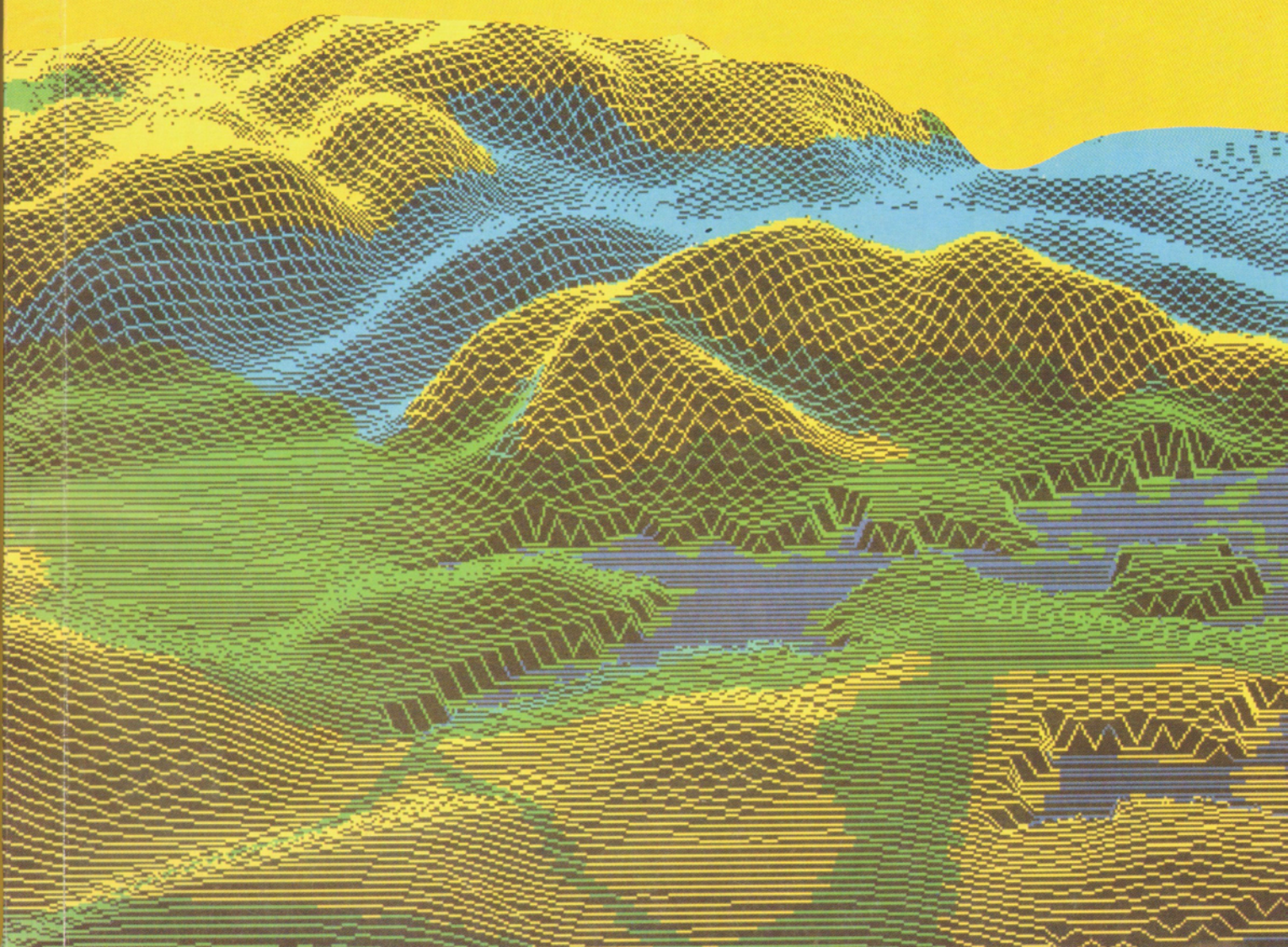
MORAVIAN GEOGRAPHICAL REPORTS

VOLUME 3 NUMBER 1,2 1995 ISSN 1210 - 8812



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 prestigeous 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

MORAVIAN GEOGRAPHICAL REPORTS

PRICE

Czech Republic, Slovakia 135 CZK
mailing costs are invoiced separately

MAILING ADDRESS

MGR, Institute of Geonics, ASCR
P.O.Box 23, CZ-613 00 Brno,
Czech Republic
(fax) 42 5 578031
(ë-mail) ugn@isibrno.cz

PRINT

PC - DIR, Ltd., Brno, Technická 2

ISSN 1210-8812

Contents

THE CULTURAL AND ECONOMIC CONDITIONS OF DECISION - MAKING FOR SUSTAINABLE CITY

(International research project funded by CEC Contract No.EV5V-CT92-0150)

Antonín VAISHAR

INTRODUCTION

In the second half of 1994, Brno branch of Institute of Geonics of the Academy of Sciences of the Czech Republic concluded an agrement with the Consortium for Research and Permanent Education (COREP), associated with the Technical University in Turin. The agreement considered meeting the target "THE CULTURAL AND ECONOMIC CONDITIONS OF DECISION - MAKING FOR THE SUISTAINABLE CITY". The agreement has been entered within the PECO program, which is focused on collaboration among scientific institutions of member of the countries of European Community and countries of Central and Eastern Europe. Mr. Gaston Ave (COREP) functioned as a co-ordinator of the project.

The project has originally been implemented in collaboration of COREP and the London School of Economics (LSE) and worked out four model (representative) towns: Bologna and Florence, Italy, Leicester and Edinburgh, Great Britain. The work was made in 1993 and 1994. By entering the project, the Institute of Geonics expanded the project to three more model town in the territory of Central Europe. These towns are Brno, Czech Republic (Institute of Geonics, Academy of Sciences); Budapest, Hungary (Geographical Research Institute, Hungarian Academy of Sciences), and Ljubljana, Slovenia (Institute of Geography, University of Ljubljana).

In addition to the model towns, there were also model (representative) problems which, according to the coordinator's opinion, best described particular areas of influence of cultural and economic conditions of the decision - making process. The spheres of traffic policy, dislocation of retail network, and public greenery and open areas policy were concerned.

The study consists of Czech, Hungarian and Slovenian part and of a summary report. The study was co-ordinated and elaborated, for its most part, in November 1994, in considerably tense condition, as far as dead-lines and financing were concerned. Its main goal was to attempt at elaborating a report, relatively comparable with the COREP - LSE material and to prove preparedness for further co-operation. Its scientific goal was to evaluate three significant spheres of governing cities in contemporary conditions. These spheres were: traffic, retail trade and greenery and public areas.

While the COREP - LSE research evaluates development of the three above listed spheres in conditions of a relatively continual development, the major motive of East-European study is to record big cities being influenced by the revolutionary transformation of economic and social system. This process has been initiated in the late 1980's and has not been ended yet.

Methodological approaches of both studies are slightly different. This is caused by the fact that at the side of institutions of European Community worked especially economists and other experts, while at the East-European side co-operated only geographers. Consequently, our study emphasises, above all, spatial connections of the phenomena. However, the study attempts at registering mechanisms of decision-making, too.

Results of the research made by Central European partners are naturally based upon the long-term research of studied problems. Otherwise, it would not have been possible to respond to the coordinator's requirements in a relatively short period of time. One part of them has been taken from the dissertations of authors. The focus was concentrated on analysis of topical trends resulting from the process of transformation.

From this viewpoint it is important that in the Czech conditions, two ways of transformation encounter. The first of them is a result of global evolutionary progress. This way would have been accomplished with no regard to political changes in Central and Eastern Europe (development of urbanisation, automobilisation, the impacts of technological changes, etc.). The second way was created by these political changes. In the large number of cases, the results of these two transformation

forms accumulate. The analysis has been worked out by means of field research/ on-site research, interviews with responsible officers of city authorities and other bodies, and by processing the data.

The results of the study, achieved during a few weeks, provide a certain image of the situation in Central European towns. Besides the existing studies, with an economical or social focus, this is a viewpoint that considers environmental aspects. In spite of that, it is apparent that even in the sphere of environment the social, cultural and economic dimension gain importance. Major reason is the fact that actual environmental policy leaves the position of perpetual opposition and political character of problems and becomes a responsible agent in the territory. Especially in the territory of towns it is necessary to create and protect the environment for people, not from people and against people.

The teams of authors would naturally be glad to maintain the work and co-operation. There are several possible ways. The first of them is deepening studies of partial problems by means of more detailed techniques, including inquiry research, and closer co-operation with town councils. The second one is enlarging studies with other selected towns (in Moravia especially with Ostrava that significantly varies from any other town ever analysed) and with other problems (for example gentrification, suburbanisation, restructuralisation of economy platforms, etc.). The third possible way is better employment of results of international collaboration, for example by common research. Research of mentioned subject is scientifically interesting and needed in practice. This issue of MORAVIAN GEOGRAPHICAL REPORTS should give the impulse for continuation of the research.

CASE STUDY: BRNO

Antonín VAISHAR - Oldřich MIKULÍK - Jana ZAPLETALOVÁ - - Roman BARTÁK - Martin DOKOUPIL

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 disproporcionální. 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 km^2. The city originated genetically in favourable location at the junction of the Svitava River and the Svratka 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, orchads	2399 hectares	10.4 %
meadoes, 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 %

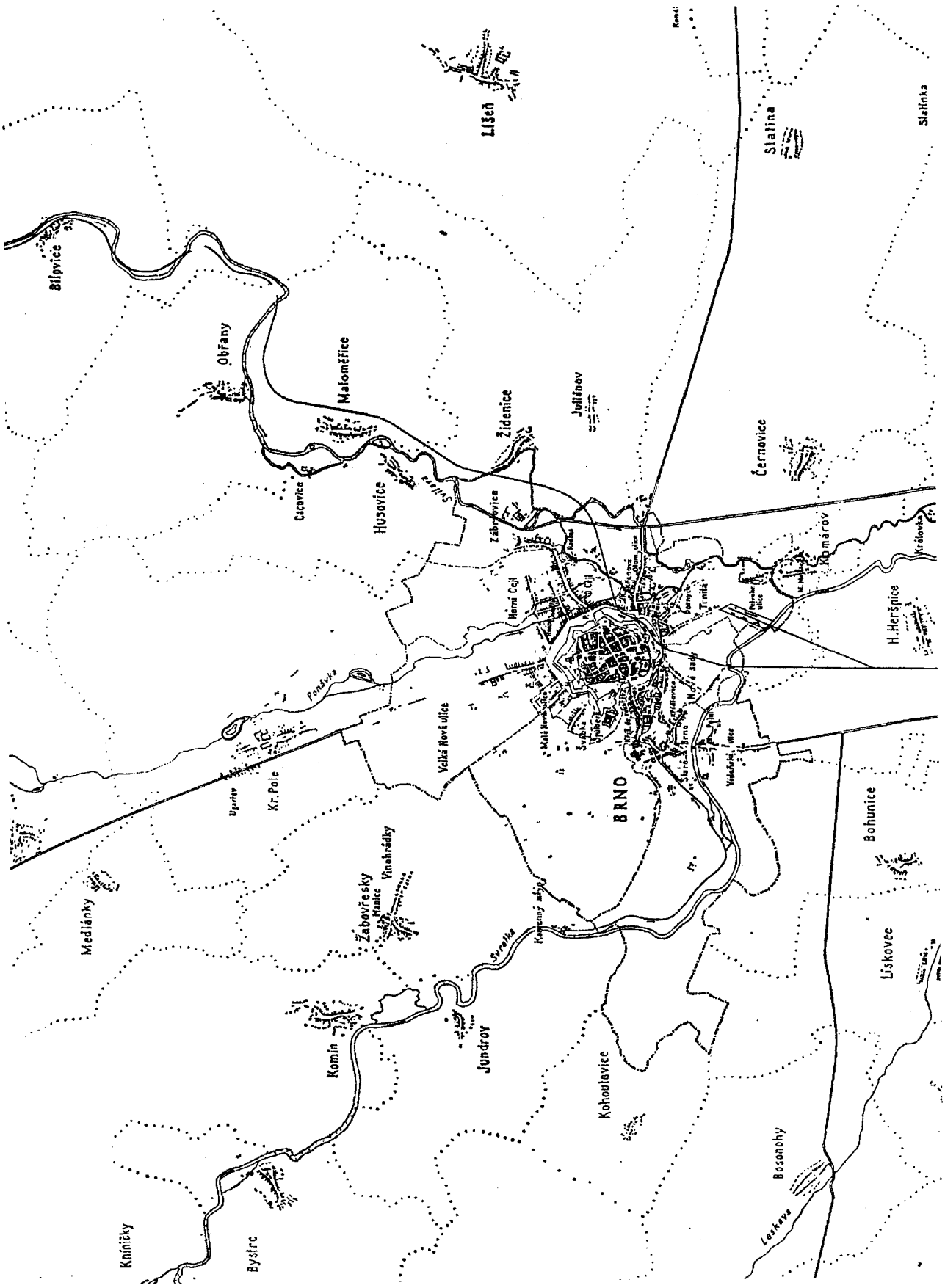


Fig. 1 Brno - 1850

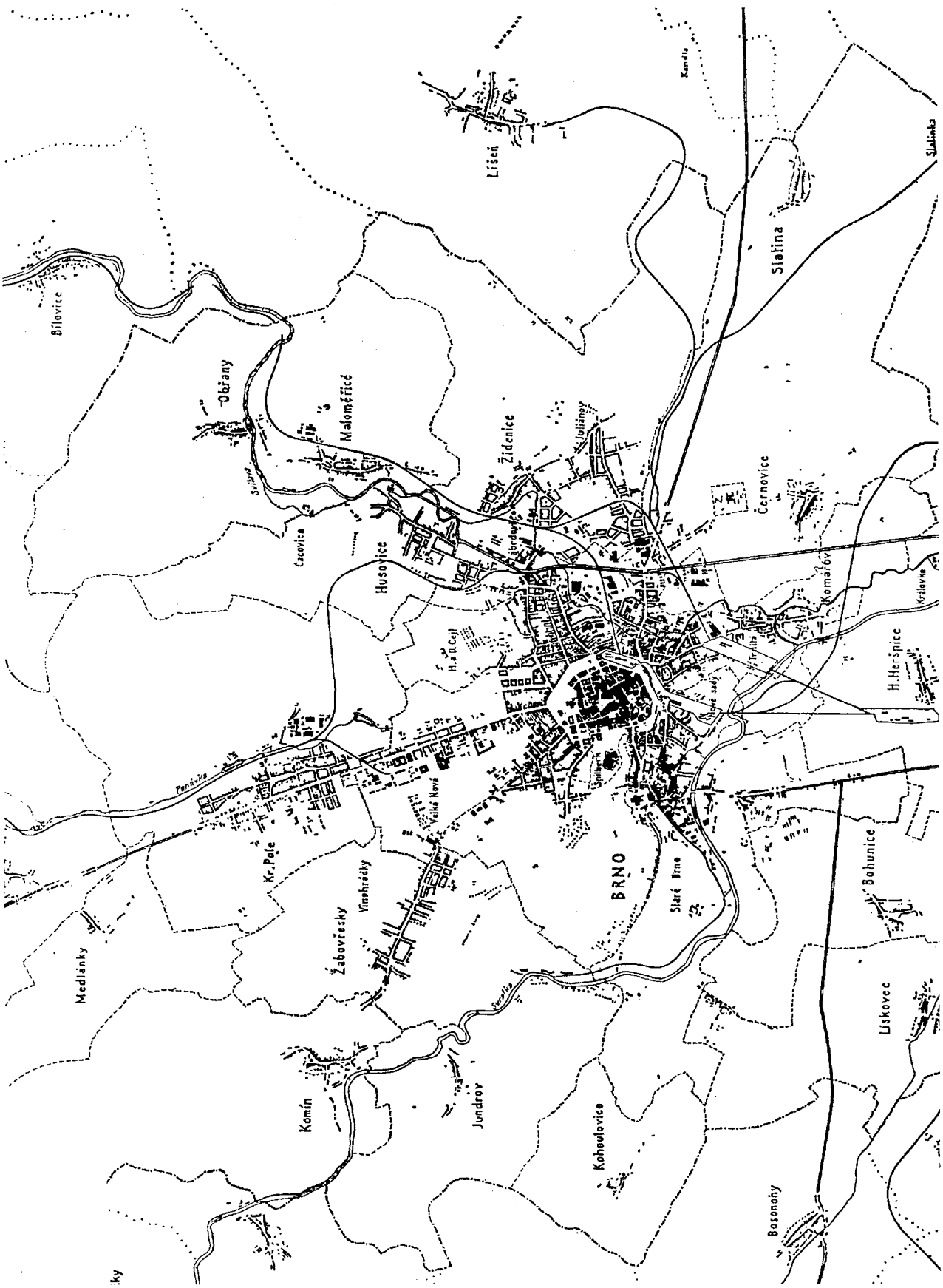


Fig. 2 Brno - 1919

Fig. 3 Brno - 1960

The population density in Brno as related to built-up areas is 18.377 people per km^2. 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-productional age, 57.7 % people in productional age, and 22.6 % people in post-productional 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:

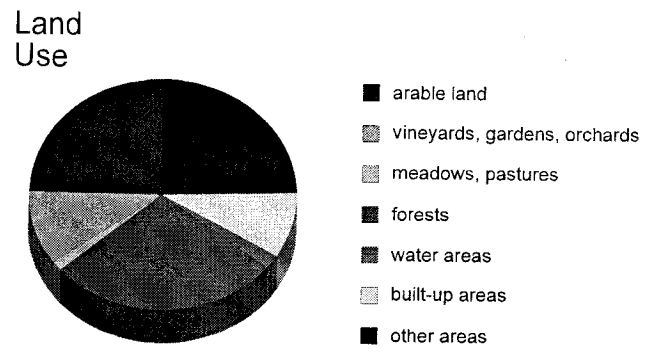
transport and communication	12.2 %
trade	17.2 %
science and research	6.2 %
communal services	7.6 %
travelling services	1.6 %
social services (incl. education and health)	33.3 %
other (incl. financial, judicial, administration)	16.1 %

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

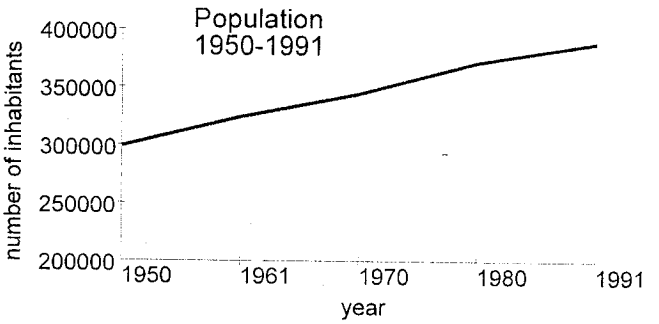


beforehand. As partial alternatives of the central power, there were some ecological and environmental activities at the end of the 1980's, but with no significant achievements. From the territory administration point of view it was considered negative that there were such large, spatially separated 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.

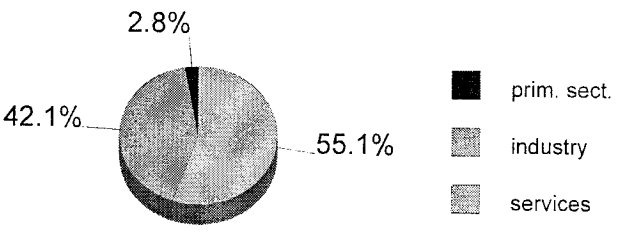
The consideration of the level of conversion into free-market economy, that has been achieved, is essential for understanding the possibilities and methods of territorial decision-making. It is possible to state following points:

- 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 concentration 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 directively 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



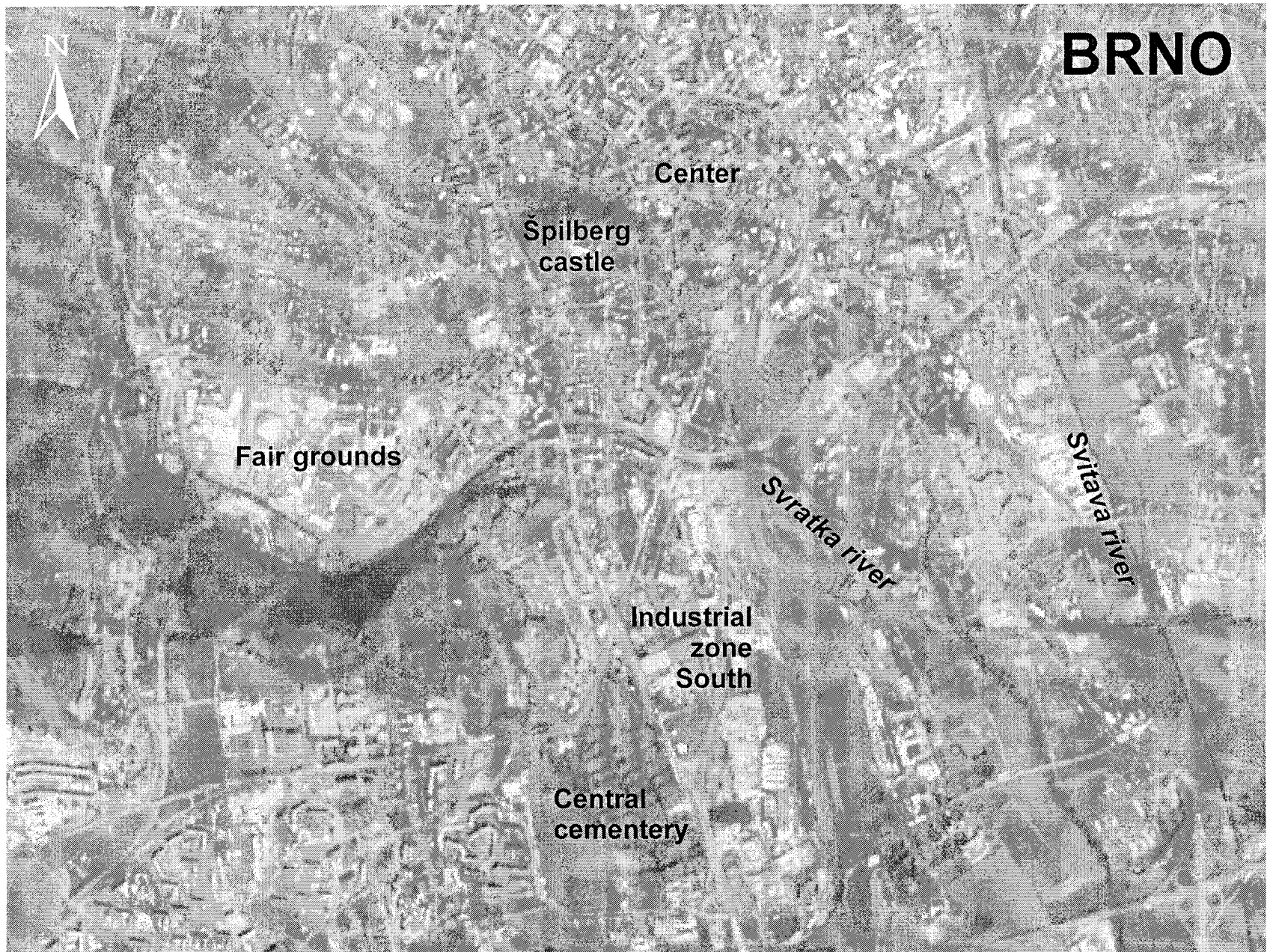


Fig. 4 Panchromatic satellite photography taken by SPOT sensors, which shows central and southern part of Brno. source: © SPOT Image - commercial product

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 - 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 traditonally 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-

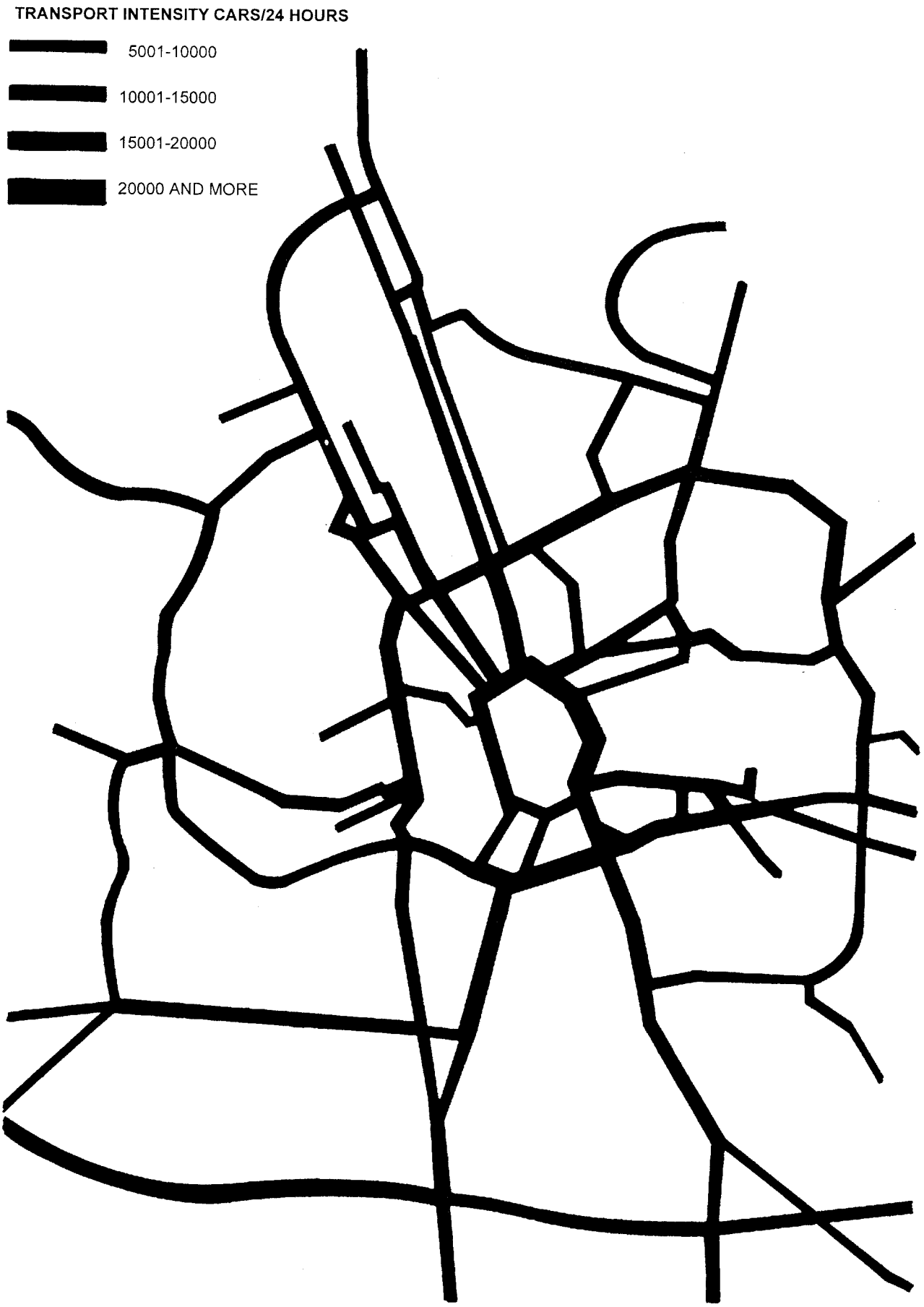
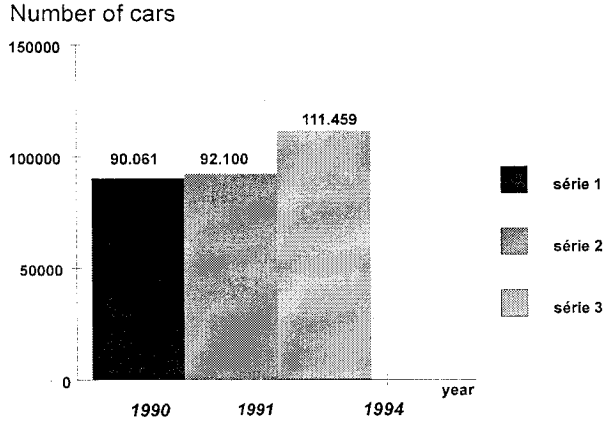


Fig. 5 Transport intensity on the selected roads in Brno (1991)

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.

