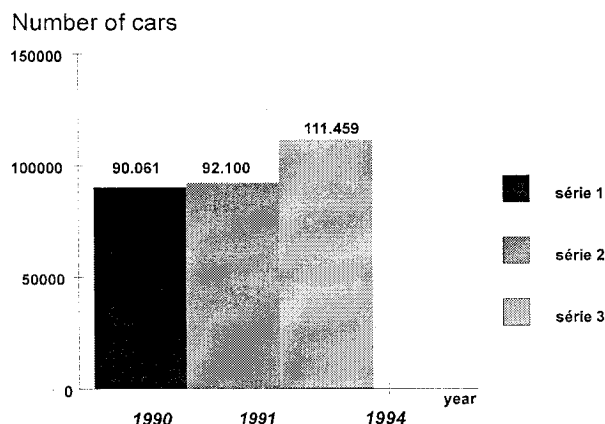


Fig. 5 Transport intensity on the selected roads in Brno (1991)

nications in the City as well as to reduced speed of the traffic flow. At the same time, the situation complicates operation on crossings in terms of their capacity, which again reflects on road sections used by means of public transport.

There is another negative phenomenon which shows in the fleet of passenger cars and deserves mentioning: due to the rapid increase in prices of new cars the existing fleet is quickly ageing and becomes obsolete. Even with obligatory periodical technical checks in passenger cars over 5 years (validity is written down in the technical licence for the vehicle and a stamp is glued onto registration number with the validity of technical inspection) and with two-stroke engine automobiles forming a negligible percentage of total number of cars, the impact of passenger cars traffic on quality of environment in narrow and poorly aerated city streets is still considerable. There are no sufficient legal measures available so far that would be able to improve the existing situation such as road tax reduction for those whose vehicles are provided with catalysts.

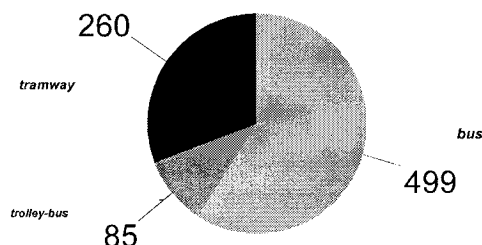


2.5 Public city transport

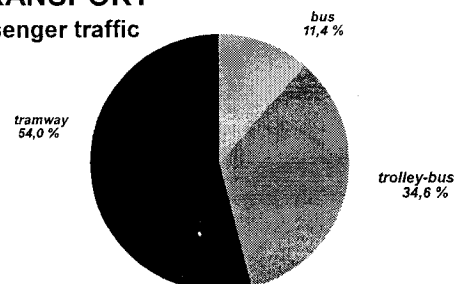
Public city transport within administrative city limits is ensured by trams, trolley buses and buses. The system of public city transport links up with several neighbouring settlements, namely in the southern and eastern sectors, of which some have relatively considerable concentration of industries and high numbers of permanent residents. At present division of passenger transportation in the City the public city transport system ensures 80 % of daily routes to work, to various facilities and recreation.

Radial shape of the tram lines network originates mainly in the 40's of this century with directions corresponding to requirements of the then town. It runs through the existing street network along with automobile traffic. New tram lines which have been built to take passengers to neighbourhoods in outskirts of the City are being led -in their majority- along their own track, i.e. separately from the automobile traffic. The bus lines of the public transport system cover practically the entire territory of the City, and they double with tram transport

PUBLIC TRANSPORT Length of lines



PUBLIC TRANSPORT Share in passenger traffic



in the centre of the town. The trolley bus lines provide transport for some newly built residential complexes for which building new tram lines would be either non-economical or technically too demanding (mainly due to terrain configuration).

All present lines of public city transport are directed to the center. This applies not only to the tram lines which radially cross the centre of the town, but also to the bus and trolley bus lines which have their terminals here with only a few exceptions. This situation is caused by both the existing network of rail and trolley bus transport and the tariff policy of Transport Enterprise of the City of Brno and the Brno Town Hall as their founder. There is no change tariff introduced in Brno, which means that there are efforts to connect all outskirts of the town directly with the center. The policy logically results in overloaded street profiles in the center, reduced speed of mass transport, and increased danger of accidents.

Large dwelling complexes have been built in the outskirts of Brno with neither job opportunities nor appropriate tertiary facilities, which has logically induced a necessity of daily mass displacement of the population after work and other activities. The highly demanding traffic situation calls for ever increasing investments into the traffic systems.

With regard to expected development of individual automobile transport it is necessary to keep interest of both Brno inhabitants and visitors in using public city transport means. Should the public transport system maintain the priority position in passenger transportation, it would be necessary to improve its standard, i.e. speed, regular operation, comfort.

On this occasion, it is worth mentioning once again that conception of the public city transport system in Brno has not been given a final form yet. The situation relates mainly to the still opened issue of whether to displace the existing main railway station for passenger railway transport or whether to leave it where it is at present. The main railway station is situated practically in the center, forming an artificial barrier between the historical (and shopping) core of the town and the proposed extension of the shopping center southwards.

Reorganization of the public city transport system was accomplished from 1 January, 1995. Its condition is introduction of the so called change tariff (*The price of single-use ticket increased by 50 %, the ticket holds for 1 hour, during which it is possible to change the transport mean ad lib. This conditions enables the passenger to choose an optimum route possibly not passing the centre.*) which has been approved by Brno City Council. The reorganized public city transport system will again be based on the network of tram lines that will be complemented by the network of bus and trolley bus lines. The latter network should gradually be reformed in such a way that the buses and trolley buses would serve as feeder lines for trams at suitable junction points with sufficient capacity. It is also expected that these junctions would be equipped with sufficiently large parking places for passenger cars. Some of these junctions should provide connection to trains of suburban transport system. All this should create an integrated network of public city and suburban transport, the reorganization efforts being aimed at relieving the city center from bus traffic and reducing traffic intensities on overloaded communications not speaking about partial reduction of air pollution and noise levels. It is also expected that thanks to the relieved street profiles the tram lines will be able to improve their operation in terms of speed and regularity.

In connection with relieving the city center from traffic and increasing speed of public transport there are some considerations about leading a part of tram lines in the NS direction under the City center. Nevertheless, this intention seems to be blocked by lacking finance as well as by the unclear conception of public transport system not speaking about the fact that the project is strongly opposed by local ecological initiatives as well as by a considerable part of public. What is being casted doubts upon by them is not the proper need of displacing the tram into the underground but the way of how the necessary infrastructure should be built. Spatial reasons have resulted in location of underground tram stations in parks, and financial reasons have dictated construction of these stations from above, which would in fact mean liquidation of the last remains of park areas in the City. These measures should result in maintaining the rate of city passenger transport by means of public city transport system as high as possible even in the future. With regard to experience from large European

cities, this is a necessary provision as a further pronounced increase in transport intensities in the central and adjacent zones would mean considerable impairment to road traffic or even its blockage.

2.6 Parking

With the ever increasing number of passenger cars, their mobility and their use in city traffic, the town has to fight with insufficient capacities of parking places - not only in the center.

There are no underground garages in Brno at present with the exception of several tens of boxes offered at some prominent hotels. This means that all accessible take-away areas are being used for car parking, the automobiles park along sidewalks of oneway streets, in some places even on pavements. This gives rise to clash points not only between stationary traffic and safe passage of communications, but also restriction of pedestrian traffic by parking cars. In many a case the situation means jeopardy to safety of pedestrians at crossing the street.

The situation at parking in the center is very complicated and its solution very difficult. There are no areas available in the center, which would be suitable for building large-capacity parking places or above-ground garages. Possible construction of underground garages seems to be problematic, too as the documentation of underground spaces under the city center is not complete. The only possible solution in the future seems to consist in building catch-parkings in the city outskirts or in the zone adjacent to the center to link up with a public city transport system of good standard and sufficient capacity (see chapter 2.5).

Similar situation can be seen in neighbourhoods erected recently. Even here the designers underestimated the future rate of car traffic and parking possibilities are low. Additional construction of underground garages then meets with opposition of high building costs and lacking finance both in treasuries of local municipalities and in future users of these parking places.

2.7 Pedestrian traffic

At present, pedestrian traffic is concentrated onto sidewalks of the classically arranged street profile. A pedestrian zone has been established in the historical core of the City (which is a shopping center at the same time) that has been made accessible only for police vehicles and ambulances between 6.00 and 20.00 o'clock. Entrance of delivery vehicles is permitted only in late evening or early morning hours with the exception of a tram line crossing the central town square and one of streets with the highest frequency of pedestrian traffic.

This zone links up with another one with traffic restrictions (transport service permitted for the whole day and exceptions being bestowed on delivery vehicles. All other vehicles are allowed to enter the zone between 16.00 and 6.00 o'clock).

Great attractiveness for pedestrian traffic in the future is seen also in internal blocks should they be properly adjusted and made accessible to wider public. The existing pedestrian zone in the center should gradually be extended, and it is also necessary to consider establishment of pedestrian zones within shopping centers in individual town neighbourhoods.

2.8 Cyclist traffic

Cycling records its great revival both world-wide and in the Czech Republic. The phenomenon could not have avoided the City of Brno.

The present cyclist traffic in Brno merges with normal road traffic. Not a single one cycle path has been built so far in spite of the fact that the new plan for area development includes proposals for several of them. Terrain configuration in the town and status of individual street profiles are not favourable to establish separate paths for cyclists - and this applies to nearly the whole territory of the City. The cycling paths should be preferred in floodplain areas of Svratka, Svitava and Ponávka Rivers, it is also possible to establish the cycling tracks on communications with a relatively low traffic load. Optimum solution would include the cycling paths connecting dwelling quarters with high population density and the most attractive recreation zones of the City. However, even with maximum efforts of decisive City authorities, the idea appears not too realistic.

2.9 Aircraft traffic

Aircraft traffic has a long tradition in Brno. The first regular air line Prague - Brno - Bratislava launched its operation in 1926 (airport Brno - Černovice). Since 1958 it has been the airport Brno - Tuřany in SE sector of the town that provides aircraft transport with sporadic breaks. In the 80's, the Airport was transferred under control of the Federal Ministry of Interior and served as a military airport for some time. On 1 January, 1992 the Airport became a civil airport again with its transport throughput being very low, however.

Present location of the Airport is unfavourable as at a busier operation the southern parts of the town suffer from considerable noise. Air corridor for take-off and landing is situated within one of the largest residential areas in Brno and impacts its dwelling environment.

This fact is also one of the decisive factors at considerations about further development and utilization of the Brno Airport. A project has been worked out for building a junction airport in Brno with a linked duty free zone. The project counts with some 15 - 20 square

kilometers for the airport itself, and with other 30 km² for warehousing and other manufacturing activities. The submitted project will estimate annual transport of 20 - 30 million passengers and 1 million tons freight. The airport should create jobs for 20 - 30 thousand persons. Authors of the project presume that thanks to its location in the vicinity of motorway crossing of international significance, this junction airport would soon become an excellent pre-condition for massive infrastructural development of the whole area.

However, the entire project appears utopian. First of all it meets with opposition of the fact that hygienic noise levels in the whole southern part of the City as well as in adjacent villages would be very severely exceeded at continuous 24 hours' operation of the Airport. In addition, the project does not offer final solution for ownership of adjacent lands nor for financing of the project itself. Also, the number of passengers seems to be strongly overestimated.

Nevertheless, there is no doubt that the city of such a size, economic and cultural significance as Brno should be integrated in the network of aircraft traffic. In the course of international trade fairs and exhibitions which are held at the Brno Exhibition Centre, Brno should unconditionally be made accessible from both the international airport in Prague, and possibly also from the Vienna airport. Also connection of the airport with large commercial, labour and stocking activities is highly topical within the process of suburbanisation. This shows clearly that some investments will have to be made to improve standard of the Brno Airport so that its parameters correspond with both present and future needs of the town. It will be necessary, however, to avoid unrealistic expectations and to harmonize the investments for modernization and extension of the Airport with actual requirements.

2.10 Survey of main problems

Major disproportions in the Brno traffic system from the viewpoint of the decision-making process are as follows:

- *the traffic system is not prepared for rapid development which would make full use of the passenger car,*
- *the existence of radial public transport system is accentuated by the existence of extensive monofunctional dwelling neighbourhoods in the outskirts,*
- *measures aimed at enhanced economic efficiency of the public transport system are not always socially acceptable,*
- *linking of outer traffic veins to the internal city traffic system is not perfect and the outer city transport circle is incomplete,*
- *there is a critical shortage of parking places in the city, sub-central quarters as well as in new dwelling neighbourhoods.*

Conflicting situations at the process of decision-making usually arise at resolving the following problems:

- localization of the main railway station as related to its accessibility,
- tolerable measure of realistic approach to the project of a junction airport in Brno,
- both realistic and presumed environmental consequences of building new high-capacity road communications,
- approach of tradesmen to announcement of pedestrian zones with traffic restrictions and to the level of parking fees, which act as a deterrent for motorized customers.

3. POLICY AREA II: RETAIL LOCATION

3.1 Introduction

Understanding the situation in the sphere of retail in contemporaneous Brno means above all to be acquainted with continuity of evolution of Brno. Therefore, the study pays much attention conditions under which the retail sphere was formed. There were two fundamentally different periods. The system that had functioned in former Czechoslovakia for the period of 40 years is described in the first part of this study. In the second part, transformation that followed the change of regime in 1989 is spoken about.

3.2. Conditions before 1989.

3.2.1 Situation in Czechoslovakia before 1989.

Until the II World War, the retail network in Brno was formed by instrumental character of free-market forces. The instrumental character of these forces enabled the town to progress rapidly, yet at the same time, it eventuated in considerable socio-spatial differences (Musil 1968 in Sýkora 1994). Communists whose ideology criticised the free-market mechanism as the most important reason for social inequality, attacked major elements of this system soon after the end of World War II. Results of the 1948 turn-over were following:

- destruction of democratic political system, that was based upon plurality of ideas and that was leading up to continuance of traditions of the pre-war Czechoslovakia.
- violent nationalisation of all private enterprises (including retail activities).

In this way, "economic and political system in which all the manufacture capacity, as well as distribution of products and services, were completely in possession of the state and under its control", was established (Smith 1989 in Sýkora 1994). This system was forming the city for forty years. Retail enterprises were owned largely by the state. The only form of non-governmental property was a cooperative form of the ownership.

Co-operatives owned a number of retail enterprises. However, these could be found especially in smaller municipalities. Allocation of investments was decided by central government bodies. The investments in retail sphere could be divided into two major groups:

- investments in retail in newly built residential complexes (residential complex should be considered as prefab blocks of apartment buildings). These investments were strictly determined by thoroughly elaborated standards. These standards were published in the so called "Guidelines for Area Planning" (Research Institute of Construction and Architecture), and they strictly indicated how large sales areas of each particular kind of retail should accrue per 1000 inhabitants of a residential complex. However, the problem was that the construction of social infrastructure facilities in the new residential complexes was behind the construction of tenements for several years. Large sales capacities therefore remained only as a part of the plan but have never become a reality.
- investments in retail outside of new residential complexes. In towns it was especially the construction of new department stores. These investments were of significant political character. For such an object to be localised in a particular city, it was necessary for city-representatives to enjoy good personal contacts with central authorities.