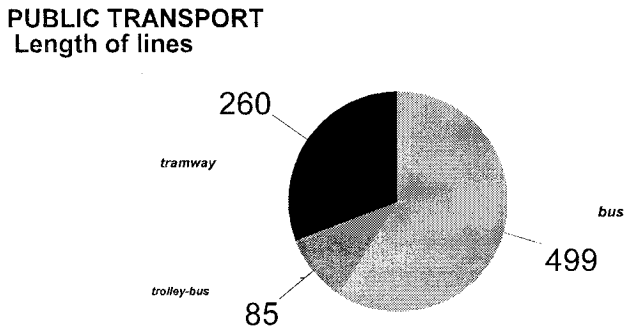
There is another negative phenomenon which shows in the fleet of passenger cars and deserves mentioning: due to the rapid increase in prices of new cars the existing fleet is quickly ageing and becomes obsolete. Even with obligatory periodical technical checks in passenger cars over 5 years (validity 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.

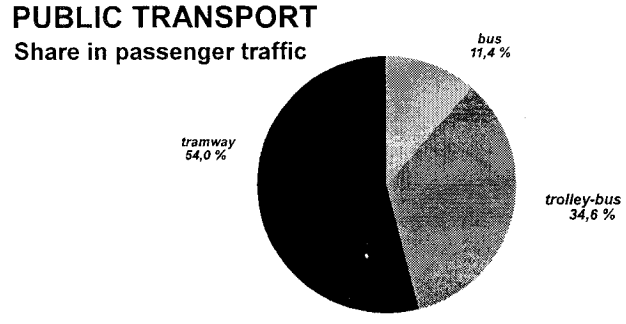


2.5 Public city transport

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, ie. 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





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, ie. 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 km^2 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 higly 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 irrealistic 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

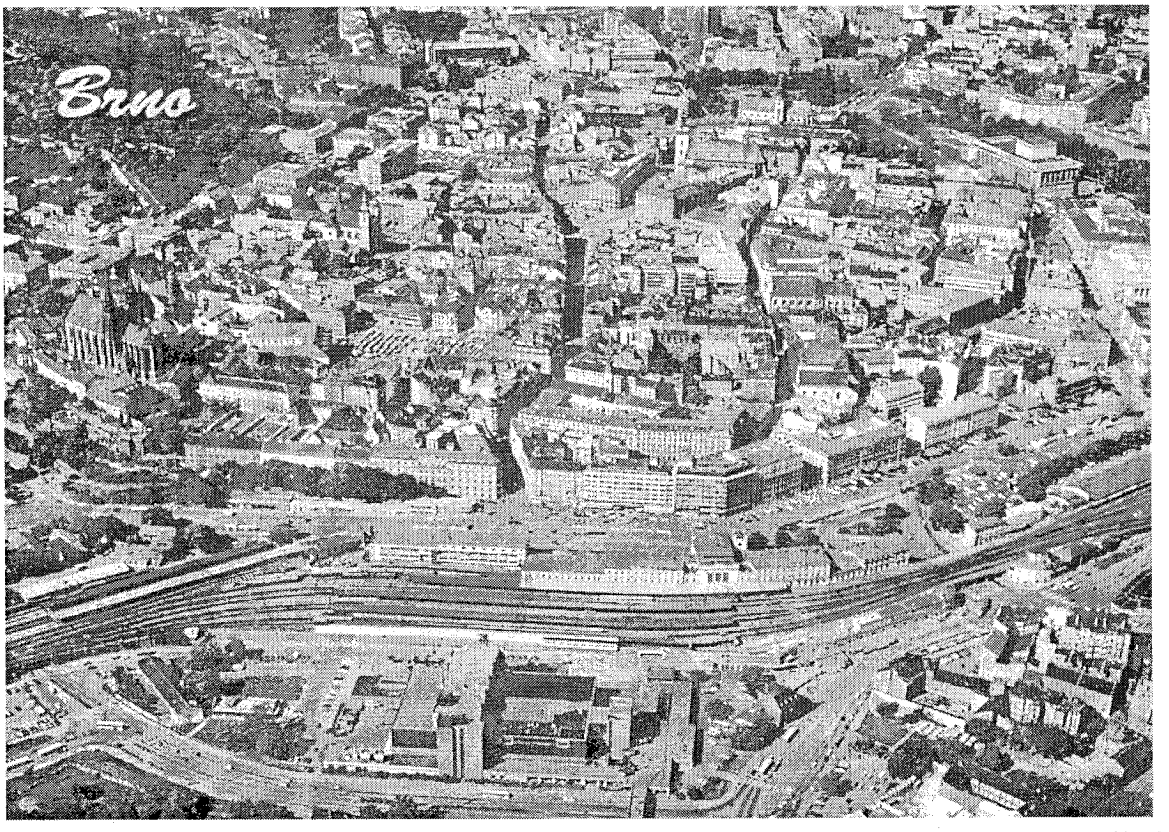


Fig. 6 Centre of Brno viewed from the South. In the front, there is the largest department store in the town, which is now owned by American K-Mart. In the middle front - one of the greatest traffic problems in the town: the main railway station built in the middle of the 19 century. The St. Peter and 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.

	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

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

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.

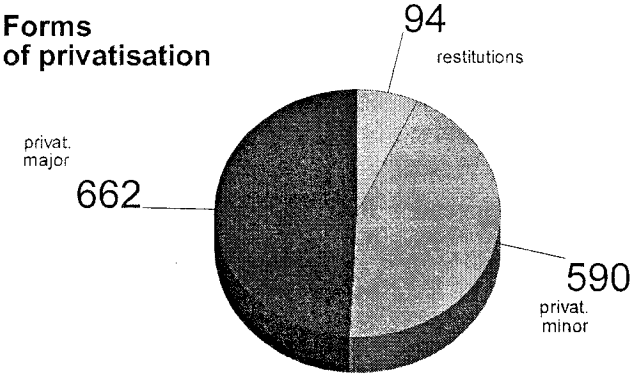
The main goal of economic reform was the fastest possible compatibility of Czech economy with "western" economies. A crucial change was the drift of decision-making on resources-allocation from the central government bodies to the free-market. Following instruments were used for the assignation of national 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 privatitation 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, Domácí 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 Boby 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 **Potraviny**. 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 an 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.

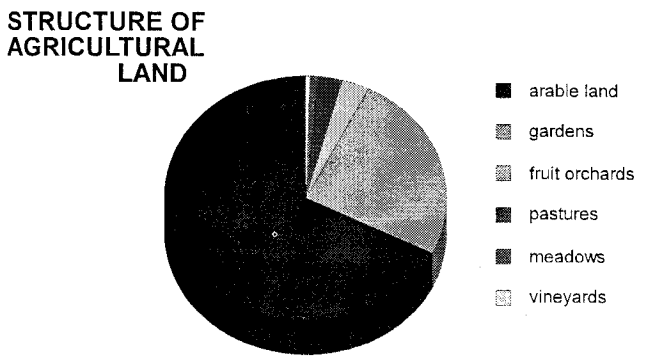
Health conditions of forest stands in Brno is gradually worsening. There is only moderate damage of spruce due to air pollution. More important, however, is the damage by following anthropogenic effects:

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.



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 improve d. 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 Generel 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 sportgrounds. 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, preferrably 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 citiziens: 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 citiziens, 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: egalitarism (small power differences between individual social groups) and capacity to take a risk. High level of egalitarism 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 irrealistic 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 irrealistic. 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-conceptional 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 conceptional 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 professionality of working out and forcing in some projects, in

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

References

DŘÍMAL, J. et al. (1973): Dějiny města Brna (History of the city of Brno), Vol.2. Brno, Blok, 378 pp.

GRIME, K. - DUKE, V. (1993): A Czech on privatization. Regional Studies, 27, No.8, p.751-757.

KOŠŤÁL, R. (1991): Městská hromadná doprava v Brně (Public transport system in Brno). Brno, Dopravní podnik města Brna, 46 pp.

MARYÁŠ, J. (1990): Vybrané aspekty hodnocení obslužné vybavenosti v Československu. Výzkumná zpráva. (Selected aspects of evaluation of service facilities in Czechoslovakia. Research report.) Brno, Geografický ústav ČSAV, 20 pp. + encl.

MUSIL, J. (1968): The development of Prague's ecological structure. London, Routledge, p.47-51.

REITSMA, D. (1995): Major public works: cultural differences and decision-making procedures. Tijdschrift voor Ecomische en Sociale Geografie, 86, No.2, p.186-190.

Sčítání lidu, domů a bytů k 3.3.1991 v České a Slovenské federativní republice (Population census 1991). Praha, Federální statistický úřad.

SMITH, D.M. (1989): Urban inequality under socialism: case studies from Eastern Europe and the Soviet Union. Cambridge, Cambridge University Press.

SÝKORA, J. (1994): Development and administration of Prague. Amsterdam, Institut voor Soziale Geografie Universitejt van Amsterdam, p.47-51.

Územní plán města Brna 1994 (Target territorial plan of Brno 1994). Brno, Útvar hlavního architekta města Brna.

VAISHAR, A. (1992): Kvalita obytného prostředí, územně funkční struktura a územní střety (Quality of living environment, territorial structure and territorial conflicts). In: Vytvoření koncepce informačního systému, založení monitoringu složek životního prostředí s průmětem do území pro brněnský region; výzkumná zpráva (Research report). Brno, Ekologická agentura.

VAISHAR, A.-MIKULÍK, O.-ZAPLETALOVÁ, J. (1995): The town of Brno: functions, prospects, environment. In: Geography and urban environment, Brno, Regiograph, p.102-112.

Author's addresses:

Antonín VAISHAR, Oldřich MIKULÍK, Jana ZAPLETALOVÁ, Roman BARTÁK, Martin DOKOUPIL
Institute of Geonics, Branch Brno,
Drobného 28, P.O.Box 23, 613 00 Brno, Czech Republic

Reviewer

Alois MATOUŠEK

CASE STUDY: BUDAPEST

TRAFFIC POLICY AND URBAN SUSTAINABILITY IN BUDAPEST

Tibor TINER

Abstract

During the decades of urban transport development of Budapest, different types of conceptions and policies were made. The constant element of these policies was to give priority to public transport over the private means of transport in the development supported by the state. As a result Budapest managed to reach a relative high level of public transport in Europe in the mid 1970s. Later, the increasing volume of private car traffic in Budapest marked a new challenge for urban transport policy. At the same time, the economic difficulties started to appear which slowed down public transport development of the Hungarian capital. During the 1980s, these problems became more serious and led to such a negative phenomenon as traffic jam, environmental pollution, decline in the quality of public transport et cetera. After the regime change, the matter of urban transport development became a more important political issue where different type of interests are versus each other on different level of decision-making. Meanwhile the transport problems of Budapest accumulated and there is an urgent need to resolve the most important ones for avoiding a chaos situation in the traffic. Short and long term plans as means of suitable urban development contain what is to be done now and in the future to achieve a harmonic urban transport development in Budapest.

Shrnutí

Pro rozvoj městské dopravy v Budapešti byla za desetiletí její existence zpracována řada variant. Základní myšlenkou těchto návrhů byla státem podporovaná preference hromadné dopravy před dopravou individuální. V sedmdesátých letech bylo výsledkem této politiky relativně vysoké zastoupení veřejné dopravy v porovnání s ostatními evropskými městy. Pozdější nárůst individuální dopravy v Budapešti vyvolal požadavek na zpracování nové koncepce městské dopravy. V témže období zapříčinily ekonomické potíže v zemi i pokles rozvoje hromadné dopravy v maďarské metropoli. V 80tých letech tyto potíže ještě zesílily a vedly k takovým negativním jevům jako jsou dopravní zácpy, znečištění životního prostředí, pokles kvality hromadné dopravy atd. Po změně režimu se městská doprava stala vážnou politickou otázkou; stojí zde proti sobě různé zájmy a to na různých rozhodovacích úrovních. Zatím se dopravní problémy v Budapešti znásobily. Aby se město zbavilo chaosu v dopravě, je nutno nejzávažnější z nich urychleně řešit. Proto byly pro dosažení harmonického rozvoje městské dopravy v Budapešti vypracovány krátkodobé a dlouhodobé plány jejího rozvoje jako jeden z prostředků setrvalého rozvoje města.

Key words: traffic policy, transformation, Budapest

Introduction

The level of urban transport available in the Hungarian capital Budapest - as in other world cities - is a key factor in operating the city functions and is also a basic element of urban life. In a large city like Budapest the concentration of industrial, commercial and tertiary activities have been accompanied by the growth of both vehicle and pedestrian traffic. By the early 1990s, demands made by both freight and passenger traffic on transport infrastructures of Budapest became much greater than the available capacity producing a situation in which Budapest requires projects for urban transport improvement. But transport planners must face realities: the big volume of journey-to-work movements, jam, parking difficulties, financial problems of public transport maintenance, environmental pollution by traffic, negative effects of investments missed during the 1980s et cetera.

In Budapest the pattern of regular personal movements is dominated by commuting and a considerable part of daily travel-to-work trips tends to the city centre (workplaces) and back to the peripheries (residences). The personal transport model of the Hungarian capital differs from western urban centres where the journey-to-work patterns are complicated with the expansion of employment centres on the urban periphery.

The growing share of car availability makes this problem in Budapest more serious: The city centre became a real bottleneck in traffic flow while its new functions (e.g. business, shopping, entertainment, leisure et cetera) are growing. These processes concentrate walking trips into the centre but this area is nearly inaccessible for cars not to speak about the missing parking sites and public garages. To understand the latest situation we have to draw a picture about the history of urban transport policy for Budapest.

A Historical Review

The story of Budapest urban transport development started in the last decades of the 19th century. At the turn of the century, the Hungarian capital was one of the fastest developing cities of Europe. By 1910, its population was 1 million, compared to 400 thousand in 1880. The population growth and increasing needs for mobility were the basis of the first concepts for traffic policy in Budapest, which aimed to allocate large investments in transport development. Newly built tram lines, building of the first deep-level tube line in the Continent in 1896, new railway stations which were connected to each other and to the city centre by paved roads and by tram lines and a complete network of urban transport - all these fact mark well that those decades were the time of real prosperity in the history of urban transport development in Budapest.

After establishing the city-owned Budapest Transport Company (BTC) as a holding company, Budapest had an urban passenger transport system on the European level. During this time, freight traffic of the capital was based on railways. More than 60 factories and industrial plants had own sidings and yards for loading raw materials and commodities. The critical situation of the First World War and negative effects of the Trianon Treaty on Hungary and on the Hungarian economy caused serious problems for the capital. In the mid-1920s, the budget of the city allowed only modest transport development (e.g. extension of existing suburban railway lines, modest road reconstruction). The period between 1930 and 1944 was more favourable for urban transport (bus network development, further road and bridge constructions, extension of more tram lines, et cetera), but the preparation of the economy for military purposes in the late 1930s slowed down this positive process. In the 1930s, the main feature of transport policy was dominance of public traffic against the increasing importance of private car traffic in the capital.

After the devastation of the Second World War, one of the most important tasks in Budapest was to reconstruct the public transport network: to restore the destroyed railroads and roads, to rebuild the Danube bridges that were destroyed, to repair the seriously damaged vehicle fleet and - after reorganising the control system of the BTC, to start to operate the public transport again. In the early 1950s, there were considerable changes in the traffic policy of Budapest, which focused on serving economic interests. During the first years of socialism the capital became an exclusive centre for political and economic activity in Hungary and to maintain its public transport at an acceptable level became a "political question". In this period, the road freight transport of Budapest started to play a more important role in serving industrial and commercial needs of the city.

In public transport BTC became a state-owned company supervised by the City Council of Budapest. Its monopoly status in operating the public passenger transport was declared and strengthened by law. The costs of operation were covered by the state budget through the city council. As for ticket fares an over-subsidised system was introduced in the early 1950s as a means of new social policy. In this new system the conceptions for urban transport development in Budapest were subordinated to the interest of industrial production. The main task of the BTC was to serve the daily journey-to-work movements of blue-collar workers, thus the company had enough power to enforce its urban transport conceptions. The number of employees at the BTC reached 24,000 and BTC representatives in the city council had the necessary political power to get enough money to operate the public transport system according to their interests.

In 1953, neighbouring settlements to Budapest were connected to the capital administratively. Parallel to this event more than 200,000 commuters became citizens using four suburban railway lines, local trams, and buses in their journey-to- work. After creating Greater Budapest with its 1.7 million inhabitants, the tasks of urban public transport increased considerably and big difficulties appeared for BTC in keeping its services at a desired level. It was a really serious problem to carry 1.5 million active earners a day because in the 50s the public passenger transport was not considered as a productive sphere of the economy in general and BTC - against its relative good position in Budapest - did not manage to get enough plus money from the state budget to meet this additional requirements. The increasing negligence of urban transport led to other problems. The over-centralised and radial structure of the main road network of Budapest - which was the result of a normal development process at the end of the last century - did not notably change during the 1960s and did not meet the growing traffic needs at all.

Traffic connections between Pest and Buda could be realised only by crossing the city centre. This radial structure of traffic flow led to heavy concentration of road freight traffic on main roads and Danube bridges of the city and in passenger traffic along the main public transport lines. This situation contributed to creating jam in the vehicles of BTC also (e.g. 7.5 passengers per m in trams during peak hours).

All these problems required a modified traffic policy based on a new principle of rapid transit and which were manifested in a new concept for urban transport development in the early 1960s. This concept was supported by BTC which was also interested in the development of a rapid transit network for Budapest by constructing underground lines connecting the four main railway stations, the suburban railway lines, the old deep-level tube line (the so-called M1 line) and at last the main exchange stations of tram, bus and trolley-bus services. A new project was worked out on the basis of this conception in which BTC reserved the right to operate the new metro lines exclusively. The first restrictions for freight traffic in the city centre were made also in context with this conception.

According to the project this new rapid transit network would have to be completed during a year period to serve as a basic network of public passenger transport in Budapest (Fig 1.). Financing of this large project belonged to the state budget. From the mid-1960s to the mid- 1970s, the construction process carried on dynamically, but the increasing deficit in the state budget from the late 1970s to early 1980s resulted in a slowed down construction process. Because of this, the first metro line (M2) was opened in 1970 but we had to wait 20 years for the second one (M3) to be finished. The third transversal line (M4) is still a plan. Connection of the metro lines to the elements of surface public transport has been realised only in part.

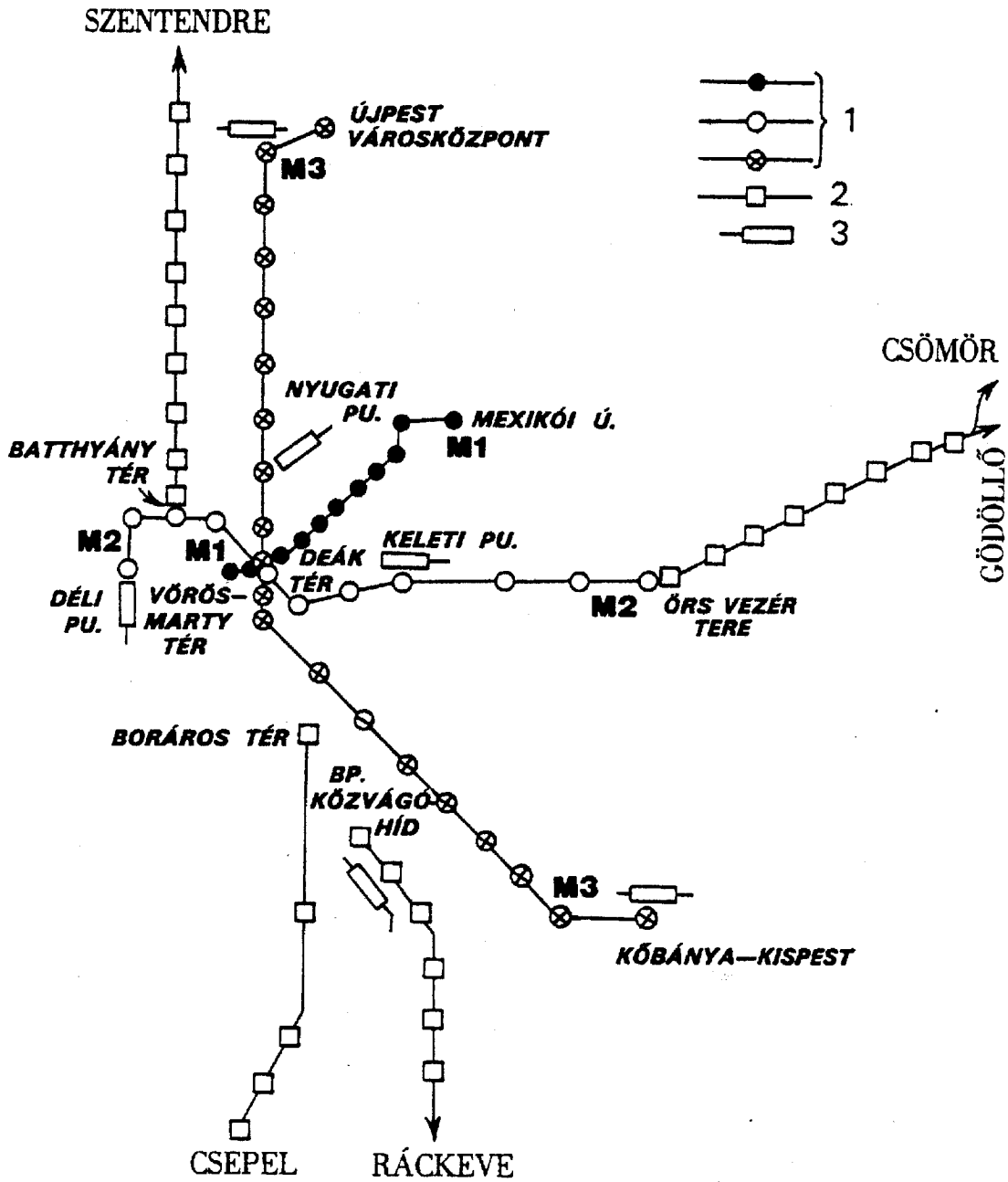


Fig. 1. Rapid transit network in Budapest. - 1 = underground (metro), 2 = local suburban railway (HÉV), 3 = railway station for passenger traffic

In spite of these missing elements of development, the results of the project were considerable. As for the level of public transport, Budapest managed to reach a good position in the rankings of European cities in the mid 1970s. From the early 1970s, new tendencies appeared in Hungary and mainly in Budapest: higher living standard resulted in an administratively controlled increase in the number of private cars. The annual average growth in the number of personal cars fluctuated between 17,000 and 21, 000 vehicles in Budapest which marked the growth of new type of transport need in the city. This phenomenon led to the appearance of a transformed traffic policy in which the interests of new lobbies in the Ministry of Transport - and of course in the city council - were articulated to promote more rapid development processes in the field of private transport also (e.g. build wider roads, more places to park, service facilities etc.). During this time, international road freight traffic started to grow and many more long vehicles crossed Budapest than before.

The struggle between the old (BTC) and new (private transport) lobbies started early and went on with different results but - like nowadays also - a priority was given to public transport in the distribution of funds serving transport maintenance and development as the level of private motorisation lagged far behind the public transport needs in Budapest during the late 1970s and still in the early 1980s. Furthermore, the number of problems derived from increasing private traffic did not reach a critical point during the 1970s, so a continual priority was given to public transport interests in development processes. Additional development problems of public transport appeared in connection with the new housing estates. Large state dwelling structures were concentrated on the fringe areas of the capital (outer housing estate ring), but the majority of workplaces stayed in the city core and in the intermediate industrial belt. To meet the increased traffic needs, BTC had to be developed extensively, i.e. it was necessary to buy additional vehicles, to lengthen routes of existing services, to connect the new housing estates to the nearest rapid transit network node or station, et cetera.

The consequences in surface public transport were following:

- a relative rapid development in bus traffic,
- maintenance of the trolley-bus services on the same level,
- a considerable decrease in the length of the tram network, a process which was stopped during the early 1980s.

The 1980s was the period of increasing problems, in both the field of private and public transport. In connection with the increasing energy prices, fuel costs, and costs of maintenance of vehicles, the network expanded dramatically, although this growth was not compensated by higher ticket prices. The state budget covered only the increasing costs of operation but did not give any help for technical improvements and network reconstruction. The city council urged a more economical mode of operation and more flexible organisational structure at BTC. These suggestions were accepted by BTC only in part: there were some structural changes in the organisational pattern of the company and two per cent of employees were given early retirement or fired during a five year period. Even with these efforts, BTC remained in a negative position at the end of the decade.

The permanently increasing number of private cars in the capital and the increasing volume of long vehicles and trucks running across Budapest led to serious difficulties in the city traffic during the 1980s, as this situation was not followed by a modern road construction programme. Main symptoms of the traffic crisis appeared soon: traffic jams in the city centre and along arterial roads, inadequate parking places in the inner districts (city centre: 8000 places for cars, the real need is 17,000!), increasing air pollution and traffic noise, a growing number of traffic accidents even with bypasses and traffic regulation efforts, et cetera.