3.2.2 Position of Brno within the former Czechoslovakia

The relatively best equipped towns in the former Czechoslovakia were especially smaller district towns. This fact was shown by studies that were elaborated by socio-economic geographers in the second half of the 1980's. In contrast, the relatively worst equipped towns were big regional cities. The city of Brno belonged to the latter category. The city of Brno then, regarding the size of its commuterland, had the biggest deficiency of non-grocery sales areas within the whole former Czechoslovakia (Maryáš 1990).

city	number of inhabitants*	sales area**	SA per 1000 inhab.
Prague	1 309 100	278 430	212.69
Brno	500 100	82 999	165.98
Ostrava	381 400	89 183	233.82
Pilsen	258 500	51 939	200.93
Bratislava	482 500	106 501	220.71
Košice	312 700	53 262	170.35

* with hinterland

** sqm of non-grocery outlets

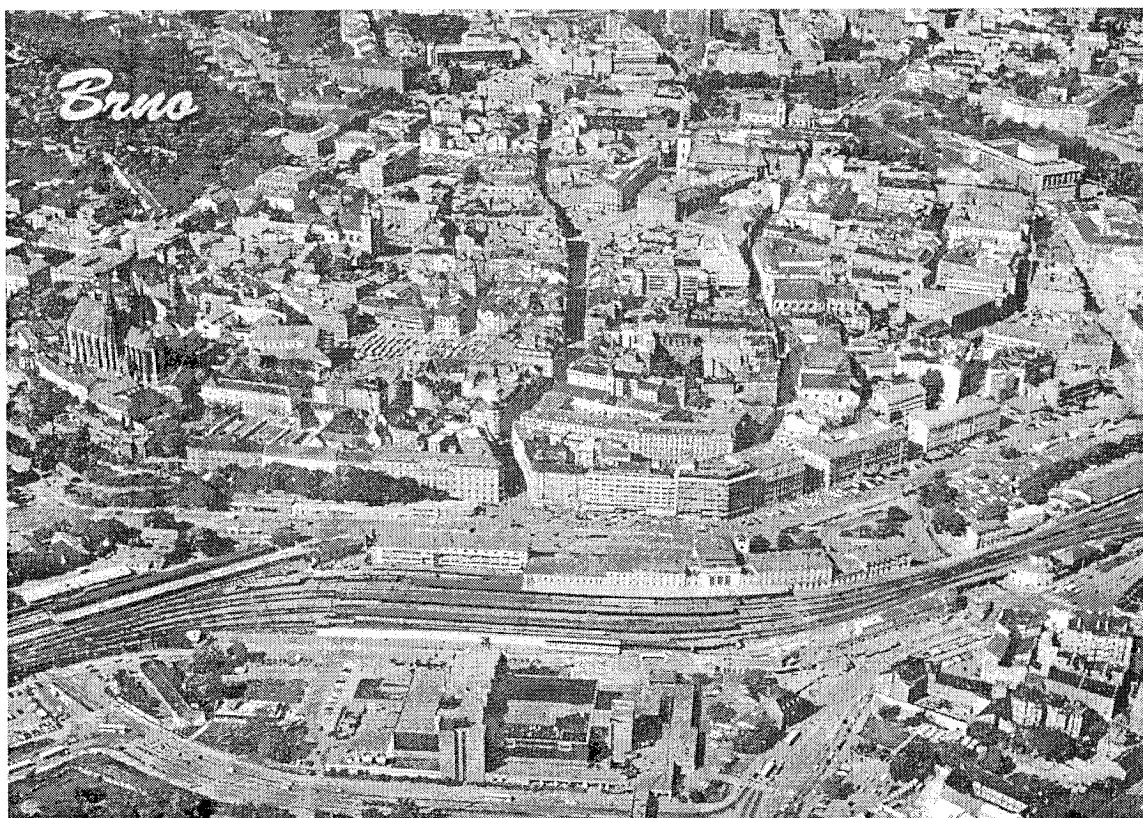


Fig. 6 Centre of Brno viewed from the South. In the front, there is the largest department store in the town, which is now owned by American K-Mart. In the middle front - one of the greatest traffic problems in the town: the main railway station built in the middle of the 19 century. The St. Peter and Paul Cathedral can be seen on the left side. The main shopping street twists and turns in the middle of the photograph from the railway station northwards. The large area to the left from the shopping street is Cabbage Market with a lot of kiosks selling fruits, vegetables, flowers and similar products. The open area situated more to the North on the right side is a central point of Brno - the Svoboda Square with traffic and assembling functions.

3.2.3 Retail network in Brno in 1989

According to the census of retail network, elaborated to December 31, 1989, there were 1351 retail outlets in the area of Brno. The total sales area of these outlets was 111, 321 sqm. Their division as per assortments is described right:

The Brno retail network was concentrated especially in the centre of the city and adjacent streets. Other trade-centres were formed by commercial streets that developed by natural evolution in older city sections. Location of major commercial streets especially in the north of the city centre is determined by general urbanistic evolution of the city. Advancement of the city south is intercepted by inconvenient location of the main railway station and unfavourable natural conditions.

3.3 Transformation

3.3.1 Common Framework of Economic Transformation in the Czech Republic

Quick installation of pluralistic democracy in the early 1990's and its stabilisation that was approved by results of parliamentary elections

	trade units	sales area	sales return*	employees
grocery	221	25 336	1 417 975	1 483
mixed goods	46	1 866	53 675	80
greengrocery	102	4 703	192 939	227
butchers	112	4 065	482 034	467
soft goods	68	9 337	652 053	532
clothing	37	4 359	292 996	222
footwear	35	4 852	339 111	260
house wares	46	6 822	777 745	486
souvenirs	54	4 819	289 424	245
drugstores	79	4 492	668 237	330
department stores	4	10 618	672 923	790
other	192	116	637 864	455
total	1 351	111 321	8 850 482	7 406

* in thous. Czechoslovak crowns

Source: The 1989 census of retail network

in 1992 - these factors formed essential conditions for conversion from the centrally governed economy to the economy based on free-market conditions. The concept of rapid economic reform (governmental programme) was ratified by the Parliament in 1992. Its main character consisted in equalisation of the private, cooperative and national property. This made the development of the private sector possible. The right of every citizen to run private business in any sector of national economy has been incorporated into the legal order. After a preparatory stage in 1990, the entire programme of reforms was launched 1 January, 1991.

- This programme included three key parts:
- **liberalisation of prices** - with several minor exceptions, this was a general increase of prices. The liberalisation was most visible in the increase of prices for basic groceries the prices of which were most kept at a low level by the former government.
 - **internal convertibility of the Czech currency** - businessmen have a free access to western currencies as long as they use them for business.
 - **liberalisation of internal trade** - along with liberalisation of foreign trade enabled the expansion of western consumer goods to the Czech market.

The main goal of economic reform was the fastest possible compatibility of Czech economy with "western" economies. A crucial change was the drift of decision-making on resources-allocation from the central government bodies to the free-market. Following instruments were used for the assignation of national property to private subjects:

- **restitutions** (reprivatisation) - return of property that was confiscated after the February 1948 (Communist putsch) to physical entities or to their inheritors. There are still some discussions on final termination of this process (With connections to returning church property) ; however, in the retail sphere this process can be considered as completed.
- **privatisation minor** (public auctions) - due to political reasons began very soon, so that the changes of ownership could be accomplished as fast and as transparently as possible. Particular business units were prepared by city privatisation committees. Only the concerned domestic subjects were allowed to enter in the first "wave". Foreign investors were allowed to enter the second "wave", where units that had not been sold in the first "wave" of the privatisation process were put into auction.
- **privatisation major** (direct sale and privatisation projects) - each citizen had a right to submit a privatisation project concerning any national enterprise. This project determined the portion of property of the enterprise, that was privatised by means of coupon privatisation by means of direct sales to domestic or foreign investor or by means of transformation to a different legal form than joint stock company (for example company with limited liability). A committee,

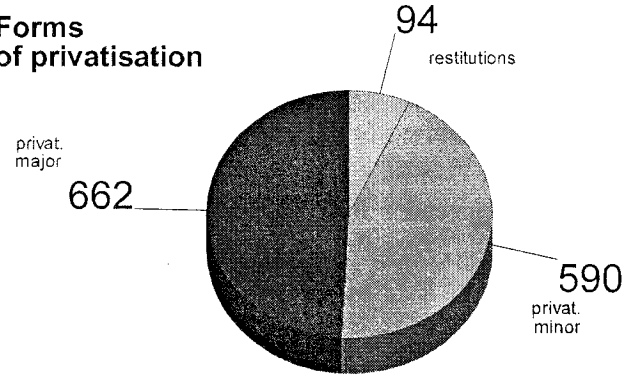
appointed by the Ministry for Management of National Property and its Privatisation then selected the best privatisation project. Particularly the large national enterprises were privatised by using this method.

- **coupon privatisation** (one of the forms of privatisation major) - the form of division of national property among individual citizens. The property worth approximately 370 billion (370 000 000 000) Czech crowns (which represents about 70% of the national property was distributed among 6 million inhabitants of the Czech republic that participated in coupon privatisation. Purpose of the coupon privatisation was the fastest possible change of ownership in the situation when sufficient free domestic capital was lacking.