Consequently, it was clear that a new traffic policy had to be shaped in the 1980s, in which the main goals would concentrate on traffic restraint from the inner area of Budapest. According to this policy, the city council made several efforts to start to resolve the most acute problems. The first results were: a growing number of pedestrian zones (Duna korzó) in the city centre, restrictions on parking in the city core and on the major roads, traffic calming near the shopping centres, applying different vehicle restraint schemes, et cetera (Fig 2.). Despite all of these efforts, the main problems mentioned were reduced only at a small scale. Arriving at the 1990s, it was obvious that there was a general need for a more effective traffic policy and a new development conception of urban transport for Budapest.

Traffic policy in Budapest in the 1990s

Nowadays, as at previous time, urban transport as a part of urban services has to meet two important requirements: 1. to ensure adequate conditions for private traffic and road freight transport, 2. to maintain and operate a public transport system at a desired level. In case of Budapest, only the public transport can be considered as a modern system, as the road network has many inadequacies. Detailed data about the main parameters of urban transport, considering Budapest and its structural changes, are shown in Tables 1.-4.. These data support the statements made in the previous chapter of the article showing the main problems and tendencies of the present.

The change of the political regime and economic system in 1989 offered new conditions for urban transport in the city reconstruction process of Budapest. Knowing the severity of the problems, it was obvious to both leaders of the city and transport experts that a real

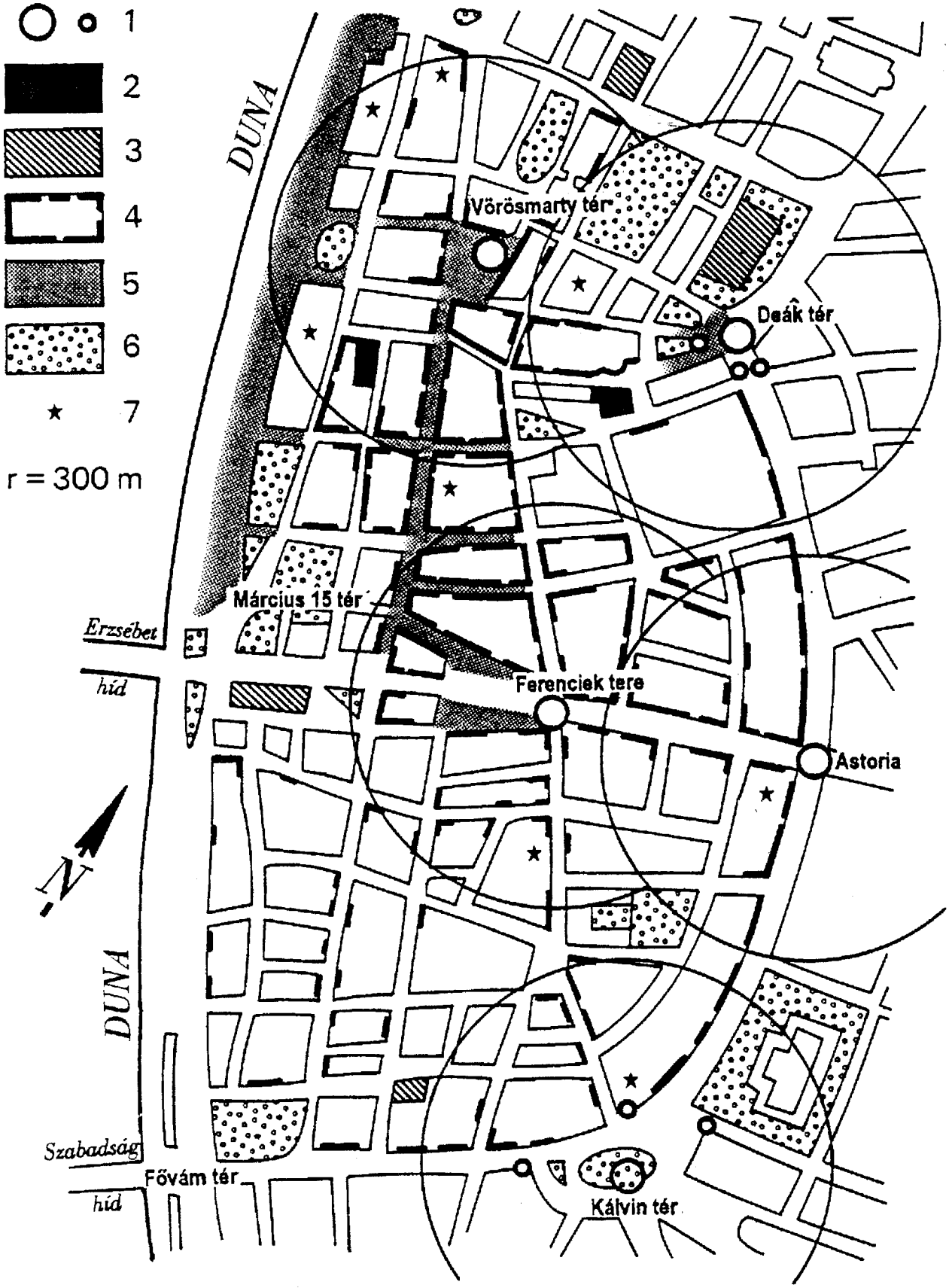


Fig. 2. A few traffic and commercial functions in the city centre of Budapest. - 1 = underground station with exits, 2 = building for car park, 3 = possible site for building for car park, 4 = shopwindows with length of more than 10 m, 5 = streets for pedestrians and for shopping (without vehicle traffic), 6 = green area, 7 = hotel

Table 1 Change in the lenght of public transport lines in Budapest, 1980-1993 (in km)

Year	Tram	Trolleybus	Bus	Suburban railway	Metro *	Together
1980	173	55	635	109	26	998
1985	168	67	709	109	30	1083
1990	157	68	760	109	35	1129
1991	157	68	775	109	35	1144
1992	157	69	780	109	35	1150
1993	159	69	767	109	35	1139
Shares, %						
1980	17.3	5.5	63.7	10.9	2.6	100.0
1993	14.0	5.5	67.2	9.6	3.1	100.0

* Old deep-level tube included

Table 2 Vehicle fleet of public transport (BTC) in Budapest, 1980-1993

Year	Tram	Trolleybus	Bus	Suburban railway	Metro	Together
1980	1221	247	1767	370	236	3841
1985	977	240	1836	390	332	3760
1990	929	234	1802	390	400	3755
1991	924	225	1738	371	420	3668
1992	924	225	1706	371	420	3636
1993	924	205	1685	371	420	3605
Shares, %						
1980	31.8	6.4	46.0	9.6	6.2	100.0
1993	25.6	5.7	46.7	10.3	11.7	100.0

Table 3 Capacity of vehicles in public transport (BTC) in Budapest, 1980-1993 (1000 seats)

Year	Tram	Trolleybus	Bus	Suburban railway	Metro	Together
1980	131	24	162	52	42	411
1985	110	23	172	56	60	421
1990	107	25	176	56	72	436
1991	106	22	160	54	74	416
1992	106	22	161	54	74	417
1993	106	19	155	54	74	408
Shares, %						
1980	31.9	5.8	39.4	12.7	10.2	100.0
1993	26.0	4.7	38.0	13.2	18.1	100.0

Table 4 Change in the number of passengers in public transport of Budapest, 1980-1993 (millions passengers)

Year	Tram and Trolleybus	Bus	Suburban railway	Metro	Together	Change in %
1980	626	860	101	328	1915	100.0
1985	594	880	109	350	1927	100.0
1990	517	779	86	302	1684	87.9
1991	493	729	82	313	1617	84.4
1992	451	671	74	284	1450	75.7
1993	436	682	71	280	1469	76.7
Shares, %						
1980	32.7	44.9	5.3	17.1		100.0
1993	29.7	46.5	4.8	19.0		100.0

and effective transport policy had to be worked out which would serve the long term development of the city. Starting from the realities of the late 1980s, a new transport development program has been worked out. To understand the essence of the conception of the latest policy, it is necessary to first review all the fields of urban transport (its structure, operational features, financing, the mechanism of decision making, existing conflicts, et cetera.) not to forget about the transport policy-transport conflicts relations (Fig 3.). After finishing this, we have to turn to long and short term projects and to their future effects on the urban development of Budapest.

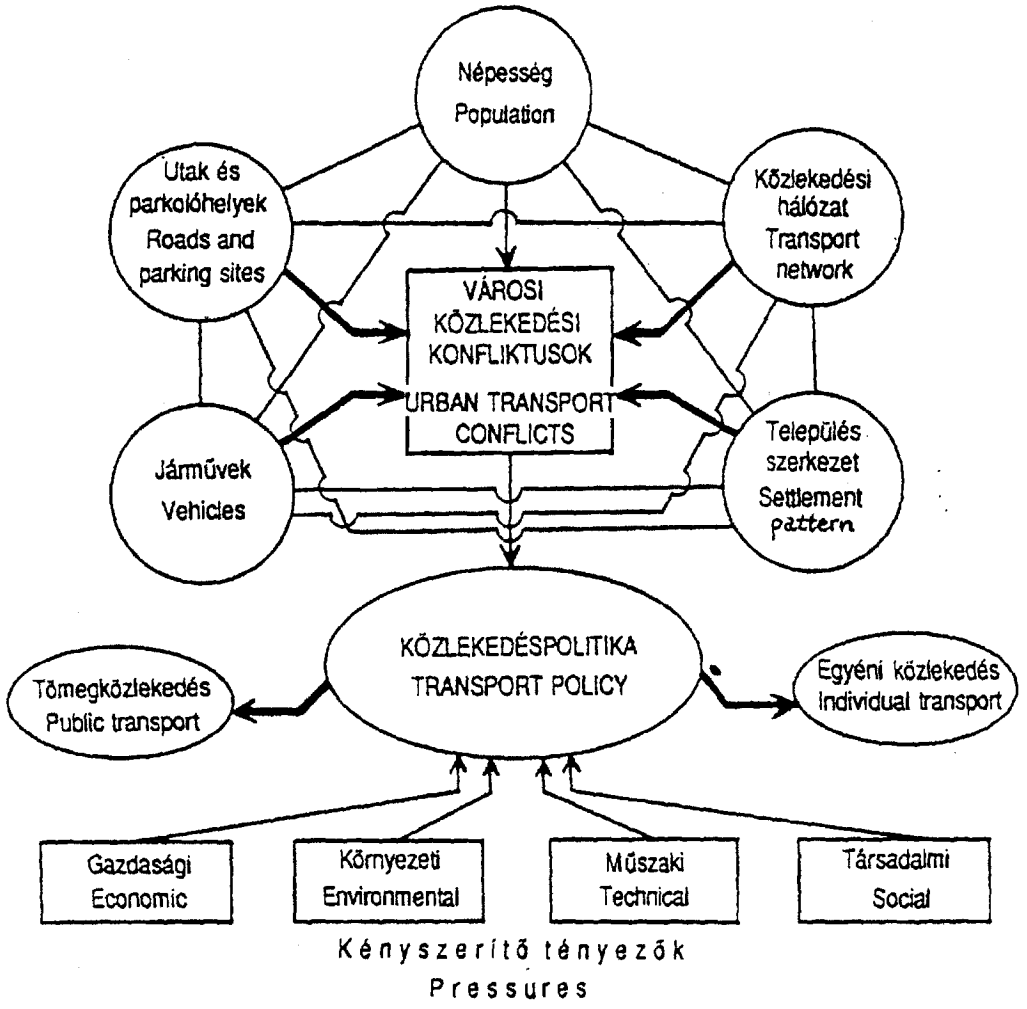


Fig. 3. A simple model scheme about the context between transport policy and urban transport conflicts (ed. by T. TINER)

a.) Organisational structure of urban transport, planning and decision making

The Budapest Transport Company, which became city-owned again in 1992, has a monopoly status in operating public transport system in Budapest, carrying more than 96% of public passengers. Additional passengers are carried by private taxis, the city-owned Fötaxi, airport minibus services, et cetera. The organisational structure of BTC is relatively simple. The centre of control and decision making is the headquarters of the company. It has four management groups (Bus, Tram and Trolley-bus, Metro, and Suburban Railway) which are responsible for functioning and co- ordinating of their own branch of public transport. Each management group has more branch offices (e.g. technical, operational, track controlling, et cetera.) which are responsible for controlling the everyday activities of public transport: to start and maintain the circulation of vehicles, to supervise the lines. Parallel to this vertical organisational structure, there exists a more horizontally organised management system (e.g. economic, personnel, network planning, traffic safety management) which belongs to the headquarters to complete the functions of branch management.

Different versions of plans for public transport development are prepared in three different planning offices in the capital: 1. in the BUVÁTI (Institute for City Planning of Budapest), 2. in the Planning Bureau of Public Road Management of Budapest which belongs to and is supervised by the City Council of Budapest, and 3. in the Department for Planning of BTC. The plans worked out are first sent to the Department for Transport and Public Road Development of the city council for an official expert's report. This department co-ordinates different types of plans, makes the first evaluations about and comments upon their positive and negative effects in the existing structure of public traffic, on the city structure, on environment, et cetera., and prepares a final version for general assembly of the city council, the top forum of final decision making. But the real procedure of decision making is not so simple and undemocratic. Before the final decision is made, nearly every social group of the capital impacted by the effects of a transport development project in the future (e.g. representatives of political parties in the city council, external transport experts, members of different committees of the city council, BTC leaders and planners, the traffic police and last, but not least, residents of the city quarter or district or their representatives) may take part in final discussions, arguing for or against the projects or details of the projects. In these discussions political, professional, environmental and other local interests often fight against one another, but according to experiences, financial arguments will have priority in the end as the lack of money is the real bottleneck to achieving results acceptable for everybody.

Following from this mechanism, the real needs for transport development may be articulated a) on the district level (district council), b) on the capital level (city council) and c) on the company level (BTC). So there is a hierarchy in decision- making according to the following model:

- It is the mayor of a district who has the right to allow any type of transport development inside the district if its effects stay only on district level.
- It is the mayor of Budapest who has the right to authorise transport development activities or reconstruction on capital level - after getting authorisation for it from general assembly of the city council.
- It is the Minister of Transport or the Deputy Minister responsible for urban transport who can exclusively authorise any type of transport development in the agglomeration zone of Budapest or in the larger region.

The bigger the volume of investment the higher the level of decision-making. The top level is the Parliament (e.g. for decisions on reconstruction of a motorway ring around Budapest, extension of metro lines et cetera), the lower level is the Ministry of Transport (the place of decisions for transit road reconstruction through the agglomeration zone of the capital), then the City Council of Budapest (for reconstruction of main road sections, buying of new buses for BTC), and at last the District Council (e.g. pavement constructions). Of course all types of the developments need a previous for financing as a part of yearly budget of the city which plan must be accepted by the Ministry of Finance (except the district level decisions) giving a credit or a guarantee to establish these projects accepted on the different level of decision-making.

So in the case of a very big project, the decisions are wandering upstairs through the municipal and governmental bureaucracy and political interests can modify the latest versions on each step particularly as for the cost of realisation. Additionally, the face of Hungarian political life is very changeable. It means that many politicians of different parties change their minds or directions of their activities according to the latest political situations. So the decision-making procedure in urban transport development is affected by contradictory political effects from month to month and more political parties can make permanent pressure on the direction of urban transport development with more or less success. (It happens very often that a party which was lobbying for public transport development in one year changes its mind suddenly and after a short time, the same party will fight for the investment into private transport or try to hinder any form of transport development in the territory of Budapest).

Consequently, the time frame of a plan or a suggestion for any changes in urban transport or for better transport conditions is very long. It can take several months (or years!) to develop a consensus and this is

not taking into account the fundamental problem of financing. If - in the case of Budapest - general assembly at last accepts an urban transport project (with the majority of votes) and financial sources are available, the project will be quickly realised. If not, a second (third, fourth) circle of changes, modifications of the project, will be started again and the mechanism described above will be repeated. Financing of the city transport system - which is a very expensive thing in all big cities of the world - is also a constant problem in the case of Budapest. Funds for maintenance and for the development of public transport and road networks in Budapest come from three different sources: the state budget, the city budget and foreign sources (mainly in the form of credits for environment-friendly transport development). While the slim budget of the city council can assist only maintenance of public transport, the state has more money to finance smaller developments. But for the larger and much more expensive transport reconstruction projects, money from abroad (from foreign countries, consortia, private banks, et cetera) is required and conditions are generally more strict than in other cases.

It is important to mention that the last word for realisation of a project is said by the investors (e.g. Ministry of Finance, banks, consortia, private investors). And these investors will give money for those purposes which are absolutely serving their financial or profit concerns.

b.) Traffic policy and urban development

The priority of public over private transport is a long term and essential conception of the development processes in Budapest. Consequently, the main problems of public transport were resolved much earlier and more effectively than those of private transport. This process was helped for decades by a low level of motorisation in Hungary compared to western countries (e.g. 1993: 270 cars per 1000 inhabitants in Budapest, compared to 390 for Vienna), and was served by the greater need for public transport by the population that was without cars for longer period. The public transport system had a considerable state support from the mid-1960s until the mid-1970s. During this time, the quality of services increased and Budapest had a relatively modern public transport system on the European level. During its existence, the urban transport system of Budapest followed structural changes of the city (which became a real metropolis with its 2 million residents), mainly in the field of public transport, so serious mobility problems for inhabitants of the Hungarian capital did not exist.

The increasing level of motorisation soon showed hidden problems which derived from public transport - private transport conflicts, from many cars - small road surfaces - inadequate parking places, et cetera. We may say that the majority of residents are still satisfied with the level of public transport services, but every year more people complain about the dirty and neglected vehicles, of more infrequent service on certain lines, of increasing ticket prices, et cetera. As for drivers, the situation is completely different: the majority of them are unsatisfied with narrow streets, the lack of parking places, and they complain of permanent jams in the inner city.

These conflicts mentioned are articulated regularly at different levels, such as meetings of the district councils, and are also forwarded to the city council. If an important problem is not quickly resolved-because it is generally the task of the city and not of the districts-a conflict situation will occur between the city council and the district councils. Nature of these conflicts is changeable: some of them may be resolved in the form of co-operation and the co-ordination of tasks relating to public transport (e.g. changing times of service, where to place the bus stops, what streets must be reconstructed, et cetera.), others are the question of money (e.g. where and when to construct underground passages, bypasses, ramps for traffic calming, et cetera) which can not be solved in a short time period. To resolve the different types of transport problems in Budapest is always an important activity of the city council. The general assembly of the council deals with some type of transport development question and suggestion regularly (nearly every month).

In the 1990s, importance of transport in the budget became considerable as the lack of development during the previous decade articulated itself. This means that more than 30% of the total budget of the city was used for transport purposes (mainly for development). In 1993, this sum was 13.5 billion HUF (135 million USD). This large proportion marks a new era in transport policy development even though many pro blems remained that will only be resolved in the coming decades.

c.) Problems of the urban transport system in the 1990s

The most serious problems in the field of urban transport in Budapest are as follows:

- Development of transport infrastructure of the city was unable to follow the rapid increase of motorisation in the 1980s and 1990s. There was more than 500,000 private cars in Budapest in 1993. Because of this large volume, the traffic intensity on main roads and bridges of the capital is much more than normal.
- Missing transversal main roads on the fringe areas, and the lack of additional Danube bridges contribute to the unacceptable large volume of domestic and international road freight traffic running across the inner city bridges and arteries. The existing parts of the MO ring motorway serve only the transit traffic bypassing the capital.
- The condition and capacity of existing underpasses and bypasses is rather inadequate, thus urgent repairs are necessary.

- In the fifth district (city centre), 40 per cent of street surfaces are covered with parked cars, hindering public transport and pedestrian movements.
- The problem of negative environmental effects caused by vehicle traffic is still unresolved. Against positive tendencies is the unfavourable situation of the capital's vehicle fleet: the average age of a car is 9.2 years and 27% are Trabants and Wartburgs. These cars, the most polluting types, are responsible for more than 45% of total air pollution. Although 3,200 were removed from the traffic in 1992 and 1993, their negative effects on the quality of atmosphere are still remarkable. Because of the permanent traffic jam, 50% of the total polluting material (emissions) concentrate in the inner districts of the city.

Special difficulties of public transport:

- There is a permanent and continuos slow-down in public surface transport (bus and trolley-bus traffic) because of traffic jams.
- The condition of the BTC vehicles is worsening from year to year. Old vehicles become air polluters while their cost of repair is growing. More than 40% of buses, trams and trolley-buses should be immediately replaced, but with the lack of money they are still in operation.
- The ratio of public and private traffic has changed from 80-20% to 70-30% during the last decade. This change has had a negative effect on the power of BTC to influence the city transport policy as its share in total urban transport has decreased.
- Quality of the tram and suburban railway tracks is generally bad. On 45% of the network, trams must not travel more than 30 km per hour. This situation is very unfavourable for citizens using trams regularly.
- The construction of rapid transit network was not carried to an acceptable degree. The network has not been completed with transversal lines (there are more missing connections e.g. between suburban lines in South Pest and the M3 metro line).
- Operational costs of the public transport system (20 billion HUF in 1993) greatly increase every year while the income of BTC covers portion of an ever smaller maintenance costs. The structure of total income is: 50% from the city budget, 30% from fare fees, and 20% are in the form of state subsidies.

Leadership of the city first of all tries to resolve the most urgent problems (increasing air pollution in the city centre, decreasing traffic safety) which requires strict traffic restrictions and help for environment friendly modes of traffic (bicycle, trams). These efforts have appeared in city reconstruction planning and as parts of long term projects.

d.) Long term transport plans for sustainable urban development

Fundamental principles of long term transport planning in Budapest are as follows:

- to stop deterioration of urban transport conditions,
- to diminish environmental damages and traffic jams,
- to shorten travelling time in the city.

As for public transport the most important task is to maintain its ability to operate. In the case of private and freight traffic, there is a need for investments in transversal roads, underpasses, bridges, traffic junctions with high permeability in the fringe area of the city, et cetera to increase their throughput. Parallel to this it is necessary:

- to support different types of traffic-calming measures in the inner city,
- to reorganise the traffic flow in the city centre, keeping the majority of private cars out of the city core,
- to reorganise the P+R system which now operates very ineffectively as only few parking places are available at metro stations and terminals of the public transport network,
- to give priority to environment friendly vehicles (e.g. the so-called green buses, bicycles, trams and trolley-buses) in traffic.

The most important points of the long term plans of urban transport development in Budapest are following (Fig 4. and 5):

- Construction of the M4 metro line transversal between NE- Pest and S-Buda.
- Connection of the Csepel and Ráckeve suburban railway lines with the M3 metro line creating an under-surface transport mode at Kálvin tér.
- Full reconstruction of the Hungária Boulevard together with the further extension of the fast tram No 1. line.
- Free-flowing construction of the MO motorway ring with junctions around the capital connecting it to the main radial transversal roads of the city. This will give better accessibility for drivers to reach arterial roads of the capital and radial motorways such as M1, M7, M3 and M5 and will help to keep the road freight traffic out of the city centre and from the intermediate zones of the capital.
- Building of a new bridge in Lágymányos to help functioning of the future transversal road network.
- Constructing special roads for bicycle traffic in the 13th, 1st, 2nd and 3rd districts.
- Full reconstruction of deep-level tube line under Andrássy út to increase quality of under-surface public traffic in the inner part of the city.
- Reconstruction of 400 km of tram tracks in the next 10 years to better serve public transport possibilities.
- Buying more than 200 new environment-friendly new buses and 35 trams to replace old fleet. This investment will be accomplished with the help of EBRD credit.
- Further administrative regulations must be carried out to calm car traffic in the inner city zones (e.g. different vehicle restraint schemes like filter system, closing areas for cars, new order for parking, et cetera).

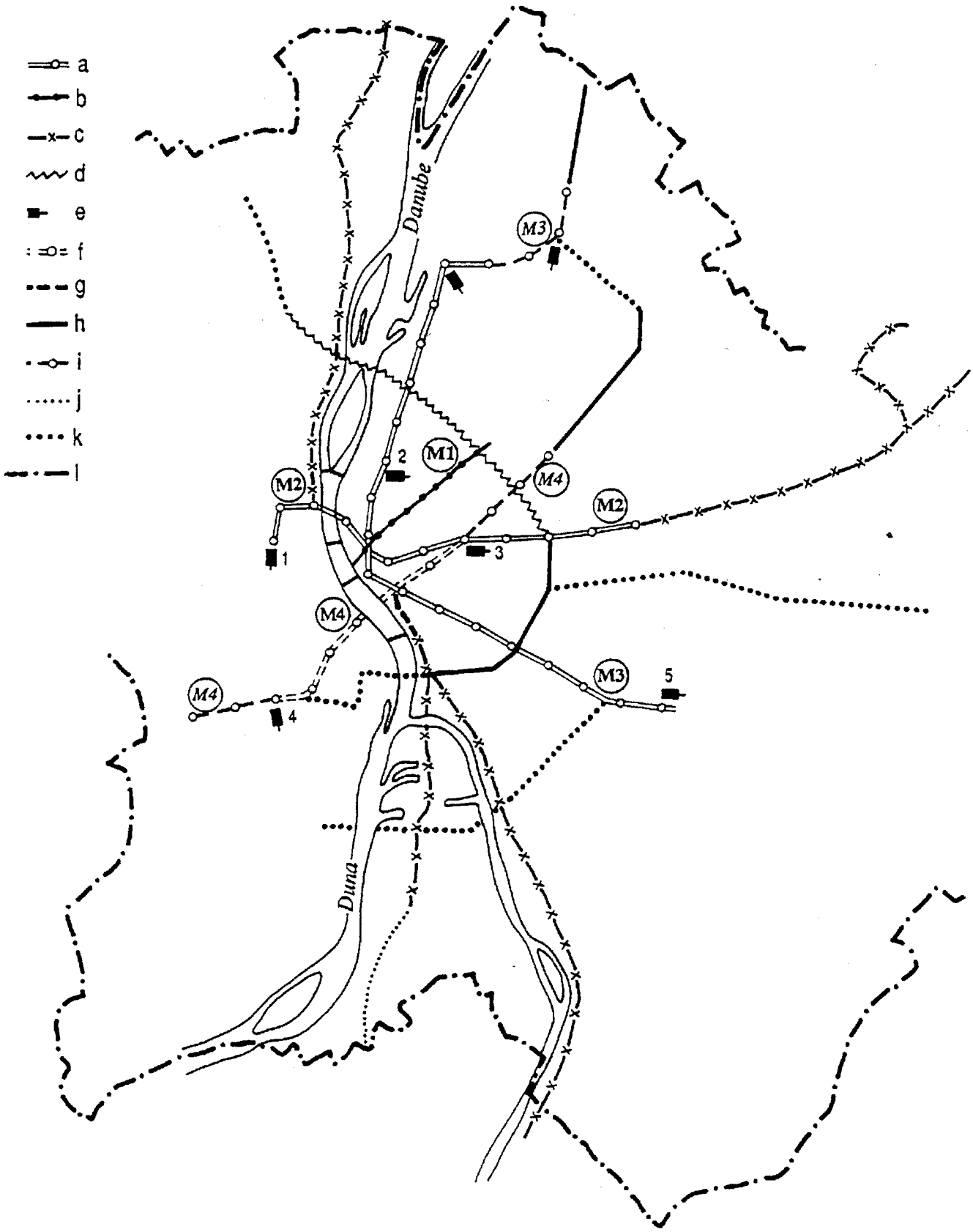


Fig. 4. Development project for rapid transit system in Budapest. - Existing: a = metro line, b = deep-level tube line, c = suburban railway line, d = fast tram service, e = railway station. New constructions planned to finish before the year 2000: f = metro line, g = fast suburban train service, h = fast tram service No. 1. New constructions after the year 2000: i = metro line, j = fast suburban train service, k = fast tram service, l = administrative boundary of Budapest, K = Kálvin Square

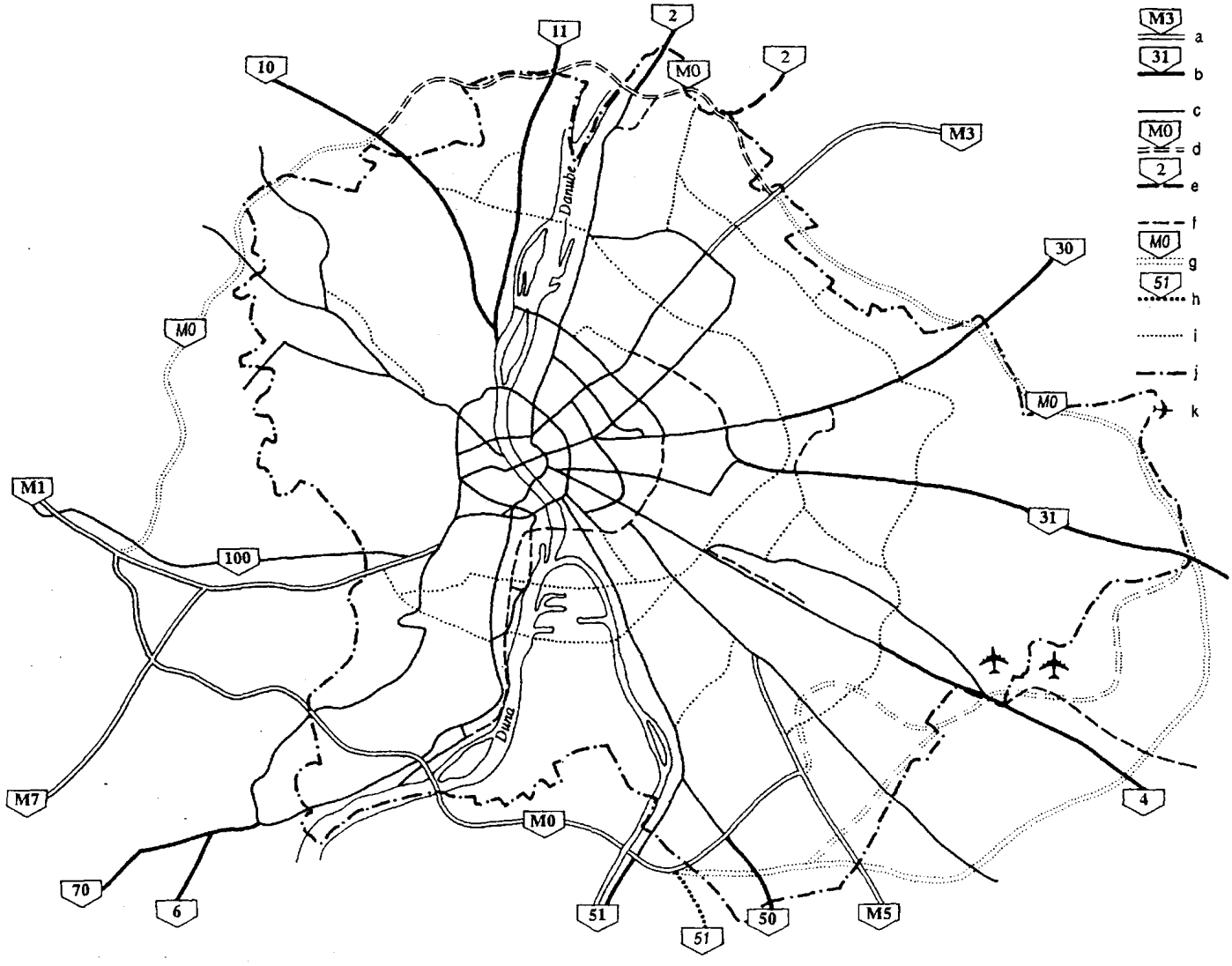


Fig. 5. Public road construction projects for Budapest. - Existing: a = motorway, b = primary and secondary main road, c = arterial urban road. New constructions planned to finish before the year 2000: d = motorway, e = secondary main road, f = reconstructed and new arterial urban road. New constructions after the year 2000: g = motorway (with alternative routings), h = secondary main road, i = arterial urban road, j = administrative boundary of Budapest, k = airport

- Inner traffic belts of the city must be more intensively protected from pollution and new strategies have to be formed for the outer zones for the same purposes (Fig. 6).

Besides all of these activities, there is also a need for urgent reform in the organisational pattern of BTC, allowing for a more effective and cheaper operation. According to the latest contract between the city council and BTC, the company will be transformed into a holding company in 1996 and will rely on revenue obtained from the city councils and ticket sales (rather than from subsidies!). This new organisational form was suggested by the EBRD in the hope of creating a more efficient and inexpensive operation. This means that the city council and residents may insist on a certain quality of services that will be declared in the contract. If BTC is unable to provide services at the level agreed upon by the contracting parties, the council may refuse to pay fees to the company, inhabitants will have the right for cheaper services, and EBRD may refuse to give further credit for the development.

Summarising the aims of the latest long term project accepted by the city council in summer of 1993 we may say that it will serve as a means for sustainable development of Budapest, but this project have to be completed soon with additional points to make it more complex and more useful. The missing points - and suggestions - are as follows:

1. In co-operation with the Hungarian State Railways (MÁV), it would be necessary to create a multilevel rapid transit system (like in Vienna) for Budapest and for settlements of the agglomeration zone. MÁV has more than 140 km of railway line inside the administrative boundary of the capital with 38 stations and stops. Some of these lines are transversal to metro

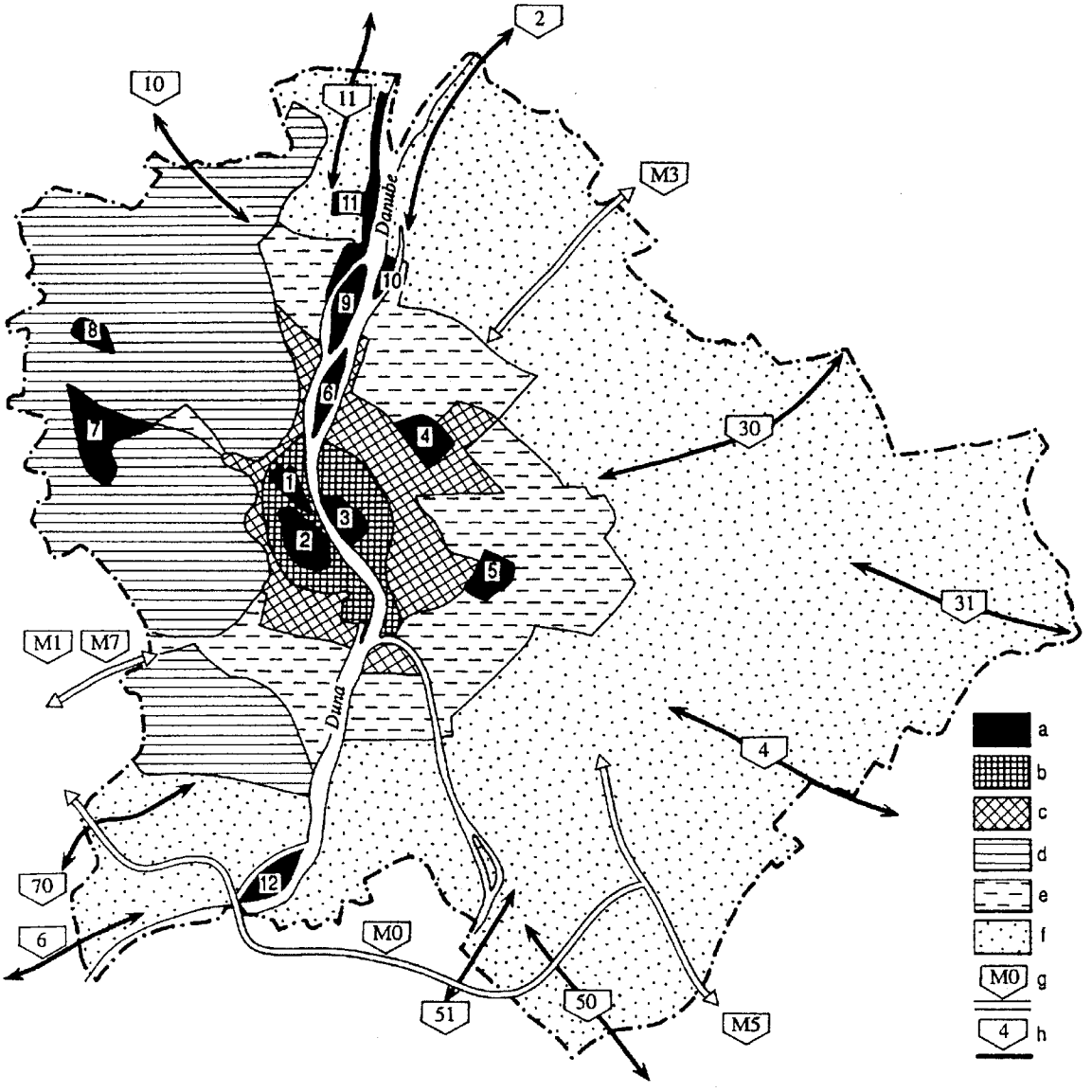


Fig. 6. Traffic belts of Budapest. - a = strictly protected traffic belt, b = 1st traffic belt of the inner city, c = 2nd traffic belt of the inner city, d = hilly and green areas of Buda part, e = intermediate traffic belt with mixed city functions, f = outer traffic belt, g = motorway, h = main road. Parts of the strictly protected traffic belt: 1 = Castle area, 2 = Gellért Hill, 3 = city centre, 4 = Városliget (City park), 5 = Népliget (The People's park), 6 = Margit-sziget (Margaret Island), 7 = János Hill— Normafa—Hunyad Peak triangle area, 8 = Hüvösvölgy (Cool Valley), 9 = Óbuda Island, 10 = Southern part of the Népsziget (The People's Island), 11 = Római part (Roman Coast), 12 = Háros Island

and suburban railway lines. This advantage must be profitable in urban public traffic in the future.

2. To reduce the speed limit in the city core and in densely populated parts of the city. This restriction would made the streets of the capital safer and contribute to fewer accidents.

3. To prohibit the vehicle traffic in green areas of the city (e.g. in the Népliget) together with extension and rehabilitation of city parks of the capital.

If these additional suggestions are to be taken into consideration in the long term transport policy, and also as a part of the total reconstruction process of the city, it would represent a big step toward sustainable development of the city.

Conclusion

Traffic policy plays an important role in the process of urban sustainability in urban areas of the world. Transport planners face increasing problems in Budapest also where the economic crisis of the country's economy makes the problems of urban transport development more serious. The mechanism of decision-making in this field consists of more steps influenced by different political interests. So the procedures are complicated and take too long time.

Urban traffic is a strategic issue of urban policy. Its role in the activity of the city council of Budapest is emerging and the attention turns over medium and long term projects. Parallel to it urgent reconstruction and maintenance problems have to be resolved now.

Fundamental principles of these projects are focused on stopping the decline of urban transport, diminishing environmental pollution caused by transport mainly in the city centre and converting the radial structure of traffic flow into a more transversal structure. These principles are accepted by the public also but as for the way of execution opinions differ extremely among experts, politicians, local authorities and the publics.

Making compromises and achieving co-operation among all urban social groups which are interested in good solutions - these are the means leading to a successful traffic policy in Budapest at serving the sustainable development of the Central European metropolis effectively.

References

BERÉNYI, I. (1994): Budapest városszerkezetének átalakulási tendenciái. (Change tendencies in the regional structure of Budapest). - Földr. Ért. 43. 3-4. p. 221-234.

BÖSZE, S.- MÁTYÁS, P. (1990): A budapesti lakótelepek tömegközlekedése.(Public transport in housing estates of Budapest).- Közl.Tud. Szle., 40. 7. p. 318-328.

Budapest közlekedési rendszerének fejlesztése (tervezet). (Development project for transport system of Budapest). - City Council of Budapest, 1993. 96 pp.

FLEISCHER, T. (1990): Közlekedéspolitika 1992: európai tervek - hazai remények (Transport policy 1992: European projects - Hungarian hopes.) - Közl. Tud. Szle. 40. 11. p. 481-487.

HOYLE, B.S. - KNOWLES, R.D. eds. (1992): Modern Transport Geography. - Belhaven Press, London-New York. 276 pp.

Interview with Mr. M. CSORDÁS, Leader of Department for Transport Development in the City Council of Budapest, (Nov.1994)

Interview with Mr. P. BELUSZKY, the Member of general assembly of City Council of Budapest, (Nov.1994)

IVÁN, L. (1994): A budapesti agglomeráció területi szerkezet és központrendszere. (Spatial structure and central system of the Budapest agglomeration). - Földr. Ért. 43. 3-4. p. 265- 279.

LERS, V. (1993): Környezetkíméld tömegközlekedés Budapesten. (An environmental-friendly public transport in Budapest). - Közl. Tud. Szle. 43. 8. p. 291-295.

SCHNELLER, I. (1992): Budapest fôváros kiemelt középtávú fejlesztési koncepciója (javaslat). (A middle-term main development conception for the capital Budapest /suggestion/). - Településfejlesztés, 2. p. 7-20.

SZABÓ, D. (1990): A budapesti autóbuszközlekedés 75 éve. (75 years of bus traffic in Budapest). - Közl.Tud. Szle., 40. 8. p. 349-356

SZABÓ, G. (1994): Alagútvesztd. - HVG, 16. évf. 17. p. 117-118

SZABÓ, G. (1994): A kör félkörösítése. - HVG, 16. évf. 23. p. 97-98.

TINER, T. (1994): A városi személyközlekedés problémáinak összehasonlító földrajzi vizsgálata Bécs és Budapest példáján. (A comparative geographical investigation of urban passenger transport problems in Vienna and in Budapest). - Földr. Ért. 43. 3-4. p. 365-380.

TURTON, B. - KNOWLES, R. D. (1992): Urban Transport Problems and Solutions. - In: HOYLE, B.S.-KNOWLES, R.D. (eds): Modern Transport Geography.- Belhaven Press, London-New York, p. 81-104.

Author's address

Tibor Tiner
Geographical Research Institute
Hungarian Academy of Sciences
Andrássy út 62
1388 Budapest
Hungary

Reviewer

Alois Matoušek

PRIVATISATION, GROWTH AND SUSTAINABILITY OF THE RETAIL SECTOR IN BUDAPEST

Michael J. DOUGLAS

Abstract

In contrast to other socialist countries, private sector in Hungary has always been accepted with certain respect to its role in national economy. Therefore, retail trade policy is compared for 1951-1990 and from 1990 onwards. On the example of Gödöllö - a part of Budapest agglomeration situated some 30 km from the historical centre - present situation of privatized and self-started grocery stores has been subjected to a detailed analysis.

Shrnutí

Na rozdíl od ostatních socialistických zemí byl privátní sektor v Maďarsku akceptován do určité míry vždy s ohledem na jeho úlohu v hospodářství. Je proto srovnávána maloobchodní politika v letech 1951-1990 a po roce 1990. Na příkladu Gödöllö, části budapešťské aglomerace cca 30 km od historického centra, je detailněji analyzován současný stav privatizovaných a soukromých obchodů se smíšeným zbožím.

Key words: retail trade, privatization, Budapest

Introduction

As one segment (the other two being traffic and green space policies) of the Budapest report that deals with sustainable development, this paper specifically looks at the various policies that are impacting (or have impacted) the development of the retail sector. The retail sector is usually one of the most dynamic sectors of the economy, with its ability to respond to the demands of society in a relatively rapid manner if allowed to. In this transitional period in Central and Eastern Europe, it has been the retail sector that has recorded the fastest growth, perhaps as so much pent-up consumer demand was finally allowed to be met in a rational manner. The dominance of the state retail sector has been reduced in most areas although there are bound to be negatives that arise from this demise.

In what follows, various aspects of this change are analysed. Firstly, the retail policies up to 1990 or, in other words, during the previous regime, are examined. Secondly, retail privatisation strategies are evaluated and, after this, the lack of retail policies (on both a local and central level) since 1990 is discussed. In a case study of Gödöllö, a residential area on the periphery of Budapest, the growth of the retail sector since 1990 is highlighted and one can see how the (lack of) retail policies come into play. We conclude with presenting general findings. It is hoped the facts presented in this analysis will assist in the development of retail policies that promote sustainable development, although this concept is new in Hungary (and other transitional economies).

Retail Polices up to 1990

In Hungary, in contrast to other socialist countries, the private sector was always accepted as having a role to play in the economy, although sometimes this was but a grudging acceptance (Swain 1990). This "second economy", as defined by Hann (1990) includes not only full-time entrepreneurs and artisans in the private sector, but also many kinds of 'informal work' performed by persons who also have 'formal work' in the state sector. This informal sector was estimated to account for one-third of personal income and one-quarter of all hours worked (Pickvance 1992, 15). Besides those with regular employment in the state sector, many individuals classified as 'inactive' or as 'housewives' in the first economy are also significant earners in the second (Hann 1990). In this private retail sector, many small inner-city shops were allowed to operate in areas that the state could not effectively organise, such as watchmakers, tailors, as well as vegetable markets and small food stores (see Table 1). This private retail sector, however, was strictly controlled, heavily taxed, not profitable for most, and never produced more than five per cent of retail turnover. The first major economic reform, the New Economic Mechanism in 1968, was a slight shift towards a system of indirect regulation in which new structures of incentives were supposed to stimulate efficiency and innovation, although competition and entrepreneurship were not emphasised. Opening hours, prices, selection of goods, et cetera of retail outlets were still centrally controlled. In the late 1970s, retail co-operatives started to develop, although central policy dictated that there should be no difference in price, selection, et cetera between different stores. Planners

determined the size and location of most state-owner retail outlets based on population figures (e.g. one store for 4,000 residents); supply and demand functions did not enter the equation.

Table 1. Private retail in Budapest 1951-1990

Year	Private	State	% Private
1951	17 733	na	na
Feb. 1952	12 514	na	na
Dec. 1952*	1 371	na	na
1960	4 496	7 003	39.10
1969	3 720	6 820	35.29
1985	6 174	5 794	51.59
1989	7 934	5 313	59.89

* after nationalisation

In 1982, the establishment of small private enterprises was further liberalised in Hungary and the number of people working in small businesses increased from 68,000 in 1982 to 530,000 in 1987 (Lengyel 1993; see also Swain 1990 and Vékás 1989 regarding ownership reforms). This expansion of private entrepreneurs accounted for perhaps 20 per cent of GNP, but only 8 per cent of employment by 1989 (see Table 2). Most of the expansion was in the areas of retail trade and consumer services (Young 1994). Co-operatives also started to experiment with quasi-private retail outlets. Managers of such outlets paid a "rent" to the co-operative based on the store's turnover and the store was still required to obtain all products from a central distribution centre, with set prices. The co-operative still owned the store and paid the employees, but the manager received any profit. This was not private ownership because of the controls set, but the easing of regulations and the development of small businesses kept the economy going, paved the way for private businesses, and trained masses of small businessmen (Lengyel 1993). And the experiences of these semi-market solutions facilitated in the transition of the market economy in Hungary. The Individual Entrepreneur Act of 1990 terminated most restrictions concerning the retail sector, although it still may be necessary to have a specialist qualification to open certain types of businesses, such as pharmacies (Horváth 1993). With the relaxation of regulation, there has been a virtual explosion in the retail sector; the number of private retail and catering outlets doubled between 1990 and 1992. One current problem in the development of a new retail system is that there is not a developed private distribution system and retail outlets (and their customers) might be forced to pay higher prices based on their location and turnover. In contrast to the previous system of set, equal prices, inequalities have the potential for growth.

Table 2. The increase of private traders in the 80s

Year	Shops and catering units	Per cent Private	Per cent private turnover
1983	19 293	na	6.2
1984	22 360	na	7.5
1985	25 455	31.5	8.3
1986	28 965	34.4	9.4
1987	31 827	36.6	10.0
1988	34 541	38.8	11.5

Source: Earle et al. 1994

Privatisation of the Retail Sector

In evaluating the growth of the retail sector in Budapest since 1990, it is imperative to look at the privatisation policies that help to free up the majority of retail outlets in the city. Before these policies were put into place, most of the prime retail locations in the city were controlled by state organisations and private entrepreneurs were forced to locate in (often informal) substandard locations. The privatisation polices allowed for market forces to determine the retail mix, although state organisations still control many retail locations, especially in suburban and peripheral areas.

The State Property Agency (SPA) started operation in March of 1990, after many complaints about irregularities in the earlier privatisation process concerning larger companies. Many came to see privatisation sales as mainly benefiting foreign companies acquiring the most attractive businesses and locations. Suspicion also grew that much of the "spontaneous privatisation" either excessively favoured managers or practically allowed them to appropriate state assets outright. The State Property Agency is assigned certain tasks such as the protection and management of state property during transformation, valuation of assets, implementation and monitoring of privatisation programmes, gathering and distributing information, et cetera (Frydman et al. 1993, 125).

The Pre-privatisation Programme was initiated in September of 1990. This programme was specifically aimed at privatising small shops in the retail, catering, and consumer service industries, employing less than 10 persons, 15 in the case of restaurants (Mihályi 1993). Certain types of shops were not included; these include pharmacies, travel agencies, pawn shops (the above three due to the need for specialist qualifications), factory outlets, shops operating in hotels, shops selling goods for foreign currency, and chain outlets. The reasoning behind the programme was simply to eliminate the middleman - state- owned enterprises. All state

entities were to report such units to the State Property Agency, although only 10,674 units were reported by 421 companies; this represented approximately one-third of the 1990 total. One-half of the units were retail shops, one-third restaurants, and twenty per cent in services. Most state-owned enterprises were against the programme as it would have decreased their power, and deliberately hid or tried to reduce the number of units, or only offered those that were the least valuable - loss- making or in less-desirable locations. Local governments were for the programme as they usually owned the business premises and could lease them out to the privatiser. Another anti-privatisation measure was to reduce the number of units under contractual or rental agreement, as these were given preferential treatment in the programme. In the period 1989- 90, the number of such agreements declined by 27 per cent (Earle et al. 1994).

Only Hungarian citizens or legal entities could participate in auctions, with priority given to shop managers, employees, or those paying in cash. Starting prices were set by outside consulting firms, although due to political pressure not to sell the units too cheaply, high prices resulted in 50 per cent of the auctions being unsuccessful. Also, legal delays regarding ownership of the units affected around 3,000 of the units. Eighty per cent of the units were privatised through open auction, although half of these units were auctioned at the starting price, indicating only one bidder. After June 1992, those who had a contractual agreement for the shop did not have to participate in auctions; they could choose to buy the units at the starting price. The successful bidder usually did not purchase the real estate; in 70 per cent of the cases, the real estate remained in the hands of the local government, with just the business, equipment, brand name, et cetera. The lease is usually for ten years, and in 23 per cent of the cases, rent was increased over 100 per cent after the privatisation. Between the initiation of the programme and August 1993, 8, 723 units out of the 10,674 changed hands, although 1,707 were transferred to other state entities. Thus, a total of 7,016 units were successfully transferred to private entities.

Table 3. The affiliation of retail and catering units from 1988 to 1992

Affiliation	1988	1990	1992
State enterprises	26 366	17 410	14 000
Incorporated companies *	671	6 240	30 000
Co-operatives	27 349	22 323	18 000
Private entrepreneurs	34 541	60 114	102 755
Total	88 927	106 114	164 755

* Incorporated companies include limited partnerships, limited liability companies, and joint stock companies. They may be either privately or state owned.
Source: Earle et al. 1994

In privatising an existing store or opening a new one, the main problem for the entrepreneur is access to capital (Savitt 1992). In Hungary, there is not yet a developed banking system that will lend to small-scale ventures and, even if there were such facilities available, the high interest rates, approximately 30 per cent, would be prohibitive. What business aid programmes do exist might be geared towards individuals who already have experience in the retail sector and have an appropriate amount of capital to invest. As outlined in Schlehel (1994) regarding a joint programme of the Deutsche Ausgleichsbank and the Hungarian National Bank, 79.8 per cent of loan recipients were self-employed before their business start-up and only 6.9 per cent were unemployed. The average amount borrowed was around 2 million Ft (USD 20,000), and the programme required at least 10 per cent to be financed by the recipient. Thus, much of the privatisation process has served to centralise rather than diversify the retail sector. Over 40 per cent of those who privatised a retail outlet are the owners of another store and managers of the retail outlets were the buyers in nearly half of the cases.

Whilst, in general, retail privatisation has been considered successful by most, some problems remain. The state still operates approximately 10,000 units, with around 1,000 of these being pharmacies. Of the remaining units, some will be grouped together and privatised as "chains", although the fate of those units that cannot be sold is still unclear. It is clear, however, that state companies have had a detrimental effect on the retail privatisation process, as they have kept the best units for themselves and their co- operation was not always forthcoming. It is still hard to evaluate the price and selection impact of the process, except through anecdotal evidence; it would seem that selection has increased although prices have increased. Without bulk buying power, many smaller retail outlets cannot compete against the (Hungarian and foreign) chain stores that are developed in Budapest, such as Kaiser, Julius Meinl, Centrum and Plus.

Retail polices and development since 1990

In 1990, the 22 (since 1994, 23) districts of Budapest gained the power to develop their own retail policies and it is important to note that there are now no Budapest city or national polices that directly impact the operation of the retail sector. For example, zoning regulations, with the physical separation of uses and the prohibition of so-called negative externalities, are not well established; there are few if any restrictions on the location,

size, operating hours, product mix, et cetera of a retail business. (See Baar and Zsamboki 1992 for further elaboration into Hungarian land-use policy.) For example, establishments selling alcohol are allowed in residential areas, something that is often prohibited or at least greatly regulated in other countries. These newly-independent districts have encouraged growth in the retail sector as they derive a fair portion of their revenue from these outlets. All businesses pay a tax of 1-1.5 per cent of income (not profit!) to the district, thus the districts have very pro-business policies and try to offer the best business climate to investors. Although the districts may now implement policies on taxation, more stringent licensing requirements, opening hours, size, et cetera, no district has yet taken serious action. It seems that creating such "negative business" policies would persuade retail outlets to re-locate to districts that did not have such restrictive policies. Another factor to look at is the product mix in many retail outlets. The older government retail policies had strict limitations on what an outlet could sell. Now, most retail outlets are extremely diversified and offer a wide variety of selection.