3.3.2 Transformation of retail network in Brno in 1990 - 1994.

The crucial process of transformation was the change of owners of retail units. The share of specific forms of privatisation in transformation of the Brno retail network is shown in the table. This process was accompanied by a number of other processes that gained importance in various stages of the course of reform. Therefore, the transformation of Brno retail network will be described as related to particular yearly periods.

form of privatisation	number of units	share (%)
priv. major	662	49
priv. minor	590	44
restitutions	94	7
assignation to the municipal property	4	



1990:

The period of preparations of the reform; yet, as many as 1534 new business subjects were registered this year. Therefore these subjects obtained the right to carry out business in the trade sphere. The number of registered business subjects and their structure is outlined in graph and table. Interpretation of these figures

is rather complicated as they cover big companies as well as individuals that have merely gained the licence to carry out business and continued working in their former occupations. These figures should be considered as an identifier of the atmosphere in the society. Another problem consisted in the fact that a part of these business subjects reside in Brno but run their businesses outside the city.

1991:

The beginning of economic reform. The most remarkable process of this period was liberalisation of prices. As a result of liberalisation, the prices increased - especially in basic, where they were even doubled. An absolutely new phenomenon for people, were different prices of the same article in different shops. The called nivelisation of prices was in force until the end of 1990. The price nivelisation meant that for example one litre of wine cost the same in a shop in the centre of the city and in a supermarket in the residential complex. The end of price nivelisation and, at the same time, the beginning of privatisation minor was as immense concussion for the whole sphere of retail (as tradesmen established too large business margins and new owners often did not retain the original range in newly auctioned trade units). This concussion was shown in assortment of grocery and some less attractive non-grocery assortments (stationeries, footwear and clothes in lower price categories).

legal form	subjects	share (%)
physical entity not registered in the register of companies	8 253	85.7
physical entity registred in the register of companies	232	2.4
co-partnership	46	0.5
limited liability company	1 049	10.9
joint stock company	18	0.2
state enterprise	7	
co-operative	3	
commandite	4	

A response, however, came very soon. Result was a vehement advancement of non-standard forms of sales in the streets from temporary stands. This phenomenon was of a great importance then because in the period of transformation "stand- tradesmen" managed to compensate the sales network that was temporarily paralysed and to force the businessmen in typical common shops to decrease their business mark-ups/margins. This entire process had a large publicity in media,

where government economists put forth a great amount of effort to explain and vindicate this process.

1992:

The year of intensive course of privatisation minor and of preparations for coupon privatisation. In this year, 64 % of retail units, privatised in privatisation minor, were put into auction in Brno. In contrast to all expectations, no dramatic variations in the trade network took place - new owners usually retained the original range of outlets and a part of acquirers from 1991 recurred to it. Privatisation projects were approved. These projects referred to a number of enterprises that had a network of sales units in Brno. (For example Potraviny /Groceries/ - the network of food product outlets, Supraphon - music media shops, Domáci potřeby /Household appliances/ - network of shops with articles of manufacture, Ovoce zelenina /Fruits and Vegetables/).

1993:

The privatisation minor was accomplished and the retail network was generally stabilised. Besides that, new sales units came into existence.

3.3.3 Results of actual course of transformation

The first stage of conversion of the Brno retail network was accomplished in 1994. During the period of years 1991 - 1994, following changes took place:

- decrease in warehousing facilities (in 1989, the ratio of warehousing and shop facilities was 1.5 to 1). It can be estimated that in a great part of sales units the actual ratio is balanced,
- remarkable enlargement of assortments and quality improvement of goods in shops, accompanied by differentiation of prices both in particular goods and shops,
- improved appearances of the shops,
- improvement of non-standard forms of sales - businessmen that had begun in 1991 or 1992 as stand-sellers, transfered their activities into newly established market-buildings,
- new forms of sales, taking place outside the common sales network (mail-order service, multi-level marketing systems - Amway, Herbalife direct sales). These forms secondarily influence progress of the retail network by decreasing potential return.

Besides transformation of actual trade network, the process of establishing new sales units took place during this period. In the first stage, these were especially small shops on ground floors of old buildings. Very soon, however, there were the first significant investments.

The following foreign investments can be considered as most important:

- purchase of department stores **PRIOR** (one of them, with sales area of 9000 sqm, is the largest retail unit in the city) by **K-mart company** from the U.S.A.

- outlet of the Austrian sales chain **BILLA** (ca. 1000 sqm). This is the first outlet of this chain in the Czech Republic. **Billa company** also established its headquarters for the Czech Republic in Brno.
- In the southern part of Brno, the **Austrian chain** of department stores with appliances for home improvement **BAUHAUS** has built the biggest of new sales units (ca. 7000 sqm). As the first trade unit in Brno, BAUHAUS is designed especially for shopping by car.
- The **Dutch chain** of food supermarkets **AHOLD** has founded a daughter company **EURONOVA** in the Czech Republic, which resides in Brno. The company has purchased five large supermarkets which are being operated under the name **MANA** in large suburb residential complexes.
- The wholesale company **MACRO** bought land in the southern part of the city.
- The **BAŤA** company bought the most important footwear department store in the centre of the city.

Besides these most important cases, a number of prestigious foreign companies own outlets especially in the centre of the city. (For example *Humanic, Niedermeyer, Benetton, Quelle, Salamander, P&P, Levi's, Denkstein*).

Some of the most important domestic investments in retail are:

- **Boby Centrum** - compared to present Czech standards, an immense (ca 1.5 billion /1 500 000 000,- CZK) investment of a Brno businessman. The Bobby centrum is a social and entertainment centre. It also involves a department store with sales area of ca 2000 sqm. This project claims the ambition to become a new city centre of a new kind (the owner was inspired during his visit in the U.S.A.). This whole project caused very controversial reactions of urbanists but gained support of representatives of the city.
- **LeRK** - another investment of a businessman from Brno. This is a supermarket in suburb location in the eastern part of Brno with 1000 sqm of food sales area and 1000 sqm non-grocery sales area. This outlet has been designed especially for shopping by car.
- grocery outlet **Veverka** - a discount grocery store in immediate neighbourhood of the city centre. Although it is located in the immediate neighbourhood of the centre, it makes also shopping possible and it is well connected to the city public transport. The outlet is owned by **Pramen** joint stock company. Pramen was founded by transformation of the former state enterprise **Potraviný**. Warehouses of this company were available for citizens in the second wave of coupon privatisation. This project is commercially very successful. Daily return of the outlet is 500 thous. Czech crowns per ca. 1000 sqm of sales area.

It can be estimated that at the end of 1994, there were generally 140 000 sqm of sales area in Brno. This is a 30 % increase compared to 1989.

3.3.4 Function of the city in forming the retail network

After 1989, continuity of collecting the data on retail (but not only on retail) has been interrupted. Today, the way of gaining information on the conditions of retail network is discussed. Standard procedures such as obligatory registration of licences cannot be applied in present legal conditions because they are in contradiction with protection of personal data. Until these contradictions are resolved by changing the law, selective census (8) in selected typical parts of the city is discussed.

Contemporaneous non-regulation of the development of retail network is supported by a newly ratified Area Plan. The Area Plan designates services as either commercial or non-commercial. The retail sphere belongs to commercial services. The Area Plan declares that the city will not intervene with the development of commercial services.

The situation of individual town district is even more interesting. Individual municipalities have two instruments how to effectively intervene the development of retail network.

1. **Economic tools.** Representatives of the municipalities are authorized to define local payments, taxes and deductions that are collected by the district council.
2. **Tools of area planning.** Having been ratified by the local authorities, the area planning document on the level of municipality (developmental plan of the area) is obligatory. The development plan links to the Area Plan of the City of Brno and defines functions of particular areas in the city districts. The usage of area planning tools and abidance by the Building Act (Building Act determinates conditions of building) are the tasks of "Surveyor's Offices" in the individual districts.

However, these tools are indirect. In many cases, they are not able to resolve problems which are conditioned by a mistaken urban plan of residential areas. This applies particularly to new prefab residential areas. Main problems consists in the lack of open central spaces usually concentrating shops and services, lack of parking places near shops and service centres, insufficient possibility of dwellings reconstruction to win retail areas on the first floor of buildings.