Generally, the main concentrations of retail outlets are to be found at public transport intersections (especially metro end stations and train stations) in newer areas and in the historical centres of older neighbourhoods, along the thoroughfares. This is partly because of previous (no defunct) retail location policies, although now there are no policies that either encourage or dissuade retailers from these locations. One can say that for the retail sector, the pattern of setting up businesses has not (yet) taken into account (or been tailored to) the automobile consumer. Parking facilities are limited or non-existent at many locations (Duna-Park...1994). This situation is changing in the wholesale sector, with large warehouse-type stores locating on the periphery of the town. These stores, however, are usually serving small business owners rather than individual consumers and are not located near to public transport.

Besides the ubiquitous proliferation of (especially smaller) retail outlets throughout the city, certain special retail areas have become more popular and therefore, expensive (Fig.1). The centre of Budapest contains a developed retail area within the older inner- city. Váci utca (street) and adjoining streets form the prime retail area accommodating pedestrians and serves mainly the flourishing (Western) tourist trade. Most of the older low-order-goods-oriented stores in the area have been replaced with restaurants, gift shops, international retailers and fast-food outlets. Retail rents in this area range from DM 5,000-10,000/m^2 per year, although higher rates can be found for the best locations right on Váci utca.

The second ring road from the city centre, the Nagykörüt (Grand Boulevard), is another major retail venue, although there are fewer international retail outlets, more local- oriented stores, and more local consumers on the streets. Public transport is evident all along the boulevard; there is one major train station, three metro stops, various tram and bus stops, and a tram that runs the whole length of this ring road. Thus, any location along the boulevard is within easy reach of most Budapest residents.

Case Study: Gödöllö

To highlight some of the changes that are occurring in the retail sector, the following case-study focuses on grocery stores as they are usually one of the most dynamic segments in the retail sector. This case study uses the grocery stores of Gödöllö, part of the Budapest agglomeration, as an example, with privatised and "self-start" grocery stores analysed in more detail.

Located approximately 30 kilometres from the centre of Budapest, Gödöllö is connected to the urban core by train, bus, light-rail, and highway and thus it is relatively easy to commute on a daily basis. The majority of the population works in Budapest and thus are able to command a higher than average salary; this might explain the relative success of retail outlets in Gödöllö as compared to other areas farther away from the capital. The majority of the retail outlets in Gödöllö are low-goods oriented, such as grocery stores, vegetable markets, coffee shops, et cetera, although there are also a fair number of clothing stores. Most higher-order goods are obtained in retail outlets in Budapest.

Until the mid 1980's, the retail sector of Gödöllö was largely controlled by ÁFÉSZ (Állami Fogyasztási és Értékesitési Szövetezet - "State Consumer's and Sales Co- operative") which held geographic retail "monopolies" of varying intensities throughout Hungary. ÁFÉSZ controlled nearly all retail establishments in the area, although one could theoretically open a (presumably small) private retail outlet as long as it did not interfere with the ÁFÉSZ operations. Under this system, ÁFÉSZ set prices for the stores and supplied all merchandise. As one moved up the urban hierarchy, the intensity of control decreased. In villages, especially those away from large urban centres, the majority of the retail market was controlled by ÁFÉSZ, in urban peripheral areas such as Gödöllö, more private entrepreneurs operated, and in the core urban areas, ÁFÉSZ controlled only a small portion of the retail market. On a national scale, the number of such co-operative retail units decre ased from approximately 27,000 in 1988 to around 18,000 by 1992 (Earle 1994, 170, see also Table 3).

Private entities now operate the majority (87 per cent) of grocery stores in Gödöllö, although there are large differences between the private and state (ÁFÉSZ) retail sectors. Private stores are very small (approximately 30 m^2) compared to their state counterparts (235 m^2). The vast majority of private grocery stores in Gödöllö opened in or after 1989 and all the

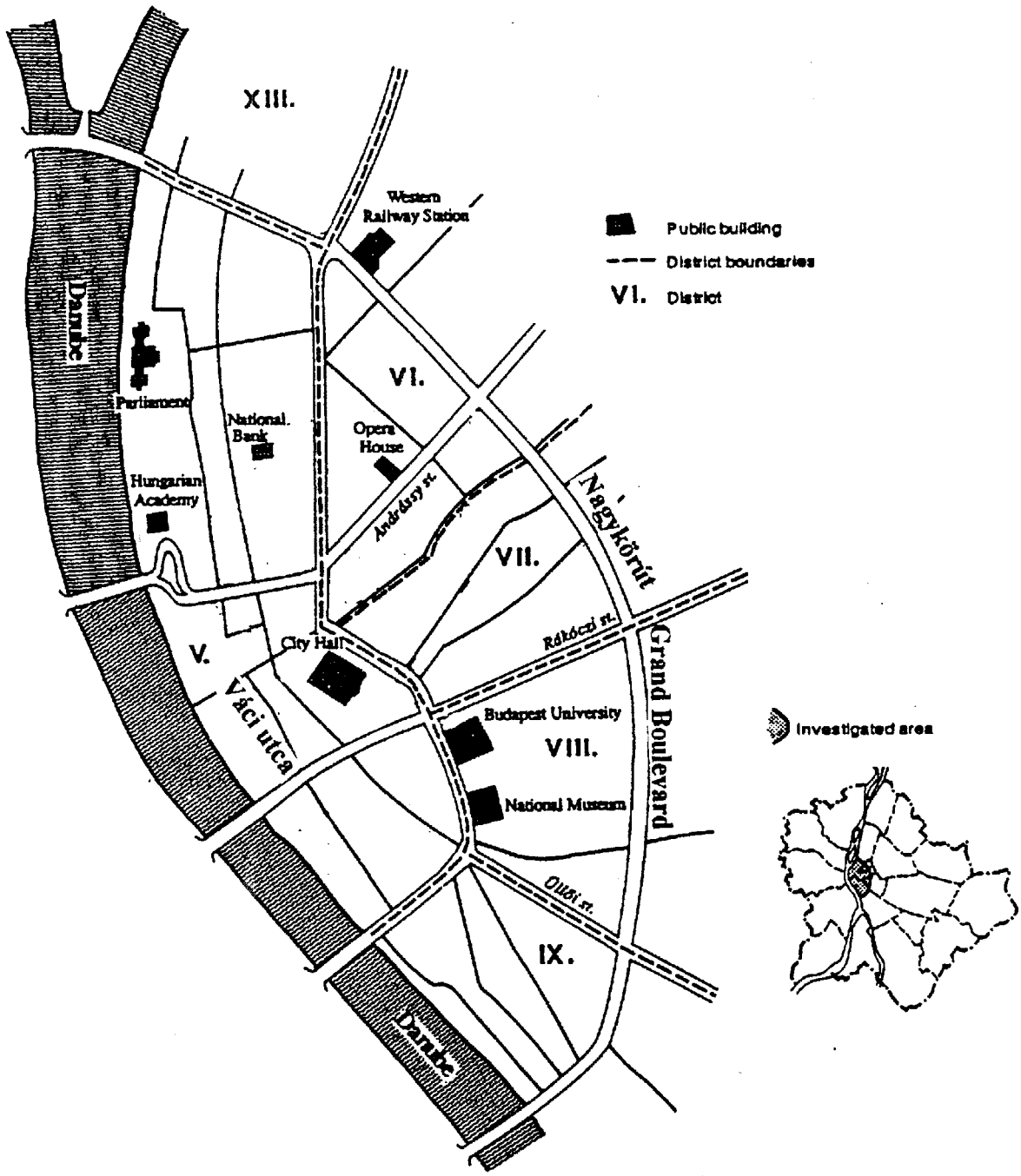


Fig. 1. The major retail streets of inner Budapest

stores that have been open for less than one year are self-start stores, opened by one individual or family (Table 4). This is in line with what Horváth (1993) calls the "Great Establishing Fever...that 42 per cent of the companies functioning (in Hungary) in 1990 were formed in 1989-1990, 32.1 per cent of them were 2-5 years old, and only 25.9 per cent of them were older than 5 years". The difference between the number of employees in the state and non-state stores is shown in Table 5. This brings into mind the question of efficiency and a hidden labour force. The employment policies of the individual stores, turn-over, opening hours, number of family members "helping", et cetera, could have an influence on these statistics. The opening hours of private stores vary drastically as compared to state stores (Table 6) as one can observe that there are certain "time niches" (Sunday mornings for example) that private stores take advantage of by being open. Some private stores, called `non-stops', are open 24 hours a day, although in urban core areas, the number/ratio of such `non-stops' is much higher, indicating a higher level of competition and consumption.

Table 4. Date Opened

	Frequency	Per cent
< 1 year	12	33
In or after 1989	17	47
In or after 1985	1	3
Before 1985	6	17
Total	36	100

Data not available: 3 stores

Table 5. Number of Employees

	Frequency
State-owned store	1.6
Private stores	2.9
Total	4.5

Table 6. Opening Hours of Non-State (Private) Stores

	prequency	Per cent*
Open later on weekdays**	10	30.3
Open later on Saturday afternoons	10	30.3
Open Sunday mornings	24	72.7
Open Sunday afternoons	4	12.1

n=33

* of private stores

** than state-owned stores

Privatised Stores

Privatised grocery stores are those that were once owned by the state, but have gone into private hands since 1989. No stores have been privatised within the last year; it seems that the best stores (in terms of operation, location, et cetera) were privatised early on, while the state still operates those that it cannot privatise. On would assume that these are in less advantageous locations, have operation difficulties, et cetera. The majority of privatised stores are in the 31-40 m^2 range (Table 7) and have a low number of employees per store (average 4.25), although this number does not show that a large number of family members "help" out at the stores, but would not be considered real employees. In line with retail privatisation as a whole, the majority of owners had previous retail experience before buying their store. The majority of store owners are females, although this might not indicate who really "runs" the store.

Table 7. Size of Privatised Stores

	Frequency	Per cent
< 20 square metres	1	14
21-30 square metres	0	0
31-40 square metres	4	57
41-50 square metres	0	0
> 51 square metres	2	29
Total	7	100

Data not available: 1 store

Self-start Stores

Self-start grocery stores are non-privatised (i.e. built from scratch), are operated by one person/family and family members are the primary, if not only, employees. Often a self-start store is located in the same building or plot of land as the family dwelling. These stores are characterised by their relative short life span as compared to other categories of stores; new stores are constantly opening and others closing. The majority of the stores (12 out of 22) have been open for less than one year and, if we break down the category "In or after 1989", over 75 per cent of the stores have been open for less than two years. With an average size of only 18 m^2 (Table 8), these stores are comparatively small and, as such, usually only provide the basics for their customers. A high number of owners (9 out of the 15 respondents) stated that they held retail or retail-like occupations prior to opening their store.

Table 8. Size of Self-Start Stores

	Frequency	Per cent
< 20 square metres	18	82
21-30 square metres	3	14
31-40 square metres	0	0
41-50 square metres	0	0
> 51 square metres	1	4
Total	22	100

Besides the original survey that was conducted in Gödöllö, a follow-up survey was conducted approximately a year later to determine which stores closed or new stores that had opened. All the activity occurred within the self-start classification (Table 9). Five stores (out of 22) closed while additional thirteen opened. All the stores that closed were under 30 m^2 (average 21.8 m^2) while the average size of the stores that opened was 24.62 m^2, with four stores being over 30 m^2. And while it is hard to determine much from such a small

sample, one might conclude that the smaller stores are having a harder time surviving than larger stores.

The local government in Gödöllö has no real policies that would either encourage or discourage retailers from opening or operating stores. Growth in the retail sector is considered positive as it provides employment possibilities and governmental income. As long as the retail location meets minimum health requirements, permission to operate will be granted. Potential negative factors such as increased traffic, noise, et cetera are rarely looked at. It is possible for residents to complain about negative externalities and, if they are considered a major nuisance, the retail outlet can be forced to either curtail certain activities or close down. Cases such as this, however, are rarely if ever brought up.

Table 9. Characteristics of grocery stores that closed in Gödöllö

Store	Size (m^2)	Location	Area
1.	18	Commercial building	High-density residential
2.	16	Small building in front of house	Older single-family
3.	20	Commercial building	Older single-family
4.	25	Garage of house	Older single-family
5.	30	Commercial building	Commercial
Average	21.8		
Characteristics of new grocery stores			
Store	Size (m^2)	Location	Area
1.	22	Basement garage of house	Older single-family
2.	30	Commercial building	Older single-family
3.	15	Commercial-residential building	High-density residential
4.	25	Section of house	Older single-family
5.	18	Section of house	Never single-family
6.	35	Basement garage of house	Older single-family
7.	25	Section of house	Older single-family
8.	30	Basement garage of house	Older single-family
9.	16	Garage of house	Older single-family
10.	40	Commercial building	Older single-family
11.	24	Commercial building	High-density residential
12.	25	Section of house	Older single-family
13.	15	Section of house	Never single-family
Average	24.62		

General Findings

There is, at present, much variation in the Hungarian retail sector, as this retail system is changing as the previous (state) retail structure under-served many areas and consumers and was not flexible enough to respond to changes in demand. There has been a rapid expansion of the retail sector since the changes of 1989/1990 although, in line with the flexibility of the Hungarian version of a planned economy, a good deal of private retail activity existed before this turning point. Size and location constraints are important to look at as many stores are probably not at their "optimum location", the location being determined by what the owner has (a section of a dwelling, a garage) and where it is or what he can afford. These sub-optimum locations are most likely a distortion in the retail market. Size constraints are also limiting as stores cannot easily expand (unless one converts more of the dwelling or builds on an addition) and it is hard to move to a better suited location. There might not be one available or the cost is prohibitive. Price competition does not seem to be extremely prevalent. This could change as the distribution system is altered (developed). Product competition is also difficult to determine as the selection of goods available at most small stores is not constant and smaller stores try to diversify their inventory, not wanting to put all of their risk in a small range of goods.

Even with the rapid expansion of the retail sector, it is still unclear why those with higher education levels are not starting small retail businesses in most areas when it seems that financial incentives are available. The majority of retail owners are not university educated and many have only a primary or lower secondary education. Many of the new owners, especially of privatised stores, do have previous retail experience. This reluctance to

this sector could have to do with the attitude towards owning a small business and that this might not be seen as prestigious as other forms of employment. Böhm (1993) does state that under the previous regime, so-called private producers held a discriminated status, but this group is gaining more importance, being promoted to "businessmen".

It is, at present, hard to determine what path the retail sector in Budapest (and Hungary) is taking. Stores are opening up to take advantage of new opportunities, but this sector is full of distortions and constraints that have an impact on its growth. How the (potential) entry of new entrepreneurs would affect this sector is unknown, but most likely it would alter the growth, especially if the new entrepreneurs are more educated or have different work experience than current owners. In giving his analysis of the transformation, Böhm (1993) states that "...it is quite obvious that the values, mentality or skills of the so- called 'Hungarian Entrepreneur' are very far from those of real businessmen...we can say that the Hungarian businessmen constitute only a quasi-middle class in the Hungarian society". It appears, however, that these 'Hungarian Entrepreneurs' are able to open successful businesses. As it is now, the present retail sector is considered successful as it offers customers more selection of goods (both in quality and quantity term) than previously and provides economic opportunities as well. Future growth will have to follow along these lines if it is also to be considered successful.

Governmental policies are irrelevant in Budapest, unless one considers the lack of policies that impact the retail sector. Although it might be hard for those in western European countries with a highly regulated retail system to appreciate this, in Budapest the lack of policies allows for the growth of the retail sector. How the negative aspects of this unplanned and unregulated growth will play themselves out in the future is unknown. But, we are at present in a quandary. Regulations, which might bode well for the sustaina ble development of the urban environment, are non- existent and not desired.

References

BAAR, K.K. - ZSAMBOKI, K. (1992): Hungarian land use policy in the transition to a market economy with democratic controls, Washington DC: The Urban Institute.

BÖHM, A. (1993): The Hungarian Society at the Start of its Transformation into a Market Economy, In: Hajdú, Z (ed.) Hungary: Society, State, Economy and Regional Structure in Transformation: 25-37. Pécs: Center for Regional Studies.

DOUGLAS, M. (1993): The privatization and growth of grocery stores in Gödöllö, Hungary, paper presented at the ENHR conference in Budapest, Hungary, August 1993.

DOUGLAS, M. (1994a): The Retail Sector in a Transitional Economy: the Example of Dány, Hungary, paper presented at the International Geographic Union conference, Prague, Czech Republic, August, 1994.

DOUGLAS, M. (994b): Az Átalakuló Kiskereskedelem sajátossági Dány és Gödöllö példáján (The characteristics of the transforming retail trade using the examples of Dány and Gödöllö), Mühely, Budapest: MTA Földrajztudományi Kutató Intézet.

DunaPark Budapest Summary Report. 1994. Utrecht: Redema Consultants.

EARLE, J.S., et al. (1994): Small Privatization: The transformation of retail trade and consumer services in the Czech Republic, Hungary, and Poland. Budapest: Central European University Press.

EARLE, J.S.- FRYDMAN, R. - RAPACZYNSKI, A. (eds.) (1993): Privatization in the Transition to a Market Economy, Pinter Publishers and St. Martin's Press.

FRYDMAN, R. - RAPACZYNSKI, A. (1993): Markets by Design: Privatizing Privatization in Eastern Europe, Basic Books.

FRYDMAN, R. et al. (1993): The Privatization Process in Central Europe, Budapest: Central European University Press.

HANN, C.M. (1990): Second Economy and Civil Society, In: Hann, C.M (ed.) Market Economy and Civil Society in Hungary: 21-44, London: Frank Cass.

HORVÁTH, G. (1993): Entrepreneurship and Regional Policy in Hungary, In: Hajdú, Z (ed.) Hungary: Society, State, Economy and Regional Structure in Transformation: 117-138, Pécs: Center for Regional Studies.

LENGYEL, I. (1993): The Hungarian Banking System in Transition, In: Hajdú, Z (ed.) Hungary: Society, State, Economy and Regional Structure in Transformation: 277-295, Pécs: Center for Regional Studies.

MIHÁLYI, P. (1993): Hungary: A Unique Approach to Privatisation - Past, Present and Future, Budapest: Institute of Economics.

PICKVANCE, C. (1992): The Transition from State Socialism: Towards New Local Power Structures?, In: Enyedi, G. (ed.) Social Transition and Urban Restructuring in Central Europe, Budapest: European Science Foundation.

SAVITT, R. (1992): Privatization and the Consumer, New Hungarian Quarterly 128 (33): 373-379.

SCHLEGEL, B. (1994): Business Start-Up Promotional Aid in Hungary, GeoJournal 32 (4): 363-368.

SWAIN, N. (1990): Small Cooperatives and Economic Work Partnerships in the Computing Industries: Exceptions that Prove the Rule, In: Hann, C.M (ed.) Market Economy and Civil Society in Hungary: 85-109, London: Frank Cass.

ULI Market Profiles. 1994. Budapest, Hungary, Metropolitan Area, Budapest: Healey & Baker.

VÉKÁS, L. (1989): Changes in Ownership and in Ownership Theory, New Hungarian Quarterly 113 (30): 57-65.

YOUNG, J.W. (1994): From Command to Market Economy: Producer Services and Hungarian Manufacture, paper presented at the annual meeting of the Association of American Geographers, March 1994.

Author's address

Michael J. Douglas
Geographical Research Institute
Hungarian Academy of Sciences
Andrássy út 62
1388 Budapest
Hungary

Reviewer:

Alois Matoušek

A state-owned grocery store in Gödölô (see M.J.Douglas)

**One of the main shopping streets in Budapest,
The Nagykörút (Grand Boulevard) - see M.J.Douglas**

GREEN SPACES AND URBAN SUSTAINABILITY IN BUDAPEST

István TÓZSA

Abstract

The past and the present of green areas in Budapest is subjected to an analysis and major sustainable conditions are formulated for future development. Land use development in the city is assessed as related to greenery as well as responsibility and role of politicians in green space management.

Shrnutí

Je zkoumána minulost i současnost zelených ploch v Budapešti a formulovány hlavní trvale udržitelné podmínky pro budoucí rozvoj. Je hodnocen vývoj ve využívání pozemků ve městě ve vztahu k zeleni a odpovědnost i úloha politiků při udržování a obhospodařování zeleně.

Key words : land use, green areas, sustainable conditions, Budapest

Introduction

'There are more cars than trees in Budapest' reads a headline in the environmental supplement of a leading Hungarian daily paper on 2nd December 1994. Since 1965, the number of cars many of which have two-stroke motors have increased twentyfivefold in Budapest alone. Not considering the cars of tourists, they number today some 600,000 -- more than the trees within the city limits. The areal proportion of the green surface is far less in Budapest than would be desired. Economic pressure at present does not seem to encourage the protection of green space. Building, selling business centres, hotels, garages, apartments, et cetera are much more profitable in the short term than creating new parks or even maintaining the existing ones. And at a time when monetary deficiency rules the economy on government level, the civil servants of the municipality are unable to pay adequate attention not only to the parks but to basic health and social welfare duties as well. After this dark picture, let us examine the past, present and possible future of the green areas in Budapest.

Green spaces in the old urban structure

The present site of Budapest had always been affected by wars and armed conflicts, in fact up to 1956. The mediaeval cities of Buda, Pest and Óbuda were destroyed several times during the Tatar invasion (1241-42), the Turkish wars (1541- 1686), the war of independence against the Habsburgs (1848- 49), World War I and revolution in Budapest (1918-21), World War II (1944-45), and the revolution of 1956. The first parks and gardens, however, were created during the 18th and early 19th centuries in Buda and Pest. After the Turks were driven out from the area, well to-do officers of the Austro- Hungarian Army and members of the aristocracy began to obtain pieces of land in and around Buda Castle and Pest. They had mansions and palaces built, surrounded by gardens and parks. The original locations of the first, most famous parks of Buda and Pest can be seen in Figure 1. In Óbuda, it was Count Zichy whose family developed a garden in the 1700s at the present bridge head of Árpád Bridge. Unfortunately it has been almost completely destroyed. The same thing happened to the once famous garden of the Száraz-Rudnyánszky Palace at Tétény, in the southern edge of Buda. Though these parks had survived almost 200 years and the wars, they were really destroyed and cutoff after 1945 when the palaces were nationalised and the new state institutions occupying them decided to use the so far green spaces for other purposes, rather than maintaining public gardens in them. The Horváth Garden in Buda used to be a famous public park in the beginning of the 20th century. What remains of it is a narrow park, or rather a broad row of trees between two main roads at the northern foot of the Castle Hill. The "Vérmezö" (Blood Meadow) is also a remaining park north of the Castle. The Orczy Garden used to be the largest park in the Pest side. In the first part of the 19th century the Hungarian Army bought the area and had a military academy built in the middle of it. Thus the public character of the park was reduced, though its real destruction occurred after 1945 when hospitals, the ELTE university, a bus terminal, a shoe factory, a sport club, a summertime pioneer camp and other institutions divided much of its original territory. Today a small fraction of the Orczy Garden has survived with a small lake in the middle. The Nádor Garden at Lágymányos

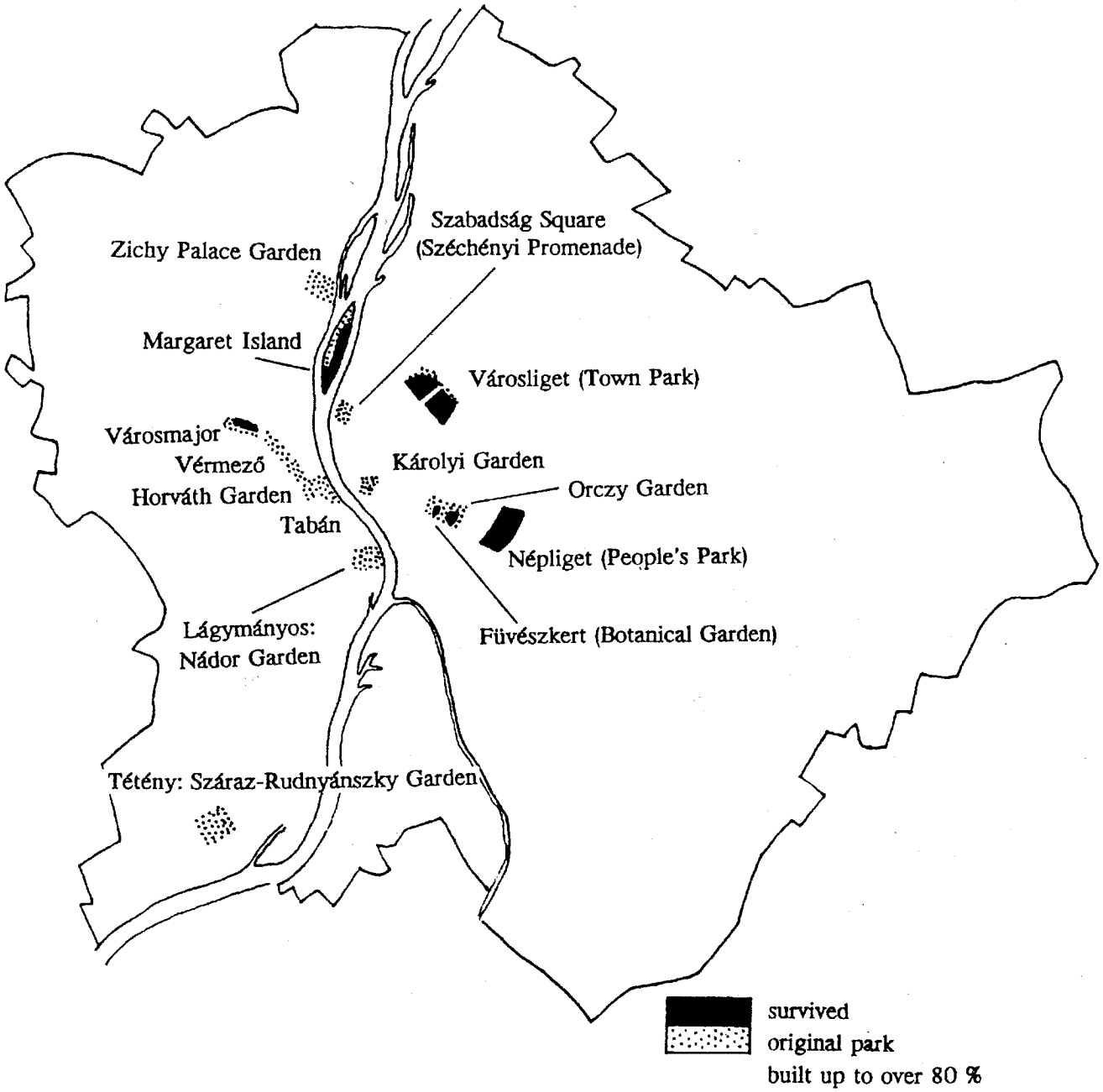


Fig. 1. Locations of the old parks and public gardens in the historical Budapest (after Gombos Z. 1974)

(southern part of Buda) was severely destroyed during World War II and it virtually disappeared after 1945. The Károlyi Garden in the heart of Pest has also been reduced to a tiny green space. The Hortus botanicus universitatis, the garden of the university (the Füvészkert), used to be adjacent to Orczy Garden. Much of its territory was occupied by medical clinics, however. Today the ELTE University cannot afford its maintenance cost and the municipality is not in the position to undertake a new park to look after. The Városmajor is also an old public park in Buda. Though less in territory, it has been reconstructed in recent times. The Városliget (the Town Park) is perhaps the most famous public park in Budapest, housing the Vajdahunyad Castle Museum, the Zoo, the Amusement Park, the Circus, some cultural and tourist institutions and a lake that is an ice rink in winter. Consequently the once conterminous green space of the park is interrupted now and then by built up surfaces. Otherwise the park is one of the best-kept and most visited green surfaces of Budapest. The largest park in Budapest is the Népliget (the People's Park) whose first trees were planted in the mid 1800s to bind the wind-blown sand of the Pest Plain. It suffered its greatest loss during the siege of Budapest in World war II. Margaret Island, in the Danube, lies in the middle of the city. Its wonderful park, which used to cover the whole island, was first constructed in the very beginning of the 19th century. Today there are numerous sporting

and tourist facilities (hotels and restaurants) on the island as well. Only a very small fraction remains from the once famous Buda park, the Tabán, at the Buda bridge head of the Erzsébet Bridge.