4. POLICY AREA III: GREEN AREAS

4.1 Introduction

Greenery is one of the basic systems that create environment of the city. Without sufficient amount of valuable greenery the city becomes uninhabitable as it does not satisfy inhabitants' need for recreation in natural environment. One of the ways of people's behaviour that was characteristic during the last regime was a

mass evasion of inhabitants of cities into nature (to cottages and weekend-houses). In contrast, a deep change in this sphere is expected at present. The reasons are found especially in the change of economic situation in the Czech Republic. Firstly, there are other possibilities of self-realization, above all in the sphere of running business. Secondly, there is an increased economic pressure on citizens. In the situation of increasing prices of fuel, general increase of living costs and an expected increase of tax on recreation buildings, people will not be able to cover the cost of double housing. Therefore, people will be forced to spend most of their time in the city. Consequently, it is necessary to begin to understand the greenery in the city as an important element of city environment and to form a system of green recreational areas connected to some of the facilities of social infrastructure, for example to cycling and city public transport. The greenery of the city of Brno is in bad condition and in at present a considerable disproportion.

Generally, the greenery within the administrative borders of Brno can be divided into two major categories: urban greenery and landscape greenery. The former category is represented by residential greenery, city parks and green belts. The latter is represented by forest greenery, agriculture greenery, and others, especially line elements and barrens.

4.2 Residential Greenery

The category of residential greenery involves the greenery of residential complexes, inner-block greenery, inter-block greenery and the greenery at family houses. The purpose of this greenery is to provide expansion of residential area. As for the viewpoint of ownership, the greenery of residential complexes is in possession of local authorities. The inner-block and inter-block greenery is partly in possession of the city and partly in private possession. The greenery at family houses is in private possession. This category is relatively well represented in the area of the city. Only in the East of the historical centre there is no greenery at family houses. At the same time, in this part of the city there is a high density of population.

4.3 Parks

The second section that is to provide a higher standard of facilities is the category of city parks. A park is understood as an area of greenery of the minimum extent of 0.5 hectares. Parks are in possession of the city. Most of them, however, were relegated to fruition of local authorities. Only the parks that are under reconstruction works nowadays remain in the possession of the city. The total acreage of parks of the Brno city is 165 hectares, that is 4.3 sqm per one inhabitant (the rate was 8.8 and 12.4 sqm/inhabitant in 1800 and 1900, respectively). The park in a walking distance of less than

400 m is available for only 53.5 % inhabitants. There is no park area in a walking distance for 46.5 % inhabitants. The worst situation is in the eastern and southern part of the city. For comparison, in Hamburg, Germany, there are totally 1668 hectares of parks, that i.e. 9.9 sqm per one inhabitant. In addition, there are 1150 hectares of green corridors and 585 hectares of public playgrounds and sport-grounds. According to the Research Institute of Ornamental Horticulture at Průhonice, the standard of greenery for cities with over 100 000 inhabitants is 15 sqm per one inhabitant. It means that Brno should have 582 hectares of parks. Today, 417 hectares of park areas are absent. The majority of actual parks are historical. They were founded in those periods of history, when their social function was different from that of today. Their facilities are not sufficient. The acreage is not sufficient as well (average area of a park in Brno is 4.3 hectares, in Hamburg 14.1 hectares).

The third section consists of green belts linked to pedestrian and planned cycling transport. These belts will connect different areas together and will also link to the hinterland. The green belts create a complex system in the city greenery that enables full recreational activities. This system, unfortunately, does not exist in Brno. For ca. 80 % of the area of the city, the connections to green areas or to hinterland are not available.

4.4 Forests

The most important section from the category of landscape greenery is the forest greenery. Forests occupy 6380 hectares of the city area, which represents 27.7 % of the total area (166 sqm per one inhabitant). The forest ground resources are managed by four forestry companies. Two of them interfere with the city only in the area of Brno dam. Most of commercial forests in the city area are concentrated there. The other two forestry companies are: Příměstské lesy and Forest Training Enterprise. The latter company provides training for Mendel University of Agriculture and Forestry. These two companies focus on purpose forestry and they are classed in the category of forests of special determination. These are recreational forests and forests intended for forestry research and forestry education. The company of Příměstské lesy is of high significance for inhabitants. Major task of Příměstské lesy is to function in the sphere of recreation, aesthetics and hygiene. Its present acreage includes 2 500 hectares and its farming is highly loss making.

Long-time development of the city dispenses with unavoidable interventions in the forest. In 1980, forest ground acreage was 6484 hectares. The decrease in 1990 was by 103 hectares. In this period, the largest area (ca 90 hectares) was deforested in connection with the construction of the motor centre in the area of Podkomorské lesy (Forests). There is no significant annexation of forest ground intended for the coming period.

Health conditions of forest stands in Brno is gradually worsening. There is only moderate damage of spruce due to air pollution. More important, however, is the damage by following anthropogenic effects:

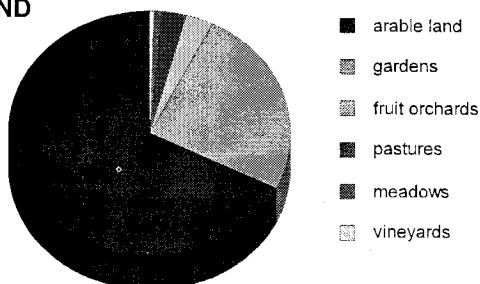
- 1) continual high numbers of visitors to forests in all seasons.
- 2) over-sized design of built-up areas with cottages and cabins (there are about 9000 cottages located in the forests).
- 3) building of residential complexes immediately on the edge of forests.
- 4) mass concentration of people in the area of the Brno dam lake and therefore also in adjoining forests.
- 5) intense pressure on wooded edges of forests by users of bordering grounds (waste dumps, fences, annexations of forests, etc.)

4.5 Greenery on Agricultural Land

Another category of greenery is the greenery on agricultural lands. The rural land occupies 8 396 hectares of the city area, which is 36.8 % of its total area (in 1980 it was 39.2 %). This type is spatially located especially in the southern part of the cadastre. Consequently, it causes significant lack of more valuable types of greenery in this part of the city. The most problematic part of this category consists in gardens. At present, there are more than 1500 hectares of gardens, ie. 40 sqm per one inhabitant. Indicators of the Research Institute of Construction and Architecture recommend that there would be 8 - 13 sqm of gardens per one inhabitant for city functions to be well-balanced (for comparison: Hamburg - 10.3 sqm, Vienna - 9.5 sqm per one inhabitant). There are 36 000 gardeners registered in Brno. That means, that including their family members, there are 145 000 people engaged in gardening as in a way of short- time recreation. (That is 37 % from total population. In Hamburg it is 9 % and in Vienna 9.4 % of the total population). The lands, on which gardens are located, are in possession of:

1. private subjects - 40 - 50 %
2. the city, the gardeners lease the gardens.
3. companies, organisations or agricultural cooperatives or in their fruition; gardeners lease the gardens.

STRUCTURE OF AGRICULTURAL LAND



4.6 Legal Rules

Legal rules of national validity, which concern greenery, belong to two major sectors: to protection of nature and to area planning.

An elementary law, concerning the former sector, is the Protection of Nature Statute No. 114/1992 dated 19 Feb. 1992. This law shall protect all animals and plants existing in the open nature, especially endangered species; all woods outside the forest, particularly protected parts of nature and significant landscape elements. The term "particularly protected parts of nature" means "highly significant or unique parts of living or non-living nature". These are farther divided according to their areas into large and small and according to their significance (regional or super-regional) into six categories. At present, in the area of Brno there are three large protected areas, 25 small protected areas (namely those of the forest-steppe and natural forest characteristics steppe), and other ten small areas which have been proposed to become protected.

In the areas mentioned, all activities are forbidden that could worsen the status of the area. Exceptions are permitted only in the case of "other public concern that significantly prevails the concern of protection of the nature". These exceptions can be permitted by the same authorities that are responsible in the case of declaring the protection. (In the area of Brno, this mode is operative only for one large protected area. Other two large protected areas are subject to mode of protection of landscape type, when only permission of the authority of protection of nature is sufficient to allow other activities in the area). Significant landscape elements are understood as all forests, peatbogs, watercourses, lakes and fish-ponds, flood plains as well as parts of landscape registered by the authority for nature protection. These include marshes, steppe grass, grass bounds, permanent grass areas and others. These areas are only subject to regulations of animals, plants and forest tree species protection. Woody species are protected by the statute from felling and devastation, when this obligation reposes upon the owner. Permission to fell the forest tree species can be issued for relevant reasons only by the authorities of nature protection. Such woody plants must either be fully compensated or compensated by payment of adequate amount of money. In the case of legal practice, the owner contributes to the district budget, in the case of illegal practice he contributes to the Fund of Ministry of Environment.

The creation of ecologically stable area systems is considered to be a higher level of care of environment. This term means mutually linked complex of ecosystems. These ecosystems can be either natural or modified but always close to nature. These ecosystems maintain natural balance. This system consists of biocentres mutually connected with biocorridors. This sys-

tem has three levels: super-regional, regional and local. Individual elements of these systems, in relation to their level, considering also the type of ecosystem, are determined by qualitative and spatial parameters. (For example, for forest an ecosystem of local level, being in its ideal circle shape, there should be 3 hectares of biocentre, maximum distance between biocentres being 2 km and the width of biocorridor connecting them being at least 15 m. For the regional level, according to conditions of the ecosystem, there are 30 - 60 hectares of biocentre area, the distance of biocentres as possible for the landscape, at least always linked by a system of biocorridors of minimum distance of 50 m and local biocentres in mutual distance of max. 700 m. Parameters of elements for the super-regional system are similar to those of regional system. However, the minimum area of a biocentre including the protection zone must be 1 000 hectares.

Another equally important group of legal rules concerning the green areas consists of statutes on area planning. The most relevant rules are the Municipality Statute No. 367/1990 and above all the amendment of Area Planning and Construction Order No. 377/1990. Obligatory rules concerning the greenery resulting from the latter statute are, unfortunately, too general. Formulations as "greenery must be an indivisible part of built-up areas, according to the extent of the area and to its hygienic demands" or "actual greenery must be preserved to the highest possible amount, its protection must be ensured and new greenery must be created, at the latest, by the time of legal accomplishment of the building" are insufficient for practical use. Only for "public orchards" (this term designates mainly the parks), the minimum percentage of greenery has been defined as 75 % of the area. A significant regulation is, however, the maximum tolerable built-up area for houses. This area is 400 sqm.

From the administrative viewpoint, two departments of the Town Council are involved in the care of greenery on the level of the city. These departments are Department of Chief Architect and Department of Environment.

An important document that helps to resolve the unfavourable situation is the Notice No. 10/1994 on Greenery in the City of Brno (Greenery Order). This notice was ratified on 31 March 1994, conformable with the Municipality Statute. This notice is generally obligatory and replaces the Greenery Order from 1 January 1979, which became unworkable due to political and economic changes. The greenery is unambiguously divided into the given categories. According to these categories, the condition of greenery is maintained and improved. Methods of looking after individual categories are worked out in details in supplement of the notice. The Greenery Order refines also the duties of owners and rules for construction measures in the green areas (for example following duty of the owner: when submitting the request for building licence, the owner

must also submit an inventory of greenery and a project for its protection). It also declares conditions for cutting woods. The way of calculating the financial value of woods is stated in the supplement. An important part of the notice is its supplement containing the list of greenery, the acreage which must not be decreased. In total it is 360 hectares of greenery, of which 108.2 hectares are in the centre of the city.

Another important document, unfortunately still in the stage of preparations, is The General Greenery Plan. The General Plan shall analyse the present situation in detail, also regarding the connection between the greenery and residential estates. The result of General shall consist in regulations determining the share of greenery in particular types of estate. Such regulations are lacking at present. It shall fill the "vacuum" in the today's legislation, after the previously valid Engineering and Economic Indicators have been invalidated.

All the possibilities leading to improvement of the present situation are embedded in the Area Plan of the City of Brno. It replaces the Area Plan of Settlement Formation of the City of Brno from 1992. It will remain in force until 2010 provided that the conditions for which it has been created will not change significantly. According to this plan, the territory of the city of Brno is divided into functional areas for which specific regulative conditions are in force. As proposed, the Area Plan pursues to resolve two problems. The problem of creating a natural system of greenery in the territory of the city and the problem of such a functional system of greenery that will be fully available for recreation. It is obvious that the area system of ecological stability in built-up areas cannot exist in such a form as in the open landscape. Therefore equally strict modes cannot be valid in these systems. Biocorridors and biocentres are represented by their urban variants, in which certain exploitation is possible (including recreation). This is thus the first way of strengthening the recreational function of the city. Another important way is a significant increase of share of recreational areas that would be fully equipped for recreation. Provided that the conditions assumed in the Area Plan will be achieved, the amount of green areas in the city of Brno will correspond with desired European standard. At the same time, the problem of unproportional number of parks that are often located in the central part of the city, would be resolved as the new green areas are planned to be mainly in the areas where today's parks are situated. However, practical realisation of such a plan will be very problematic. The first problem is indeed the lack of finance. In this case, smaller sums of money regularly provided will be more helpful than one time provided money, although in a relatively large amount.

4.7 Interest Groups

Presently, there is a collision of two major concerns in the policy of green areas. There are subjects whose

goal is, above all, protection of nature. The concern of these subjects consists in preservation of areas in conditions as close to nature as possible while maintaining their acreage. The most important organisation that defends "concerns of the nature" is the Czech Association of Conservationists. Others are voluntary interest groups as Rainbow Movement, Children of Earth, Ekolyceum and Greenpeace. These organisations are given a relatively significant authority by the Protection of Nature Statute No. 114. They can enter discussion on possible interventions into green areas, they can appeal against results of such discussions or require expertise concerning the given intervention. These tools, however, are often not sufficient and these organisations use more radical instruments: disputations in press, public campaigns and demonstrations.

The other interest group is represented first of all by authorities of state administration of the city of Brno. Their main goal is that in the area of the city will be a sufficient amount of green areas completely effective to provide recreation. It is necessary to realise that the amount of greenery is not the most important point. The most important is the amount of greenery that is accessible to public, that means public parks and hinterland forests. These must also be well equipped (especially parks). The above-mentioned data as well as the fact that no new park has been established in Brno since World War II, show that the conditions are very unfavourable. The parks today are therefore very old and their recreational facilities correspond with the period of their origin (mainly outings). Today they are advantageous only for a small part of inhabitants, only for children and old people. Other people miss sport-grounds. Business concerns concerning park areas occurred for these reasons. These concerns often produce inadequate pressure.

Another problem is the problem of common people. Large part of people is deeply connected to the former way of recreational activities and is not willing to dispense with them. Other people are willing to "suffer through" the time they have to spend in the city and they will rather go abroad, preferably to the seaside. Present unconcern, demonstrated in this way, causes the problem of greenery to be unattractive even for programmes of political parties. Unfortunately, unless this situation is changed and necessary mechanisms established, citizens will have to "survive" their leisure time in the city and then escape away either to their gardens located in the surroundings of the city, to forests or even farther abroad.

A relatively great share of inner-urban greenery could be directly influenced by citizens: private greenery at family houses, greenery of residential complexes, inner-block greenery, inter-block greenery. All this means that there is a great potential for greenery which is largely outside of any attention on the part of authorities. This fact represents a great field of activity for

citizens, voluntary organisations, various interest groups and also for municipalities.

5. GENERAL EVALUATION

5.1 Contemporaneous reality and trends in particular pattern spheres

In the sphere of **communication policy**, the basic questions consist in the relation between mass public transportation and individual transport and the transport relation between the centre, subcentral parts of the city and its suburbs. In the past, the mass public transport was preferred by limited conditions for individual transport. Although even today well-developed mass public transport is advantageous, the development of individual transport in the area of the city became reality. It is necessary to create suitable conditions for such a new reality. Original pattern of resolution of traffic situation originated from the conception of limitation of the individual transport in the centre, displacing the individual transport to the subcentral zone and out of the city and in concentric resolution of the public transport network. A complex re-evaluation of this approach is necessary, also through search for tangential resolutions. The conception of connection of the city to external traffic communications is not complete (project of the railway station, finishing the construction of highways and external traffic circle, the way of exploitation of the airport). From environmental and functional viewpoint the development of cycling transport can be important.

Privatisation of **retail** is complete and finished. The process of transformation of location of outlets by instrumentality of free-market mechanisms was established and is still functional. This caused not only essential changes in dislocation of retail but also its temporal non-stability, including the development of non-standard forms of sale. Foreign capital entered the business life of the city relatively soon. There was 30 % increase in sales areas in the last 5 years. The basic problem also is the relation between the centre - subcentral zones - suburbs. The trend is to dislocate the common shops from the centre and to develop retail activities in other areas, including revival of commercial streets and completion of commercial centres in suburbs. New commercial centres out of town along highways were not observed.