When summarising the history of the public parks in Budapest, the following statements can be made:

- they all were created during the 18th century by the members of the Austrian or Hungarian aristocracy;
- they all were designed to follow the patterns of either of the then fashionable 'English garden' or the 'Versailles style';
- they were all situated originally in the area what can be regarded as the central part of Budapest today;
- they were all more or less reduced in size in the 19th century by public buildings;
- they all suffered severe losses during the two World Wars, especially in the Second when heavy fighting, bombardment and shelling took place in Budapest;
- some of them totally disappeared after the nationalisation policy of the communist government was introduced and most of them were greatly reduced in size either by public or industrial institutions.

Land use and the greenery in Budapest

Had the town planning after 1945 had the means to preserve and take care of the old public gardens and parks in Budapest, the inner structure of the town, the City, could be richer in green space today. Previously, the political setting encouraged industrial and social development above all, even with such sites located in the parks. And, in the past decades, the planned economy prevented the district municipalities and the capital from restoring the old green spaces or restructure the inner city. The main factors (besides the shortage of maintenance money) causing the eventual degradation of the originally rich park reserves of Budapest are:

- the parks being dissected;
- their ownership being unambiguous, and
- their usage being not regulated.

Apart from the planned and built parks mentioned above, the major green spaces in today's Budapest include what remains of the forests of the Buda Mountains within the city boundaries (1), the remnants of the alluvial forests of the Pest Plain (2), the major cemeteries (3), the horse racing fields and the airfield of Ferihegy. In the outer districts of Pest there are agricultural fields as well. The major squares in most cases have trees, though they cannot be regarded as real parks (4).

(1) There was a very favourable physical endowment within Budapest that resulted in an abundance of greenery on the western half of the town: the Buda Mountains situated on the right bank of the Danube River were densely covered with forests. In fact, today it is the most endangered green space in Budapest. There is virtually nothing (no regulations and means) that could stop their gradually being built up with residential estates and villas. The remaining greenery of the Buda Mountains within Budapest from north to south include the Ezüst Hill (208 m), the Csillag Hill (237 m), the Csúcs Hill (447 m), the Hármashatár Hi ll (497 m), the Hárs Hill (458 m), the János Hill (529 m), the Széchenyi Hill (439 m) and the Kakukk Hill (430 m). The Szabadság, formerly Swabian Hill and, of course, the Castle Hill are now entirely built up. The easternmost members of the Buda Mountains are totally encircled by densely built up, mainly residential areas. They are declared as natural conservation areas, though now and then one can always spot new buildings on their slopes. They are the Mátyás Hill and the Ferenc Hill, hiding wonderful hydrothermal karst caves in their depth, the Martinovics Hill, the Gellért Hill (235 m) offering the tourists the most famous view of the town and the Sas Hill (259 m) being the most valuable nature conservation area with typical dolomite rock-slope vegetation. Figures 2-3 show how the gradual loss of the greenery is taking place in the Buda Mountains within the city boundaries. The green areas in 1943 (Figure 2) can be compared to the greenery in 1980 (Figure 3). It is only in the past few decades that the building up became very rapid though.

(2) The remnants of the alluvial forests in the Pest side include from north to south the Káposztásmegyeri Forest, the Páskomliget, the Halmi Forest at Pestlörinc, the Újtelepi Forest at Pesterzsébet and the Háros Forest in Csepel Island.

(3) The major cemeteries of Budapest also contribute to the dimension of green space with the largest, the New Common Burial Ground, being located in District 17 in the eastern part of Pest. Closer to the City there are the Kerepesi Cemetery on the Pest and the Farkasréti Cemetery on the Buda side in districts 8 and 11 respectively.

(4) The largest squares with trees in or in the vicinity of the City include the Köztársaság Square, Szabadság Square, Erzsébet Square, Kálvária Square and perhaps the Museum Garden. Others, with just a few trees in them, cannot be regarded as parks or gardens.

Figure 4 shows the present day proportion of the greenery and the built up areas within Budapest. Compared to other major Hungarian towns, Budapest is in a rather disadvantageous situation as far as the proportion of the greenery is concerned (Tab.1.) From the point of international trade, Budapest lies in a very favourable site. As the reviving business activity of not only Hungary, but that of the whole Carpathian Basin and Eastern Central Europe is beginning to concentrate in Budapest, the need for newer and newer office buildings is undoubtedly going to grow. All the multinational companies which have moved to Budapest wish to have their own headquarters and chain of shops and offices. They are either having them built in the centre of Pest

Fig. 2. Green areas on the Buda side in 1943 (Kovács M. 1985)

Fig. 3. Green areas on the Buda side in 1980 (Kovács M. 1985)

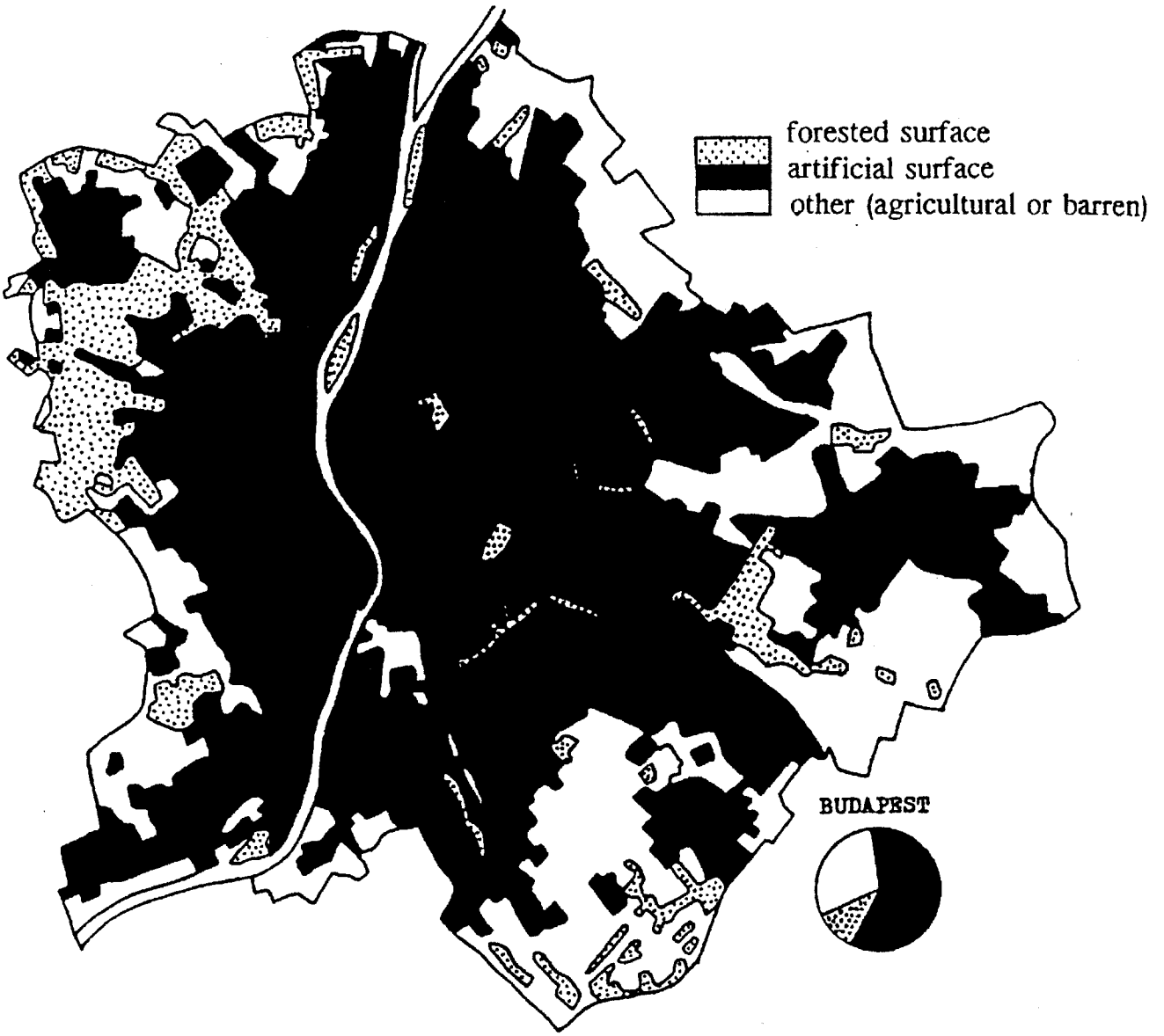


Fig. 4. Basic land use in Budapest in the 1980s (Tózsa I. 1989)

or on the Buda side of high reputation (in the 'green belt'). The centre is especially poor in greenery; the remaining green areas of the Buda Hills are especially endangered by the residential function. Thus both regions exposed to the multinational drive are among the most sensitive ones. Unfortunately, the situation is forcasted to worsen as far as the proportion of the green spaces is concerned. The proportion of the green surface per capita is the lowest in District 7 (0.2 m^2) on the Pest side and the highest is in District 12 (123.3 mi) on the Buda side.

Usefulness of the parks and other green territories in filtering the polluted air and improving the humidity of the air is widely known, so is their aesthetic value and role in urban recreation. In this, the ecological state of Budapest green areas is examined next. Figure 5 shows the state of the lichen population over Budapest. Lichen can be regarded as an indicator of the degree of air pollution or, in other words, the environmental suitability for trees to thrive. As it can be seen, the whole central part of the city is a lichen desert, representing rather unfavourable environmental conditions. On the one hand this situation caused by pollution renders the life expectancy of trees short and on the other hand the lack of the sufficient amount of trees themselves permits pollution to dominate environment. As industrial activity has decreased in the course of the economic transition and restructuring, the main source of air pollution is the ever increasing number of motor cars emitting nitrogen-oxides.

Table 1. Order of Hungarian county seats according to the ratio of green space and built-up areas

Town	Order*
Miskolc	143.14
Debrecen	138.24
Salgótarján	134.96
Veszprém	131.94
Eger	127.92
Tatabánya	118.80
Szekszárd	115.04
Pécs	88.20
Kecskemét	87.26
Zalaegerszeg	81.60
Nyíregyháza	79.68
Szolnok	78.22
Győr	77.48
Szeged	76.46
Békéscsaba	76.10
Kaposvár	59.32
Szombathély	57.46
Székesfehérvár	48.02
Budapest	**-11.72**

* Order is 3 times the areal percentage of forest minus all other land-use categories.

Before the intensive urbanisation took place in Budapest, the original vegetation of the hilly Buda side consisted of mainly turkey oak mixed with oak (Quercetum petraea-cerris), hornbeam groves with oak (Querco-Carpinetum) and pure oak (Orno-Quercetum) forests. The flat Pest side had a vegetation of sandy oak (Festuco-Quercetum) and alluvial forests of the Danube (Fraxino-pannonicae--Quercetum roboris). From the original 1,300 plant species in the territory of today's Budapest, some 100 became extinct in the past century. Beside the indigenous species there are an increasing number of neophytes, many being Mediterranean and sub-mediterranean species. In Budapest the most common, newly (in the past hundred years) introduced trees are American false acacia (Robinia pseudoacacia), catalpa (Catalpa bignonioides), celtis (Celtis occidentalis), western thuya (Thuja occidentalis) and juniper (Juniperus virginiana). Figure 6 shows the tree species constituting the rows of trees and many of the parks in Budapest. Soil in the urban quarters in Budapest is compacted, alkali and dry. The micro-climate at most places is arid, in winter it is often freezing. Owing to the concrete and asphalt surfaces, and the massive buildings accumulating heat in summer, the relative air humidity is very low. Gases and falling dust pollute the air. In the past fifty years, the maple and the elm trees have

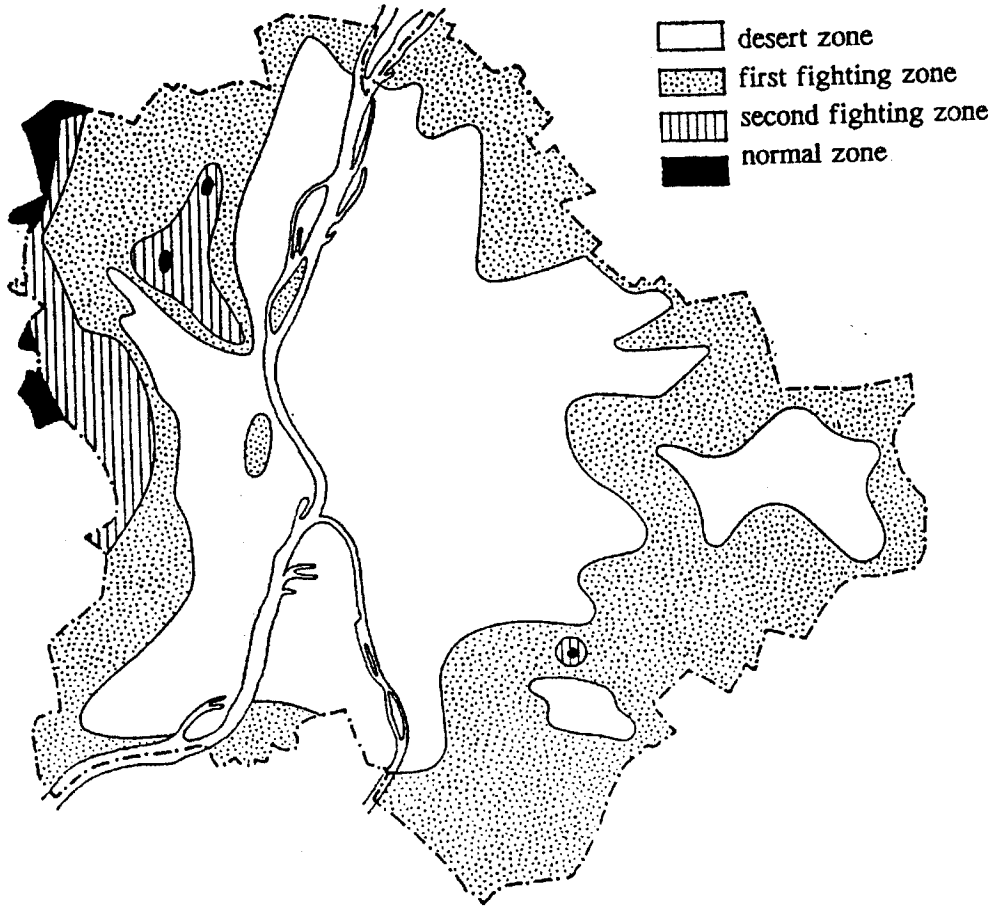


Fig. 5. Lichen population map of Budapest (Farkas E. 1982)

tended to die out the most. In Budapest sumach (Ailanthus altissima), celtis and acacias (Robinia pseudoacacia and Sophora japonica) have the highest adaptability to the severe urban environment (Kovács M. 1985); though sumach trees grow only wild. They are avoided by the Budapest Gardening Company, which is in favour of plane trees (Platanus acerifolia) and celtis instead.

Geographic research in the early 1980s considered a possibility to survey and map land use categories over Budapest through digital processing of multispectral scanner (MSS) LANDSAT images (Tózsa I. et al. 1982). The different land-use categories were mapped according to their physical property, namely their proportion of green surface. The densely built-up territory was defined in the training sites as having no green surface at all. The resulting map from the digital LANDSAT image classification can be seen in Figure 7 (see enclosure) as 'commercial and older residential built up areas'. Housing estates were defined as more loosely built-up areas (as 'modern residential'), garden suburbs were detected as having even more green space and weekend areas were selected as very sparsely built-up areas with much green space (under the title of 'orchards and recreational areas'. The parks and the Buda residential garden suburbs were defined as almost totally green (named as 'green residential') and the forest as totally green area. The LANDSAT land-use map sequence thus applied the proportion of the green surface to detect the certain land-use categories as far as they can be characterised through physical properties of the surface. These maps derived from LANDSAT data are

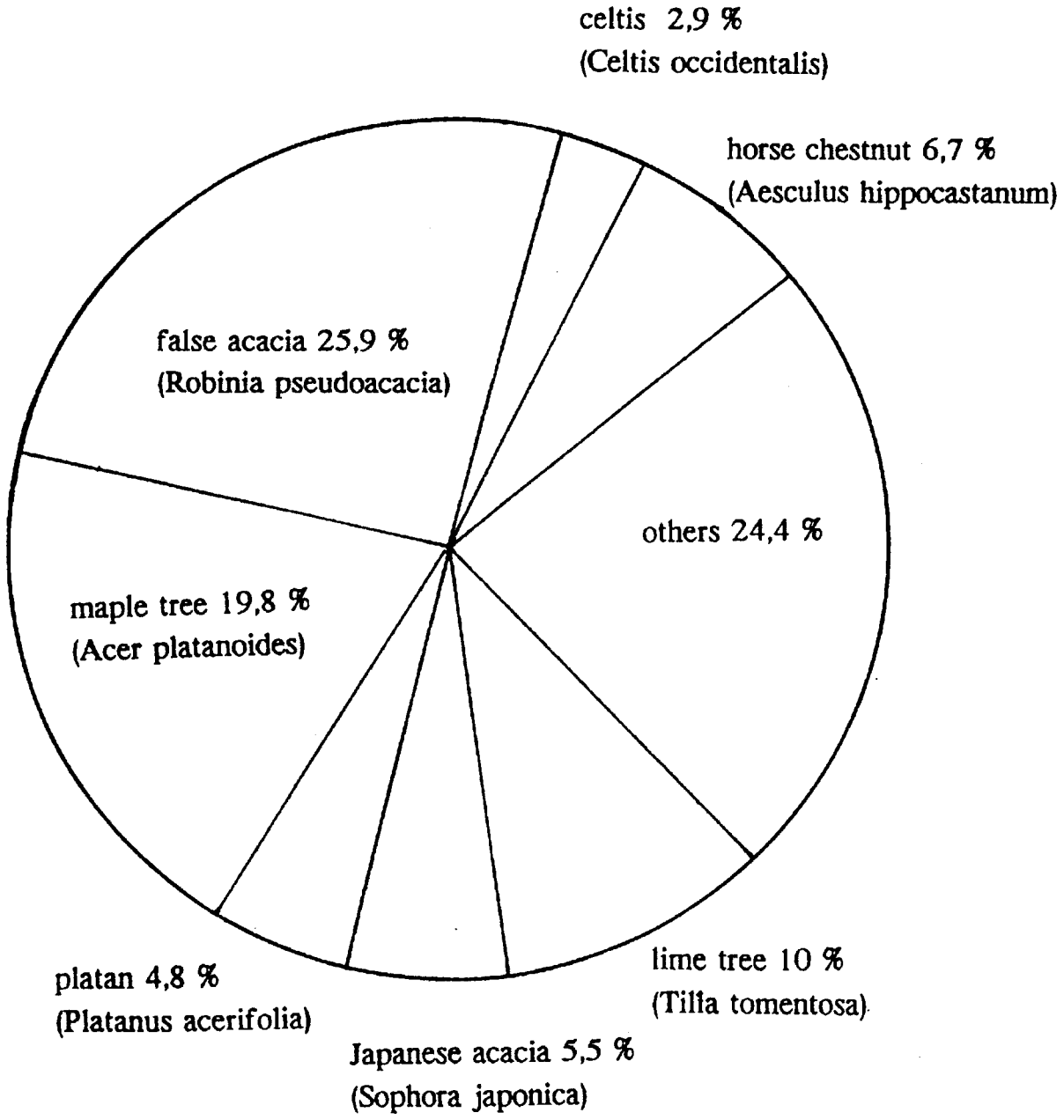


Fig. 6. Tree species composing the rows of trees and much of the public parks in Budapest (after Kokics T. 1978)

significant from the point of view of the survey of the green spaces. The municipalities and the Budapest Gardening Company have a registration list of the trees in the public parks and gardens and of the trees lining the roads and streets. Within the inner yards of many private residential estates, villas, gardens and even in the territory of industrial and transportation areas, there are more or less green surfaces as well: a few trees, bushes, grass or flower beds. The maps from the space images reveal the whole of the green biomass over the territory of the city. The proportion of the green surface compared to the artificial (asphalt, tile, concrete, iron and glass) surfaces show a decrease from 'forest' (90%) through 'green residential spaces', 'orchards and recreational areas', 'garden suburbs' and 'modern residential' to 'commercial and older residential built up areas' (about 10%).

Another urban ecological survey is that of Galambos J. et al. (1990), which concentrated on one of the inner districts of Budapest, the many-faced Józsefváros (the 8th District). Each green surface of the district was examined considering the average age of the trees, the general state of the park or garden or trees in a square, the degree of their being intersected by walkways, path or kiosks, shadow-effect of the surrounding high buildings (if any), the proportion of the biologically active (grass) and inactive (asphalt or gravel) surfaces within each green area, the rate of attendance, the micro-climate of the area (if any) and finally the degree of the damage in trees. On the basis of these eight factors, all green surfaces of District 8 were classified into qualified areas as relatively high quality, good, moderate and poor quality (Fig.8). Such spatial information can serve as a background information in the hands of the decision-makers of th e district municipality to maintain the parks, or to interfere where there is the greatest ecological need to do so.

Management of the green spaces in Budapest

In 1992, a new regulation (Határozat...1992) was introduced in the Mayor's Office of Budapest and in every district municipality 'to protect, to use and to maintain the green areas of the capital'. The regulation was accepted by the Assembly of the Capital and by each of the 22 (since then 23) district self-governments of Budapest. The regulation is to be applied to the public parks, promenades, rows of trees along roads and streets, inner gardens of public and industrial institutions, gardens and inner yards of housing estates and resort houses, green surfaces around public open- air

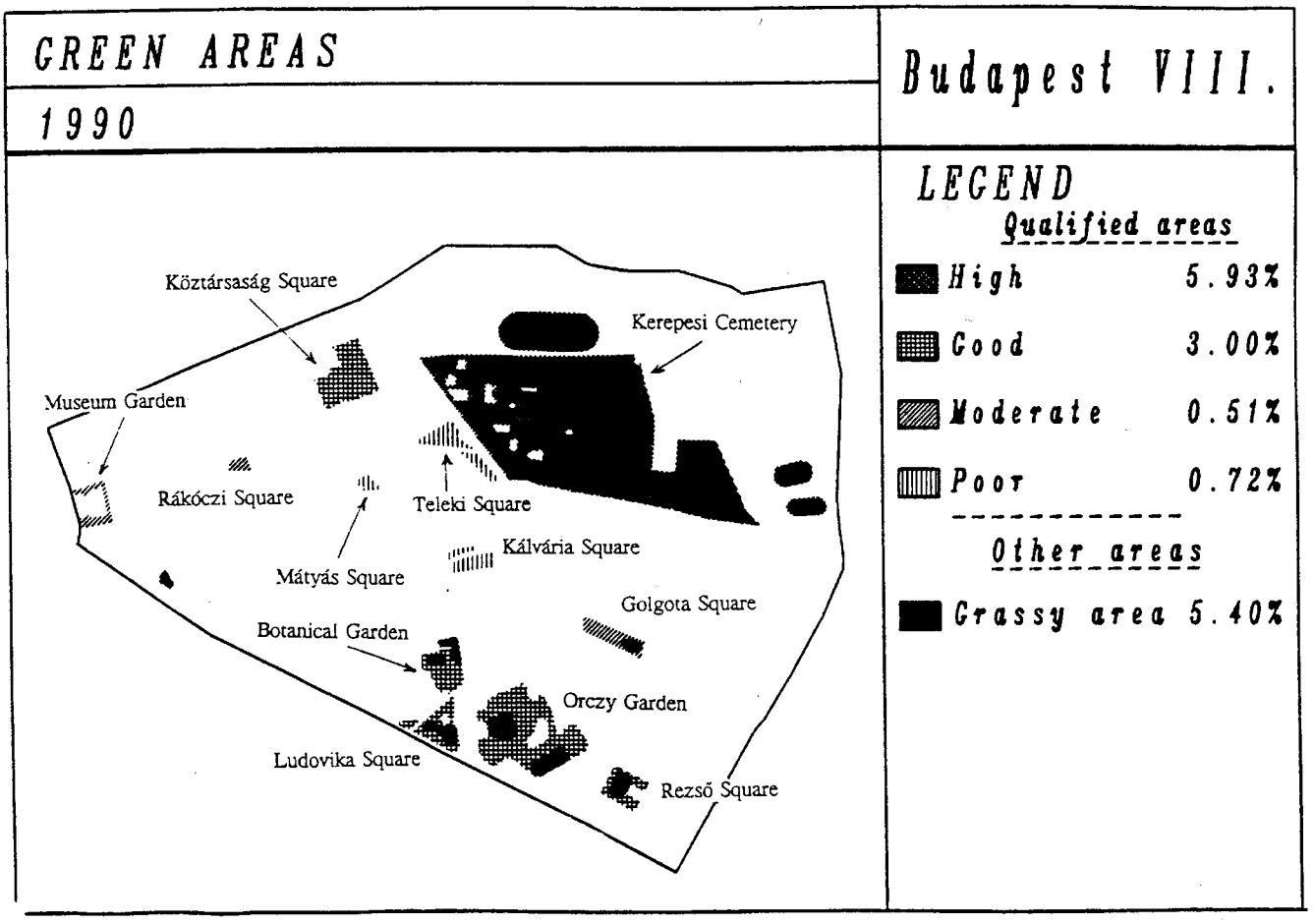


Fig. 8. The quality classes of the green areas in District 8 in Budapest (Galambos J. et al 1990)

pools or sport fields, botanical gardens, cemeteries, river and lake shores, islands in the Danube, residual marshlands, and nature conservation areas (Fig.9). The regulation does not apply to the forests situated outside the residential areas (they are under the Forest Act), privately owned orchards and fruit gardens and agricultural areas. The regulation aims to protect the green surfaces from damages, to replace the damaged plants, to prohibit land uses other than recreational in the green spaces and to maintain these spaces.

Since the green spaces in Budapest can be considered as an integrated system, their protection and development ought to be co-ordinated by one executive organisation, the Mayor's Office of Budapest City, putting into effect the decisions of the assembly of the self-government of the capital. It co- ordinates the activity of the districts' mayor's offices (the local authorities of the first instance) and the environmental protection authority. It has to report both on general urban planning, and detailed district level urban planning issues

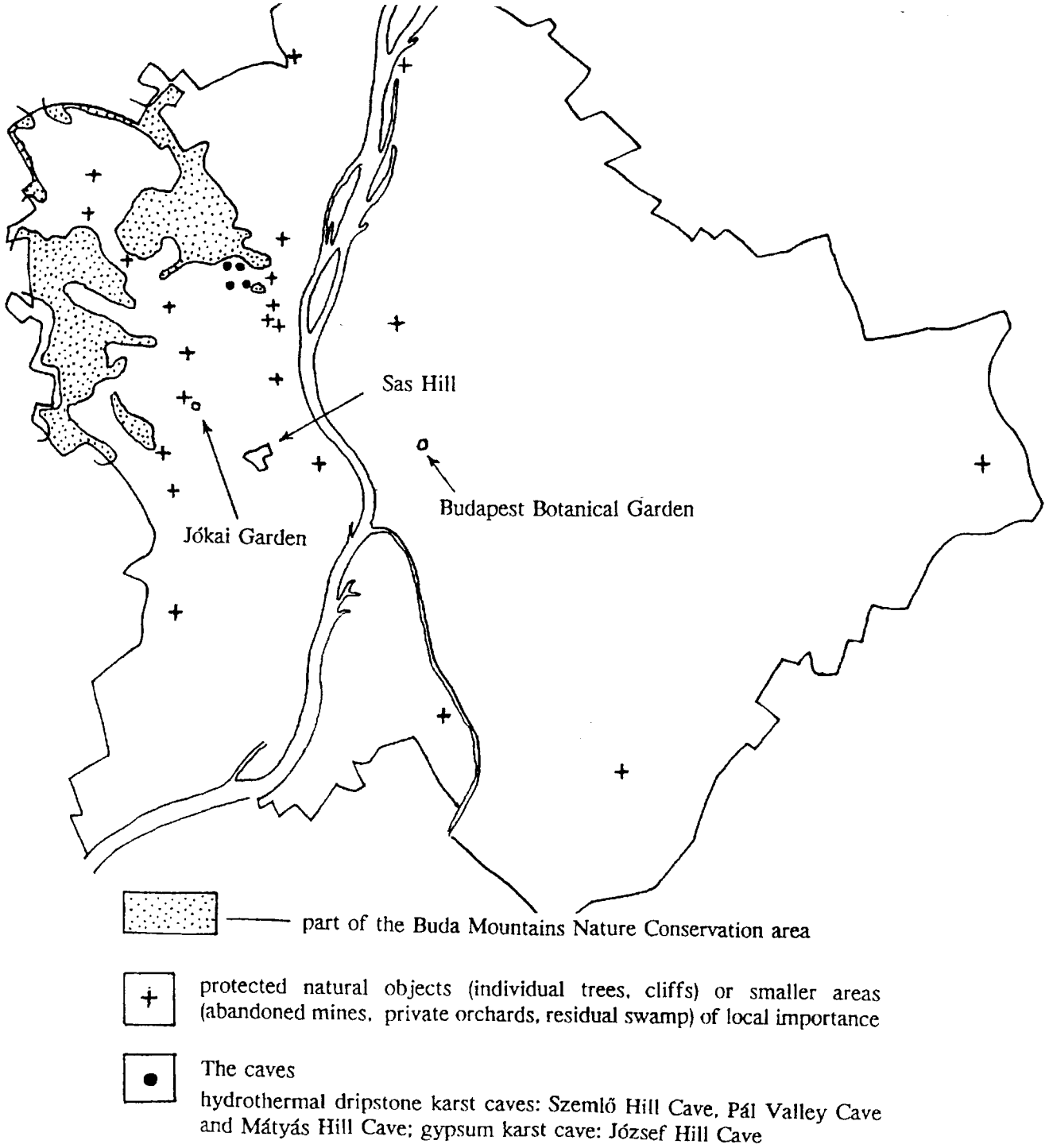


Fig. 9. Nature conservation sites in Budapest (after Rakonczay Z. 1992).

from the viewpoint of green preservation in Budapest too. The effectuation of the decrees and their supervision is the responsibility of the city-clerk.

Every person or office wishing to cut down a tree that is situated either in a privately owned or rented piece of land has to report it to the authority responsible for the area. Depending on the quality of the area it can be:

- the district mayor's office (in common residential areas);
- the Forest Survey (in forested outskirts);
- the Mayor's Office of the City (in a nature conservation area of local importance) or
- the Budapest Environmental Inspectorate (in a nature conservation area of national importance).

The authority may or may not give permission to cut down the tree and it can order that a tree be replaced or replanted. Permission to cut down a tree can be obtained if it is too old to replant or if it is dying, damaged or dangerously inclined to fall.

One of the most difficult tasks is to ensure that the bans on building construction should not be lifted in green areas. Another difficult task is to prevent the building activity from damaging the trees existing in the construction area. Permission to put the building into use should be given only after the planting of the new green surface is accomplished. This latter obligation is often neglected too.

Those cutting down or damaging a healthy tree without permission, lopping the branches inefficiently, or failing to replace trees by a deadline are committing a summary offence and are fined up to 10 000 Ft (100 USD) -- as the regulation reads. In petty offences, the fines are imposed by the district mayor's office.

The nominal values for each cut down tree have to be established regardless of the permission being granted or not. The standard is a 4 year old member of a row of trees along the street. Its value is 250 Ft (2.5 USD) taking the 1992 price. (Inflation may have raised the prices some 60 % by the end of 1994.) A 10 year old tree's value is tenfold (2500 Ft/25 USD). A 20 year old one is 10 000 Ft (100 USD), a 30 is 21 000 Ft, a 40 is 40 000 Ft, a 50 is 75 000 Ft, a 60 is 125 000 Ft and a 70 year old tree is 175 000 Ft (1750 USD). A protected tree, regardless of its age, costs 250 000 Ft (2500 USD) at the 1992 price level. The nominal values of the ill or already lopped trees are proportionally reduced according to a very detailed table. Besides trees, the nominal values of other green space elements are given in the regulation like those of pine tr ees expressed in metres of height; bushes expressed in one third cubic metres of their foliage; bushy pines (thuyas, junipers) per piece; hedgerows in half cubic metres per length in metres; soil cover in quarters of square metres; grass in square metres; and flower beds in square metres. Sums answering the nominal values have to be paid as a compensation to the Green Development Fund of the capital. This Fund is designated to support the development of Budapest green areas through tenders.

Maintenance and development of the green area is the duty of its owner or user. Technological steps and frequency of their application are included in the regulation in detail regarding the grass, paths, bushes, trees and soil, different kinds of flowers, hedges, children's playing grounds and fountains, benches, fences, dust bins, et cetera. Efficient ways of tree planting, pruning, fertilising, watering are also included in the regulation. The Mayor's Office of the capital and the Budapest Environmental Inspectorate work out a plan to develop the green surface within the city. Within the Mayor's Office of the capital it is the Environment Protection Department that deals with the green areas as well as with the pollution of the urban environment.

The cost paid for the protection, maintenance and development of the Budapest green areas is always to be covered by their owner or user (either by private or government institutions, or local residents). The expenses for the public parks and gardens and the nature conservation areas of local importance are covered by the Mayor's Office of the capital, while those nature conservation areas of national importance in the capital belong to the Budapest Environmental Inspectorate.

The responsibility and the role of policy in green space management in Budapest

As already stated above, the authority in the first instance regarding the management of the green spaces and facilities in the Hungarian capital is the local district municipality, of which there are 23 in Budapest at present. This applies to most cases in residential areas. In non-residential areas the management of the green spaces and facilities are the responsibility of various groups depanding on location and function. The most important groups are:

- co-operative farms or private farmers in agricultural lands;
- State Forest Survey in forested pieces of land;
- Budapest City Mayor's Office in nature conservation areas of local importance and
- Budapest Environmental Inspectorate in nature conservation areas of national importance.

The duty of these groups is to maintain, protect and develop the green areas within the Budapest city limits. In the residential areas, however, it is the responsibility of the local (district) municipality to exert the executive power in this respect, with the district clerk having the ability to appprove decisions concerning the management of green spaces. The technical effectuation of the decisions is then designed by the municipality's technical department. The technical department usually pays

the Budapest Gardening Company to work out actual required procedures and to carry out the field work.

Apart from the decisions regarding the petty offences, all decisions concerning the continuous protection and development of the green surfaces of the districts have to be first voted by the district's assembly (the body of the district's self government). Practically all decisions that require financial expenditures have to be first approved by the general assembly of the district's freely elected representatives. The body of the representatives is usually divided according to political parties in the districts' assemblies and in that of the City alike. In Hungary there have been 6 parliamentary parties since 1990. In the first post-socialist governmental period, the Hungarian Democratic Forum (MDF) held the majority in the Parliament. During the second round of elections for the representatives in the local authorities, the second strongest parliamentary party, the Union of Free Democrats (SZDSZ) obtained the majority. So from 1990 to 1994 the party members of the SZDSZ dominated the local policy of the municipalities in general in Hungary, though in Budapest the MDF also gained a majority in a few districts. However, the Mayor of Budapest (Mr. Demszky) and the majority in the general assembly of Budapest City belonged to the SZDSZ. So in the local policy (including green space management) the will of the SZDSZ tended to prevail. The meetings of the district assemblies often gave way to political confrontations and debates. In the 1994 national elections, the middle-right-wing MDF parliamentary majority was overthrown by the middle-left-wing Socialist Party (MSZP) and the Union of Free Democrats (SZDSZ). During the following local elections of the municipalities, the MSZP won first place and the SZDSZ came in second. So in the second governmental period the political setting seems to be more consolidated and favourable for the local self-gover nments as they are not in opposition to the central government any longer. So the policy of the local authorities could be more effective nowadays, as decisions could be easier to put into action. Unfortunately, financial means at a disposal of the local governments are less than in the first governmental period, so as the saying goes "what is made up on the rounds, is lost on the swings". As many social benefits are due to be cut or drastically reduced in 1995, the local (and district) self-governments will face a very grave situation and very little can be done in favour of maintaining public parks and green areas. Other social responsibilities will have precedence.

Sustainable future development

As it has partially been mentioned earlier, the main problems affecting and ruining the green spaces in Budapest are as follows:

1. huge motor traffic emitting NOx;
2. incorrect lifting of building bans in green areas;
3. insufficient amount of newly planted trees;
4. unfavourable urban (technical) structure of the City;
5. still low environmental awareness of the residents;
6. lack of new technologies to increase green spaces.

1. The road network of Budapest is unable to support the amount of motor traffic existing today. The slowly developing ringway around the city will keep out most of the transit traffic in about five years' time. Replacing of the former East-German two-strike motors (constituting almost 20 % of all the cars in Budapest) will also contribute to environmental improvement. The lack of parking spaces in the City may be resolved by building a number of deep parking lots, though these probably will raise groundwater problems on the Pest side of the town. The underground lines ought to be extended with very spacious parking lots built at their terminals. The inner City's traffic bans should also be extended so that only taxis, buses and freight lorries could enter the greater part of the City. In doing so, the worst pollution of the Budapest air could be improved, ensuring better living conditions for the little green there is, and moreover, the people living and working there.
2. The existing green areas of the hilly Buda side are endangered most by residential building, which is in spite of the building bans. With the help of false information and corruption it has always been possible for new residential development to be located in (formerly) green areas. The forest is being pressed higher and higher towards the tops of the hills by the villas. The need of the well to-do to move into the 'healthy' and highly reputed environment with a panorama is so great that there seems to be no remedy against this social process. Like in Athens, many of the once forested hills are doomed to be covered by residential houses during the next 20 years or so.
3. The Mayor's Office of the capital, maintainer of the public parks, is not in the financial condition to have an efficient number of trees planted per year and to take care of the existing parks. The success of their activity though, depends on the financial budget of the government and the national economy.
4. Another major obstacle of the healthy proportion of greenery in Budapest is the technical inner structure of the centre of the town. As much of the territory of old parks and gardens was built up, Budapest has no Hyde Park, Regent's Park or Kensington Gardens in the City. There is no space left for any new park either, and the estates are so expensive in the City that it is much more profitable for a district self-government to sell them, than to convert them into parks.
5. The environmental awareness of Hungarian people had been very low during the decades of communist rule, because publication of environmental research results was discouraged by the Party. Consequently,

the voice of the greens can only be heard in Budapest, and mostly only in Buda where the wealthier with higher educational level live. In recent years, there have been a few demonstrations against intensive motor traffic. There was a weaker protest in the press when they cut down three old oak trees at the Nyugati Railway Station for the sake of a temporary site of the Tent Theatre. But these protests, even including their political supporters, are not strong enough to influence government policy or to represent the interest of local residents.

6. New technologies to spread green surface are very rare to find in Budapest. In districts 1, 5, 6, 7, 10 where there are very few green surfaces, one cannot find the vertical green structure introduced: grass h as covered flat roofs or climbing plants covered walls. Or fountains (built in small bare squares in order to raise air humidity, absorb pollution and induce micro-climatic air circulation, in other words to replace the effect of a green area where there is no place for the trees).

To conclude this study in an optimistic way, however, sustainable condition of the Budapest green areas can be expected, if:

- the transit motor traffic is diverted from the City;
- the environmental awareness of people keeps on growing;
- the vertical green surfaces are introduced in the City.

There is no basic impediment to the above criteria and normal economic growth is sure to bring about each of them in the future which should not be too remote.

References

FARKAS, E. (1982): Légszennyezödési vizsgálatok Budapest területén zuzmó indik torokkal (Air pollution surveys in Budapest using lichen indicators) -ELTE szakdolgozat Bp. p. 91.

GALAMBOS, J.-TÓZSA, I. (1990): Zöld közterületek minösötése Józsefvárosban (Assessment of green public areas in Józsefváros, Budapest) -Mühely MTA FKI 3. 12.

GOMBOS, Z. (1974): Régi Kertek Pesten és Budán (Old gardens in Pest and Buda) -Natura Budapest, p. 270.

Harározat a fövárosi zöldterületek védelméröl. 1992. (Decision on the protection of green spaces in the capital).- Föpolgármesteri Hivatal, Budapest.

KOKICS, T. (1978): A nagyvárosok ökológiai viszonyai (Ecological conditions in great cities) -MTA Biológiai Kôzlemények 22. pp. 391-405.

KOVÁCS, M. (1985): A nagyvárosok környezete (Urban physical environment) -Gondolat Budapest, p. 108.

TÓZSA, I. - HEGEDÜS, Cs. (1982): Budapest a világürböl (Budapest from space) -Földrajzi Értesítö 31. 1. pp. 121-130.

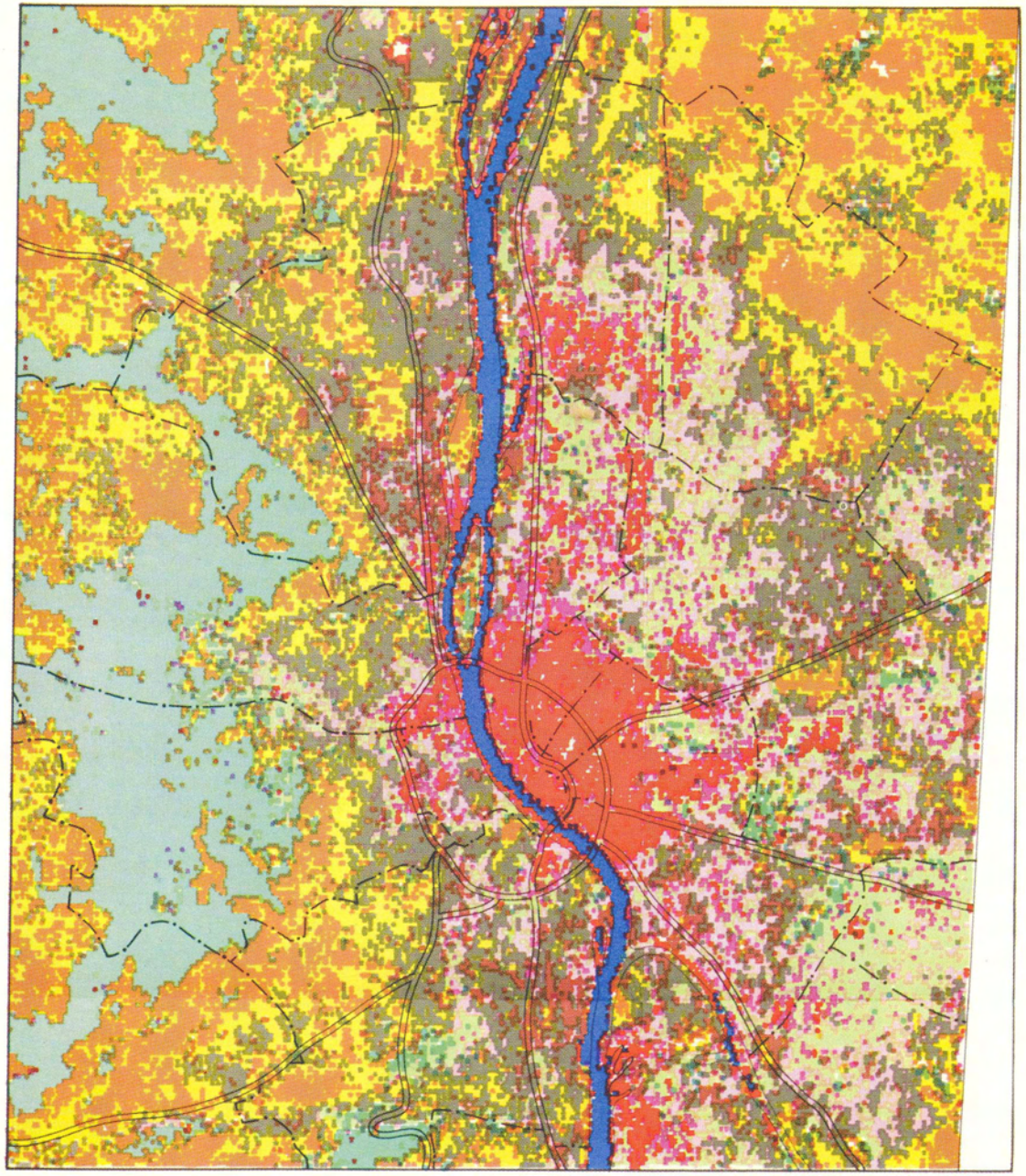
TÓZSA, I. (1989): Adalékok a magyar nagyvárosok környezeti minösítéséhez (Additional information to urban environmental assessment in Hungary) -Mühely MTA FKI 2. 3.

Author's address

István Tózsa
Geographical Research Institute
Hungarian Academy of Sciences
Andrássy út 62
1388 Budapest
Hungary

Reviewer

Alois Matoušek



The green areas of Budapest on the basis of LANDSAT digital survey (I.Tósza, Fig. 7).

N

- Water surface
- Commercial and older residential built-up areas
- Transportational and industrial areas
- Modern residential areas
- Garden suburb
- Orchards and/or recreational areas
- Green residential areas
- Forest areas
- Pasture and agricultural areas
- Cropland and barren land
- Unidentified areas
- Main road
- District boundary

CASE STUDY: LJUBLJANA

THE CULTURAL AND ECONOMIC CONDITIONS OF DECISION-MAKING FOR THE SUSTAINABLE CITY

Metka ŠPES - Barbara LAMPIČ - Aleš SMREKAR

Abstract

Environmental degradation of Slovenian towns is discussed on the example of Ljubljana. Concepts of city traffic to 2010 are discussed on the background of growth of the urbanized area in 1880-1993, development of city transport system and present land use. Attention is also paid to the development of retail trade and problems of green areas. Since Ljubljana has recently become capital of a new European country - Slovenia, its further development must be scheduled with respect to this new function of the city.

Shrnutí

Je pojednáno o environmentální degradaci slovinských měst na příkladu Lublaně. Na pozadí růstu urbanizovaného území v letech 1880-1993, vývoje městské dopravní sítě a současných metod využívání krajiny je diskutováno o konceptech dopravních řešení do roku 2010. Dále je věnována pozornost vývoji maloobchodu a problematice zelených ploch. Protože se Lublaň stala nedávno hlavním městem nového evropského státu - Slovinska, je nutné plánovat její další rozvoj už s ohledem na tuto její novou funkci.

Key words: environmental degradation, land use, traffic restraint, retail sector development, green spaces, Ljubljana

1. Environmental Degradation in Slovenian Cities

1.1. Introduction

For several years, the research group at the Institute of Geography, University in Ljubljana, has also been including the problems of environmental degradation into the investigation on Slovenian cities and urban landscapes, resultant from the past sustainable development and specific physical-geographical and socio-geographical features of Slovenian landscapes.

Besides the complex evaluation of causes and effects of the environmental degradation in urban landscapes, we have also established indirect impacts of degraded environment on humans and individual groups of people that are supposed to be, on the one hand, inducers of the majority of negative changes in the environment, and on the other hand, receptors of these changes and negative effects. The theme of our interest is how the various groups of people receive the degraded environment, what are the causes of differences in the degree of their reception, and how this is reflected in their responses. Our prime attention is paid above all, to the study of spatial effects resultant from these responses. Since the different groups of people show different reactions to the polluted environment, their re-settling in variously degraded environment occurs and, consequently, differentiation of urban landscape.

Research of this type was also included into the original program of the project called "Transition in Central and Eastern Europe: A Challenge for Urban Environment"; an international group of geographers (Czech, Hungarian, and Slovenian ones) applied to the Commission at the European Union for financial support for this project.

On the basis of later motions made by the COREP (November 3, 1994) to focus the research on "the cultural and economic conditions of decision-making for the sustainable city", the Institute of Geography, University in Ljubljana, began at the end of 1994 such an investigation in our biggest city, Ljubljana.The investigation is conducted upon the samples of the studies from Italian and British reports.

1.2. Some main Informations about Environmental Degradation in Slovenian Cities

The study of some most polluted urban areas in Slovenia has shown that they mostly lie in the Alpine and sub- Alpine regions of Slovenia; they are limited to basins, and narrow and deep mountain valleys. They

are pronounced, yet smaller in scope, and local in fact, for we mainly cannot talk about the regional extent of over-pollution so far. These areas still remain disconnected, since the elevated landforms between them (mountains, hills) are relatively non-polluted or without permanent pollution. The location of the polluted areas on the bottoms of deep valleys and basins even increases the need for space, and consequently also the physiognomic heterogeneity of individual town districts. Therefore, industrial functions, public services, and other functions in the town space are intensely intertwined.

The location in valleys and basins is also directly linked with lee conditions, which often prevent that emissions, harmful to the environment, be distributed and transmitted over longer distances. Particularly unfavourable as to the air pollution are the frequent occurrences of temperature inversions which cause that the polluted air thickens on a rather limited area, often covered with the "inversion cap", which intensely increases the vulnerability of environment. Since temperature inversions with poorer ventilation of the atmosphere are more frequent and more pronounced in the cooler half of a year when also, due to the heating of homes, the greatest quantities of emissions are generated, an explicit annual degradational regime is characteristic of the discussed settlements, with typical winter maximums.

At first sight, the pronounced character of degraded environment is surprising in the discussed areas, because smaller towns are in question, where municipal emissions are also of smaller quantity; yet, they are still too abundant for the natural capacities of the ecologically vulnerable basins and deep valleys in which these towns are located. Harmful emissions are additionally increased by the use of domestic coals of poorer quality.

In industrial environmental pollution, particularly of the atmosphere, emissions from a single industrial source are usually most problematic. After all, these sources are not very big, neither industrial nor the power producing ones. The greatest share of emissions comes from old, technologically outmoded and ecologically objectionable industrial plants. In the recent years, their impacts have been reduced, yet the quality of our environment in general has not been significantly improved. However, this reduction of impacts is due rather to the current economic conditions than environmental protection. Namely, it is more the result of reducing or even closing down industrial, economically non-profitable production, and less the result of positive effects of technological revitalization resulting in environmental improvement.

Data on the relatively small quantities of harmful industrial and municipal emissions on the one hand, and the still intense general environmental pollution (high immissions) on the other, call attention to the basic characteristic of our most degraded areas. It is the great disparity between emissions and immissions.

It is no coincidence that the most polluted Slovenian areas are our oldest industrial centers with over a century-long industrial tradition. Their origins which mostly reach back to the second half of the 19th century, were based on favourable location factors, favourable transport positions in particular, cheap labour, handicraft tradition, etc. - which was all especially typical of the bottoms of basins and valleys. Such conditions are the least favourable from the aspect of ecology, and, due to the post-War forced industrialization, they became even more critical. Unfavourable for environmental protection was also the fact that a part of raw materials had to be imported already from the beginning, from nearby or even very distant places. These materials were not always of the highest quality, unfortunately. The development of industry over a hundred years was uneven, of course, since it depended on general economic, political, and social conditions which underwent numerous changes during this period. Parallel to this and the increasing production, the level of pollution also increased, of course, and consequently, the extent and variety of negative impacts on environment. It is not only the matter of degradational heritage related to the relatively early beginnings and development of industry, but also the result of later, very dynamic period of industrial development, typical for the second half of the 20th century. Being intensely industrialized, according to the post-War planning, old and new industrial settlements attracted numerous labour of lesser qualification from rural areas and even more so from other republics of the former Yugoslavia. These people inhabited, at least at the beginning, the housings of inferior quality in towns or in the close vicinity of industrial plants, despite the heaviest pollution of such environments, because it was easier to obtain these housings and they were cheaper and close to their jobs. Because of poorer financial state of the immigrants, and very limited possibilities for the improvement of their housing conditions, the quality of dwelling environment of these inhabitants was getting worse and worse. As a contrast, better provided social groups of inhabitants began to move elsewhere from such places, above all into suburban districts. Thus, differentiation of towns began also due to the above mentioned changes, although this trend was not advocated by the socialist system; at the most, it was tolerated. In fact, the post-War social development was oriented towards a more even development of town districts. Therefore, prices of housings did not explicitly depend on the quality of closer or wider dwelling environment, and certainly less so than they would depend in market conditions.