Location of **green spaces** in the area of the city is disproportional. Park greenery in inner city, especially in its eastern sector, is insufficient. The intention to enlarge and maintain it is in conflict with economic limits and concerns. The areas of private, reserved and inner-block greenery are relatively sufficient but their maintenance is problematic. This type of greenery is not in the centre of attention of decisive sphere. In Brno, there are strictly defined areas of nature protection. The section of environment puts its attention in construction of skele-

ton of landscape ecological stability. This skeleton is to be composed of biocentres and biocorridors. However, the effect these activities have on inhabitants is not large. When resolving problems of green spaces it can be effective to concentrate the effort on exploitation and quality of those private or partly public inner-city areas that have been neglected.

5.2 Decision-making process

The possibilities of decisive authorities are to a large degree limited by the changing legislation, by such a kind of land ownership that have not been clearly determined due to restitutions, by privatisation and other circumstances, by conflicts in the relations between the city level - local level and by inexperienced personnel employed by the authorities. The sphere of administration is also affected by the lack of data (especially on retail). The conception of "almighty power of free-market" is ideologically manifested.

In citizen's part, very low level of legal cognisance is displayed. Former legislation put inadequate emphasis on human rights in social sphere (labour, dwelling etc.), while the rights in decision-making process were suppressed. These trends "survive" in people's minds and the people are not concerned to participate in the decision-making process. Extreme defensive groups make arguments rather against environment friendly projects because they do not accept the fact that urban environment is an environment especially made for man. Another unfavourable consequence of the past time is the opinion that the activity in the workshop is more important than the activity in the place of living. The living environment was degraded to lodging-houses. This fact weakens people's sense of responsibility for the decision-making process in their neighbourhood even today.

The major instrument for decision-making on further development of the city of Brno is the Target Plan of Area Development that provides a framework and deals with area problems in a conceptional way. The daily decisive process, however, requires resolution of problems in every stage. Clarification of objectives to be achieved as well as that of tools to be used is concerned. Particular factual cases are sometimes ascribed political meaning. Such a situation is probably normal concerning the changes taking place in Czech Republic at the moment. Independent scientific studies are therefore very important. The effect of these studies, however, can only be seen in a long-time horizon.

The territorial problem of the relation of the city centre, subcentral inner parts of the city and suburbs proved to be essential in practically all analysed spheres. Objective recommendations for these parts of the city can be defined as follows:

City centre must preserve, above all, its culturally historical and social value as the bearer of spiritual

identity of the city. Following steps correspond to the mentioned fact: creation of an active centre including retail enterprises (for individual service in higher price category), accessibility by individual as well as public transport (including the possibility of parking or garaging) and preserving or creating rest zones including park areas with social facilities.

The subcentral zone is important for development of super- regional functions and business activities. This zone is valuable for its mixed character that ensures its attractiveness during the day-time as well as at night. Its conversion and reconstruction are essential in order to ensure integrity of the city. This zone concentrates crucial capacities of inner-city traffic and connection between the centre and external traffic network, significant capacities of retail including traditional elements of commercial street and commercial subcentre, crucial areas of inner-city greenery and important part of housing. These functions need to be supported.

The peripheral zone is important for ensuring habitability of the city. Its significance will be constantly increasing in the course of suburbanisation. It becomes a zone of large-capacity retail facilities, zone of interconnection of city greenery and countryside greenery. One of its basic functions is to provide traffic connection with the centre. An important function is the support of creation of local responsibility of inhabitants for their city section and, based on this responsibility, the change of today's lodging-houses into suburbs with their own activities without the integrity of the city being impaired.

5.3 Actors of the decision-making process

According to experience from West European countries the process of decision-making in the sphere of communal infrastructure is to a considerable extent depending on legislation in force. Nevertheless, the key issue is seen in management of projects entering the process of decision-making. Surprisingly, the process of decision-making is also considerably influenced by differences in the culture and traditions. According to a Dutch analysis (Reitsma 1995), there is a very high correlation between the average time of implementing large infrastructural projects and two parameters illustrating cultural and political behaviour: egalitarianism (small power differences between individual social groups) and capacity to take a risk. High level of egalitarianism brings a longer process of decision-making since there are more groups with realistic possibilities to force in concerns of their own. Effort to avoid the risk can accelerate the process of decision-making as the technical viewpoints which are presented by governments are considered correct by the population.

The present decision-making process in Czech conditions is in the stage of looking for optimum mechanisms of relations between the state administration, private sector and citizens. It is rather difficult to set rules

of the game at different understanding of basic aspects of transformation by various subjects. In addition, we fight a strong tendency to ascribe political meaning even to purely technical problems. Aim of this chapter can be to outline main actors of the decision-making process, goals which are followed by these actors, and tendencies which can show during their activity. Not always these trends comply with goals set up by the law or officially claimed by the subjects. However, they can be a good motivation and as such affect the entire process of decision-making.

In our opinion, the main actors of the decision-making process are as follows:

Central government

objective: transformation of the economic, political and social system at maximum liberalization of both the market and the life of society with the exception of certain regulations

tools: acts of law, state administration, pressure by means of political power

There are tendencies to prevent decentralization of power as related to regions, and namely to Brno where a clear anxiety exists on the part of the central government that the city might revitalize its former function of a Moravian capital and could become a counter partner for Prague.

Brno City Council

objective: development of supra-urban and urban functions, attraction of investment capital to the town,

tools: binding plan of area development, municipal administration

There are tendencies to concentrate financial means for implementation of its plans and to prevent their decentralization towards individual town municipalities, to avoid any conflict with central power. Politically, the Brno City Council is controlled by coalition parties.

Town Municipalities

objective: development or optimum condition of the town district (according to actual status), preservation and support of its identity,

tools: zone area plan, local administration

There is an effort to decentralize financial means from the town budget.

Political Parties

objective: fight for political power

tools: city authorities and town municipalities, interrelations with strong economic subjects, political means

There are tendencies to provide a platform for implementation of personal and group interests, even within some parties (split inside the governing ODS in Brno), a trend is being forced in to reserve seats even in state administration on the basis of concerns of political parties."

Fierce entrepreneurs

objective: maximum profit and capital

tools: legal (making use of gaps in imperfect legislation), in extreme cases the connection with groups of economic criminals

Fundamental effort of many of them is to take possession of the formerly national property.

Small and Medium-Size Entrepreneurs

objective: independence, self-realization, profit

tools: hard work which can minimize their share in making communal policy although it is them who substantially contribute to funds flowing into the City and its municipal parts

They are always concerned with mere survival of their companies or businesses in unfavourable and many times unequal conditions.

Non-governmental Organizations, Green Initiatives

objective: protection of environment

tools: a wide range of tools includes raising of many times extreme and unrealistic environmental requirements, organization of pressure events

There are different tendencies: some of their leaders wish to win political influence, publicity, self-realization, common members and small groups try to force in certain ideas and win self-realization.

Citizens

objective: to become bearers of democracy

tools: elections at which the concerns are unfortunately bound to substitutional problems and symbols

Citizens have to permanently face a major problem: a certain part of them attempts at accommodation to market conditions, another part attempts at substantiation of their own incapability to get accommodated.

Mass Media

objective: to provide unbiased and open information

tools: national, regional and local newspapers, TV, radio broadcast

There are tendencies to make their way to the market by advertising and sensations.

Organized criminal groups

objective: illegal profit mainly in the sphere of economic criminality,

tools: corruption, blackmailing, intimidation

Role of a citizen in the process of decision-making on the level of a city and its municipal parts is insufficient. The citizens show minimum concern in events presently going on partly due to permanent economic pressure which makes them struggle to meet fundamental needs of their existence, partly due to the fact that citizen initiatives are being turned down by ruling political parties. However, the main reason should be seen in surviving thinking stereotypes of the past. In

fact, the citizens have adapted well and very fast to all advantages of market economy in terms of consumption. What seems to be difficult for them is to accept responsibility for their own lives and fates of their families, and even lesser is their accommodation to accept responsibility for development of their town or municipality. This is a feature in which the city markedly differs from some small villages. Low efficiency in forcing in citizens concern, concerns of their initiatives and those of individual council men also issues from minimum legislation possibilities of forcing these concerns in between the elections, partly also because some substitute problems were planted, which have been accepted and which unfortunately include some environmental pseudoproblems.

The role of non-governmental organizations in the sphere of environment has been substantially changed in the last five years. In the second half of the 80's, they represented the only partly legal opposition to the then regime. After 1989, all those who originally could see mainly their opposition role to the former regime have left the environmental movements. Green Party has come into existence whose leaders unfortunately follow their own political career. The publicized simple solutions of environmental issues have proven unrealistic. The concept of sustainable development advocated by the former Federal Minister for Environment, Mr. Josef VAVROUŠEK has not become established. The economic climate which at the beginning brought restriction of some negative impacts on the nature due to certain cut backs in production does not seem too favourable for a complex solution of environmental issues. The CR Ministry of Environment is being tossed in personal disputes, non-conceptual work and excessive bureaucracy. Although being very urgent in Czech conditions, the issue of environment is therefore generally considered only of the secondary importance in this situation (by the government, mass media, political parties as well as by citizens). The non-governmental organizations in this sphere were many times pressed into extreme positions and their positive influence on creation of environment is negligible. Therefore they try to make their way rather by presenting little realistic requirements directed against individual structure works (nuclear power plants, transport) or against other plans without submitting any alternative conceptions. They often make use of a very shortsighted philosophy of a part of the population which claims a slogan "not in my backyard". In terms of legislation the environmental issue of investment structures is being treated by the procedure "Environmental Impact Assessment".

Of the three studied groups of problems the lack of conception most distinctly shows in retail trade. Localization of retail facilities in Brno depends exclusively on the investor. We do not know a single case in which the localization plan would have been affected by authorities on the basis of application of conceptual plans of

the city or its municipalities. And the danger of retail business and services being crowded out from the city centre where prices for lands are high and parking places missing is realistic. Localization of retail trade is neither the major concern of inhabitants nor the interest of non-governmental initiatives.

The problems of transport, greenery and urban areas are a long-term matter standing in the eye of public. However, even here - decisive is the investor, in many a case directly the city itself or its companies or municipalities. What really concerns the citizens are problems of public transport, especially in the city limits. In contrast, the green areas similarly as some facilities of traffic infrastructure such as the body of arterial road through the municipality of Bystrc with a petrol station often stand in the centre of attention of environmental initiatives. Nevertheless, the rate of success of these organizations in court proceedings is usually very low. It seems that a certain role at localizing utility buildings can be played by interests of land owners.

Some strong pressures influencing the decision-making process are as follows:

- a) *economic efficacy of operation of communal companies and private establishments in the territory of the town, investment means for implementation of important activities,*
- b) *socio - financial and spatial accessibility of communal services and utilities for citizens, building of necessary social infrastructure and its maintenance,*
- c) *political interests of individual social and other groups forced in by means of a political system.*

The decision-making process also exhibits disproportions between the ideological doctrine of genuine monetarism and the objectively occurring necessity of state interventions in both economic and social spheres, necessity of regional policy, etc.

If we follow out of the Dutch experience, we can classify cultural conditions for the decision-making process in the Czech Republic at the moment as conditions for a relatively quick adoption of decisions. This issues mainly from unreadiness of the citizens to take a risk as well as from a relative concentration of political and economic power. The Czech citizen - being traditionally full of distrust to government authorities (According to the data from sociological surveys 78 % of citizens trust the President, 52 % of them trust the government, and only 26 % of the population trust the Parliament which is the only authority that has been elected by the citizens.) - is generally not prepared to define and force in his or her own projects, particularly in the case in which he or she would have to show his or her personal initiative.

The whole range of problems still opened indicates that there are considerable barriers in the process of decision-making. The barriers consist in low professionalism of working out and forcing in some projects, in

incomplete legislation and still sensitive proprietary relations towards real estates including all hitherto unfinished restitutions and the on-going process of privatization.

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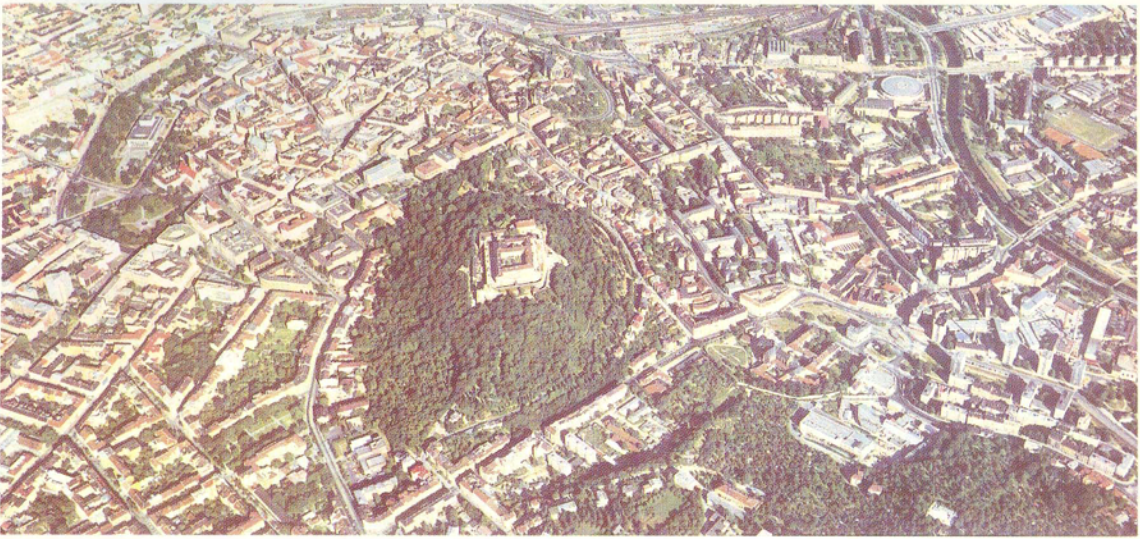
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Reviewer

Alois MATOUŠEK



The Centre of Brno viewed from the West with the Špilberk Castle hill in the middle. Buildings of the two biggest theatres in Brno in the left upper corner in the park. The town centre is situated between these two theatres and the Castle. The industrial object on the right front is the Starobrněnský pivovar (Old Brno Brewery). Next to the brewery is the Old Brno Monastery. The upper right edge of the photograph is crossed by the River Svatka. The round object on its bank is the Rondo sports hall. The industrial zone of Brno-South begins at the very right upper edge.(postcard)



Dwelling neighbourhood Brno-Bystrc, 12 km distant from the centre. It is located within the major recreational area of the city with the Brno dam lake and extensive forest areas. ZOO can be seen on the hill to the right upper edge of the photograph. The old village of Bystrc is well visible on the right between blocks-of-flats. The red roofs in the right upper corner characterize the settlement of Kníničky, built between the wars for inhabitants of a village of the same name, which had to be flooded with the dam lake. Other built-up areas for some 30 thousand inhabitants are blocks-of-flats erected in a relatively articulated relief. Highway feeder in the Svitavy direction crosses the middle of the photograph from below. Its construction was started during World War II when it was supposed to become a part of connection between Vienna and Wroclaw. It has never been finished but the ground works can still clearly be seen in the terrain. Now, it is a subject of disputes with ecological initiatives which request that a part of the track that passes the settlement be sealed in a tunnel. (postcard)



View of Brno from the South, from the Červený kopec (Hill). In the front, there is an old colony for factory workers. In the middle of the photograph, there is the Brno Exhibition Centre with the BVV High-Rise-Building and the Hotel Voroněž which is the largest of hotels in Brno to the right. On the horizon to the right, there is a prestigious dwelling zone "Masaryk Quarter". On the horizon to the very left side, we can see high-rise blocks-of-flats in the Kohoutovice neighbourhood.

Photo: O. Mikulík



Centre of Brno - the Svoboda Square. The majority of historical buildings including the church were taken down during the period of industrialization in order to win spaces for new developments. The square has an important traffic function with more shops being situated in side streets.

Photo: O. Mikulík



High-speed communication, which makes possible the traffic connection between center of Brno and his northern part with exit in the direction of Svitavy and Hradec Králové towns.

Photo: V. Nováček