In the research work, we have established, above all, the indirect impacts of polluted environment on the inhabitants who are also receptors of negative effects of their own unsustainable activities. Responses to

negative environmental changes depend, to a large extent, on general economic and social conditions, as well as on technological possibilities; nevertheless, these responses exert influence on changes in the environment. Moving away because of a degraded environment or passive attitude towards such an environment where matters are becoming worse, are only two extreme forms of reactions which lead to the differentiation of towns and wider urban landscape. Internal structural (socio-geographical) differences between variously polluted areas in the researched urban landscapes were evaluated by means of various demographic indicators and the analysis of economic structure of population; both were further complemented by the interview on the attitude of inhabitants towards their own environment and their apprehension of ecological problems in general.

Neither the former and even less the recent development have caused a more explicit differentiation in Slovenian towns so far, therefore, relatively homogeneous town districts have not been distinctly formed. Differences in the structure of variously degraded parts of urban landscape confirmed by the investigation are thus largely the result of spontaneous reactions of the inhabitants; however, they will undoubtedly only increase in future. It can be expected that areas will further be formed with a relatively homogeneous socio-economic structure of inhabitants that will receive and apprehend the environment in more or less the same way and equally respond to negative phenomena caused by pollution of their dwelling environment. Since the quality of the dwelling environment will undoubtedly effect the price of housing, it should be expected that less polluted environment will attract, even more than so far, higher socio-economic classes of inhabitants. It has already been established that apprehension of the latter of their own environment is very close to the actual situation; also their ecological awareness is higher, and besides, they have better possibilities for ecological improvements. In contrast to this, in more polluted areas, as it has already been happening, groups of people will concentrate who have neither the knowledge, nor the material basis, nor a true interest for the improvement of environment. Therefore, no spontaneous environmental improvements can be expected here, and no adequate investments into the ecologically inoffensive facilities. Thus, the differences in the quality of dwelling environment and the environment in general will only keep increasing. They can only be mitigated by external interventions (by the state or city), such as the construction of heating plants and the extension of heating networks, gasification, revitalization of residential buildings, etc.

The research furthermore exposed that, according to some socio-economic indicators, individual groups of inhabitants have already been formed who equally apprehend their dwelling environment and wider environment together with the ecological problems to which they respond equally. Also, their spatial distribution coincides relatively well with the degradational structure. Besides, there are also demographic indicators which are not decisive for the distribution of the inhabitants in variously polluted areas (e.g. age). Also the specific geographical character of each investigated landscape contributes to the evaluation of the factors which have, due to socio- geographical features of the inhabitants, different impacts on the differentiation of degraded landscape; the same is also true of referential areas.

General ecological awareness is lowest in the areas where the inhabitants have been directly depending on work in industry or mining for several decades; however, it is better in rural environments, not only due to greater connection with and dependence on the nature but also due to lesser dependence on industry as regards employment. Since ecological awareness increases also with the level of education, the importance of ecological education in particular is thus manifest, but also the importance of general education which enables wider apprehension of the causes of environmental pollution and its results.

1.3. Conclusions

The research highlights results of the landscape degradation in the specific (natural and social) Slovenian geographical conditions. We have established, in fact, a surprising degradational structuring which has been formed in the relatively small Slovenian urban centers, hardly comparable to bigger industrial and urban landscapes elsewhere in the world. Notwithstanding the small size of the investigated settlements (minor towns), degradation is well pronounced in them, and explicit inner degradational division has already come into effect. It is not only direct and physical, and the result of actual pollution of the air and other natural elements of the environment, but also of socio-geographical character and as such related as well to the physiognomic, structural and functional differentiation of the environment and to the population structure itself. Natural-geographical features undoubtedly not only condition the typical vertical and horizontal asymmetry of immission areas, the explicit annual degradation regime, etc., but also the considerable disparity between emissions and immissions, which is due to spatial limits of narrow and deep valleys and basins, and particularly due to temperature inversions occurring in these landforms. All these facts, of course, condition the physiognomic and functional heterogeneity of individual town districts.

Taken as a whole, degradation or environmental protection problems which were investigated in towns (urban landscapes) that are, no doubt, typical of Slovenian circumstances, are characteristic in many aspects. They are not only typical from the natural-geo-

graphical aspect which shows the great natural vulnerability of our environment (due to the landforms, climate, etc.), but also, and even more, from the socio-geographical aspect, which has not been mentioned sufficiently so far, or it has been mentioned but one-sidedly. Particularly relevant here are the effects that the economic and general social development has had on environment, especially the effects resulting from the planned industrialization in the second half of this century, and all that was related to it, including also the polycentric development of Slovenia and the growth of numerous, but therefore smaller industrial towns, typical not only for their urbanization but also suburbanization processes. All this reflects typically, and rather specifically as to our circumstances, also in the degradational structure of our urban environment, including the socio-geographical structure.

2. Case Study Ljubljana

2.1. Basic Data on the City and its Suburbs

After the dissolution of the former Yugoslavia and founding of the new state of Slovenia, in 1991, Ljubljana became one of the youngest European capitals. With 270, 759 inhabitants (1993), it is also the biggest city in this country of nearly 2 million inhabitants. Thanks to its central position at the crossroads of several traffic flows the city has been the center of various political and administrative units since times immemorial (Roman Emona). At the end of the Middle Ages, Ljubljana had 4, 000 inhabitants. During the Reformation, this figure grew to an estimate of 5,000 and by the end of the 18th century to 10,000. At the turn of the century, the city had 45,000 inhabitants, in the first post-war census (1948) their number reached 98,900, but the biggest population growth was experienced by Ljubljana after the year 1950.

Table 1. Number of inhabitants

1953	113 666
1961	166 702
1971	215 420
1981	256 380
1991	267 000

The city is situated on the southern edge of the Ljubljana basin, a broken rim of which enables the easy passage of traffic. Ljubljana lies at the intersection of major traffic routes, amply used already in the past, leading from the Adriatic Sea and northern Italy to the Pannonian plain, and over the Alpine mountain passes from Austria towards the Balkans. Good traffic accessibility of the heart of the Ljubljana basin was in the past complemented by waterways on the Sava and the Ljubljanica rivers, and from 1849 on by a railway line.

The old city center consists of three parts - squares - two of which are squeezed between the hill topped with a medieval castle and the Ljubljanica river, whereas the third one was built across the river, on a higher terrace. Later on, this medieval Ljubljana began to be joined by suburbs and villages whose names have, more or less, remained in use until today.

Development of modern Ljubljana dates back to the second half of the 19th century, when the city began to spread rapidly along its main arterial roads, from the old medieval core and its suburbs to the North and West. Crucial for the city development at that time was the construction of the municipal water supply network, establishment of the city park service (1894), which began to tend municipal gardens, and, above all, of the municipal power plant. A severe earthquake in 1895 destroyed a considerable part of the city, but also represented a turning point in the city's urban development because at that Ljubljana got its first official town planning program, which continued to regulate its spatial development for many decades to come. Today, the city spreads over 16,368 hectares, with an average population density of 16 inhabitants per hectare.

Industrialization of Ljubljana was initiated by erection of its sugar plant (1828) but began to flourish only after construction of the railway, when first a brewery and then a tobacco factory were built. In the beginning of the 20th century, the process of industrialization slowed down, and came into full swing after the Second World War, when the authorities at that time saw the promotion of industry as the fastest possible way of reducing economic backwardness - also at the expense of rational use of natural resources, which later on caused numerous environmental problems (air pollution , water, etc.).

At the time of the latest census (1991) the city had 99, 607 housing units, of which as much as 38 % were built after 1971 and 12 % after 1981. An even more rapid growth of population and housing took place in the suburbs and suburban areas around Ljubljana. After 1971, their growth was almost three times faster than their natural population growth, which means that they were becoming more attractive to live in than the city itself. A wide suburbanized belt (25 km) has thus developed around Ljubljana, inhabited by a large part of the population who commute to Ljubljana on a daily basis. This is also one of the reasons for the heavy street traffic in Ljubljana: the number of jobs in the city is by 30 % higher than that of the active population actually living there - the remainder are commuters.

Tendencies to move to the city periphery or the suburban fringe are mainly due to the lack of adequate housing in the city, cheaper individual construction and lower land prices outside the city (although at the ex-

LJUBLJANA 1880 **LJUBLJANA 1914**

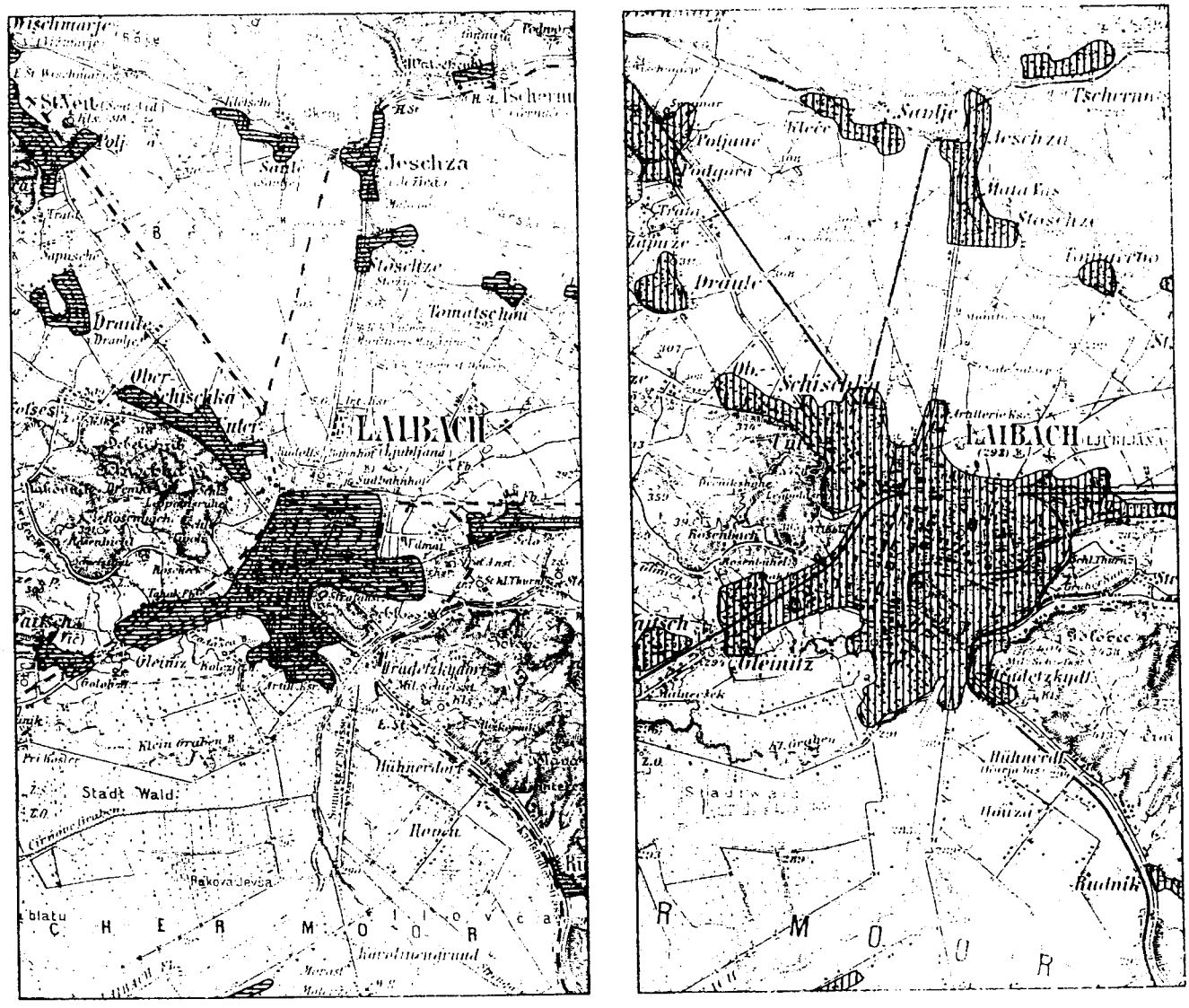


Fig. 1. Development of Ljubljana from 1880 to 1993 (1/2)

pense of better municipal infrastructure), relatively good traffic accessibility, a widespread desire of Slovenes to live in a single-family dwelling with garden, and, lastly, also because of excessive air pollution in the city itself. The city is situated in a basin in which all year long and especially in winter temperature inversions occur, accompanied by fog, which contributes to the high concentration of harmful emissions in the city. The biggest air polluter in Ljubljana is combined heat and power plant but due to its high smokestack its emissions are transferred to higher air layers, and so excessive air pollution in the city itself is caused primarily by coal-and-wood-burning stoves used by city dwellers and traffic.

2.2. Economic and Social Structure

Despite the fact that Ljubljana has an important administrative, supply, and traffic function, and that the Slovenian society is gradually entering the post- industrial period, the exaggerated importance of industrialization in past decades is still visible in the structure of employment. Industrial branches still employ nearly one-quarter of Ljubljana's population (according to data from 1993) but their share is gradually declining (in 1968 the industry employed 40 % of the active population). In contrast, the share of people employed in tertiary and quaternary activities is increasing, being well above the Slovenian average. The latter is also true for the educational and qualifications structure of employed persons, with the average monthly gross salary in Ljubljana exceeding the Slovenian average by almost 20 %.

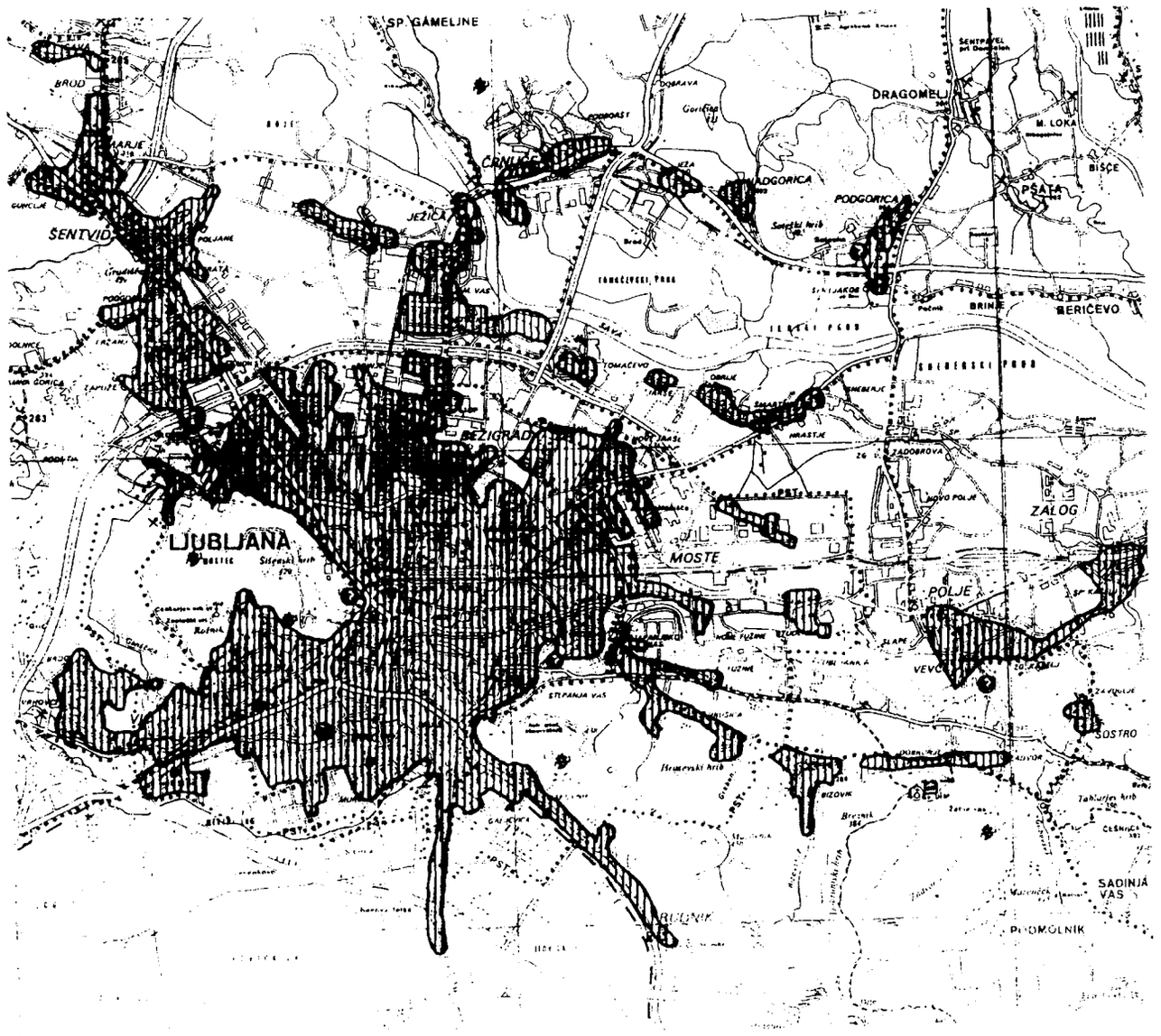


Fig. 2a. Development of Ljubljana from 1880 to 1993 (1/2)

Table 2. Structure of persons in paid employment in Ljubljana

Manufacturing, mining and electricity supply	31 746	23.3%
Agriculture and fishing	527	0.4%
Forestry and hunting	103	0.1%
Water management	429	0.3%
Construction	6 139	4.5%
Transport and communications	9 228	6.8%
Trade	18 256	13.4%
Hotels, restaurants and travel agencies	3 221	2.4%
Crafts and personal services	4 220	3.1%
Community service activities	2 720	2.0%
Financial and business activities	15 232	11.2%
Education, culture and science	18 335	13.5%
Health and social security	13 496	9.9%
Public administration, funds, associations and organizations	12 257	9.0%

Among individual industrial branches, the metal, power and food industries employ the highest shares of the active population.

LJUBLJANA 1993

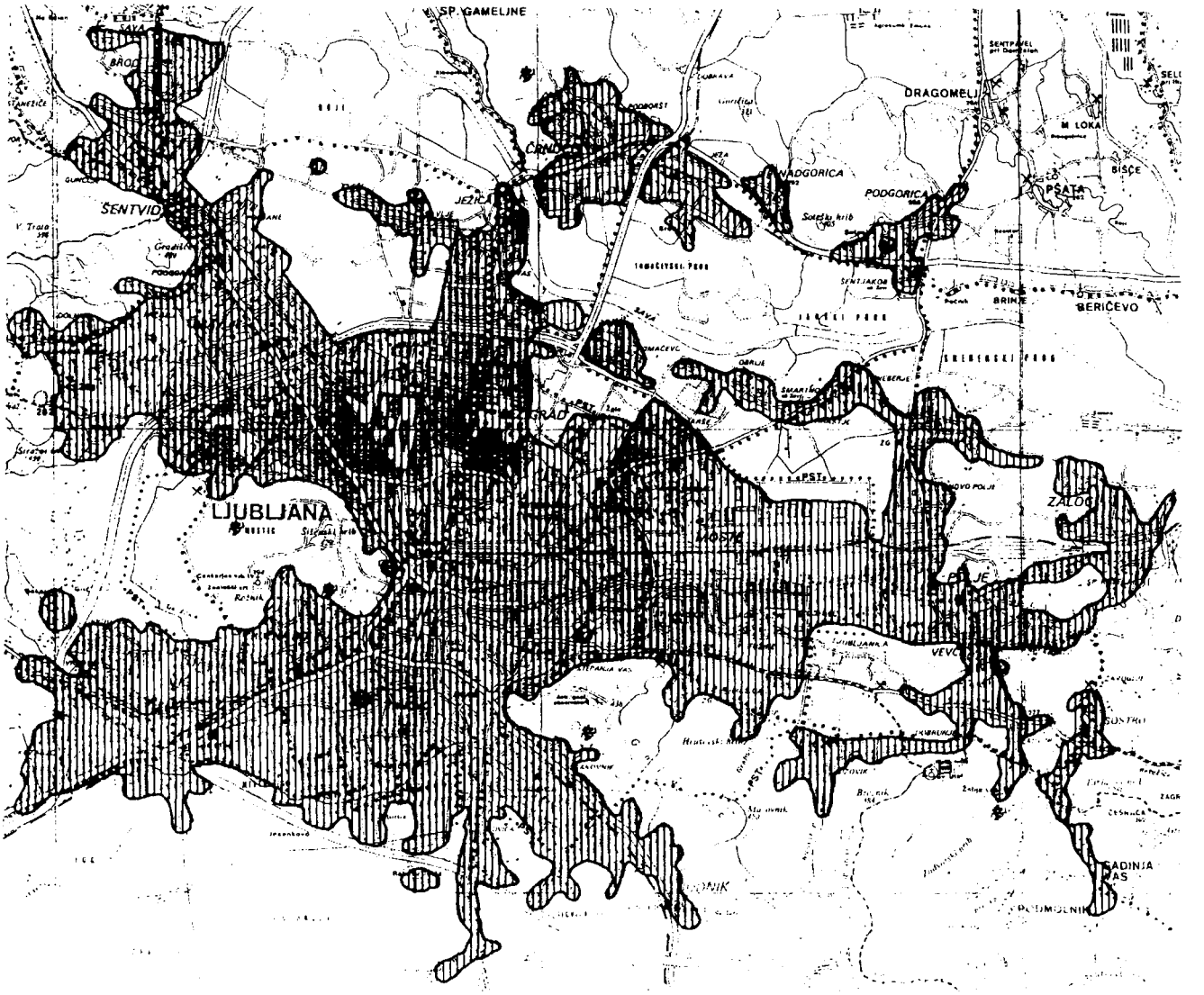


Fig. 2b. Development of Ljubljana from 1880 to 1993 (1/2)

Table 3. Share of employed persons by industrial branches in Ljubljana (1991)

energy	4.5%
metal	30.7%
power	17.1%
chemical	9.1%
construct. materials.	1.6%
wood	4.5%
textile, footwear	8.8%
food, tobacco	14.1%
other	9.3%

The employment structure of the population has been undergoing rapid changes in the last five years, not only in Ljubljana but in the entire country. On the one hand, there is a declining share of persons employed in large industrial plants, as a result of restructuring the technologically obsolete production, ownership transformation, etc., while on the other hand, the share of people employed in smaller private companies is increasing, especially in service activities. As the capital of the new state, Ljubljana also had to take over, after 1991, a variety of new administrative and political functions, which resulted in an increased number of people employed in quaternary activities. Rapid transformation of the socioe-conomic structure of the population can also be predicted for the future, since privatization of

social ownership has not yet been fully completed, and transformation into market economy is bringing about numerous initial oscillations resulting from inadequate knowledge of the principles of operation of the market economy. Positive changes are seen especially in tendencies towards an increasing number of jobs demanding higher qualifications, as well as from numerous signs indicating that, as regards the transition into an information society, the lag behind highly developed countries is decreasing. Indirectly, this is also reflected in the structure of unemployment, which is characterized by a marked surplus of unskilled labor.

2.3. Administrative Structure of the City

As a result of its post-war growth, in 1952 the city was divided into five administrative units or communes which, with the exception of the commune Center, also encompassed their wider rural hinterlands. Such division brought about, among other things, a variety of difficulties concerning the evaluation of statistical data during particular time periods. As late as in the last year (1994) the Slovenian Parliament adopted a new administrative system for Slovenia according to which Slovenia now has 147 communes instead of the former 62 with the city of Ljubljana becoming once again an independent and unified commune. It was granted the status of an urban commune (there are altogether 11 such communes in Slovenia), which is formed as a geographically, economically, and culturally integrated area, within the framework of which common development policy with wider geographical significance, as well as common town planning and municipal policies are carried out. Besides its economic functions, a urban commune also performs various cultural, educational and social functions for its wider surroundings. As transformation to the new local self-government has not yet been completed, distribution of functions between the state and the new communes have not yet been clearly defined either. More perceptible, however, are changes which the city has undergone since Slovenia has claimed its independence. With the city having assumed a new function (the capital of the state) new demands have emerged for the use of the most attractive and expe nsive city land. Here are primarily spatial needs of the newly-founded foreign embasis and other agencies, of ministries and administrative agencies, protocol premises, and national cultural, educational and scientific institutions. Along with new state borders, demands have also been changed for traffic connections between the country's heart and its neighboring, as well as wider European, regions. As a consequence, the interests of users of space at the municipal level on the one hand, and of those at the state level on the other frequently compete and conflict, as was particularly evident between 1992 and 1994, when the political and program orientations of the ruling parties in the national and city government were totally different. The conflicts were further intensified by the city's obsolete town planning program, which is not adapted to the new circumstances and spatial requirements imposed on the present-day Ljubljana as the capital of a sovereign state.

Ljubljana got its first town planning program after a severe earthquake 100 years ago. On the basis of the heritage of Baroque and Neoclassical urban planning, the western part of the city, in particular, got a rectangular network of roads with wide streets and uniform facades. In later building, the city reflected the characteristic stamp of well-known - also on the European scale - architects such as Sitte and Fabiani, who mostly dealt with the question of a new city center, and above all Plešnik, who understood urban planning primarily as artistic design of urban space and organization of networks of streets and squares according to some logical order. The post-war period was marked by a series of different ideas about the further spatial development of the city, the leading one being the idea of a star-like pointed design of the city, according to which Ljubljana was to expand mainly along its main arterial entry roads. The good side of this concept was also the planned wedge-shaped indentation of green surfaces into the very core of the city, which was, however, realized only partially. Subsequent town planning concepts had to take into account spatial limitations for expansion of the city. When the latter began to reach more and more into rural areas in its hinterland, planners began to call attention to the rational use of urban space, thereby supporting the concept of multistorey constructions in the city and of the use of its green surfaces for construction purposes. As already mentioned, this did not stop the city from expanding into its surroundings and suburban areas.

3. Policy Area I: Traffic Restraint

3.1. Traffic in Ljubljana and some Basic Problems of the System of Traffic Regulation

Ljubljana has a built-up infrastructure network in the form of a radial, seven-pointed star, with seven arterial entry roads coming together in the center of the city. Their immediate hinterland is inhabited by 56 % of Ljubljana's population and provides 72 % of the jobs.

For the construction of its road infrastructure Ljubljana used a surface of 840 hectares, of which 98 % is for roads and parking lots and 2 % for garages of the city's public transport and pedestrian surfaces. In Ljubljana 69 % of all travel is on public transport or in passenger cars and 31 % on foot and bicycles, this ratio having remained unchanged for several decades. The development of road infrastructure, the growth of motorization, and low quality of public transport services are all leading to an increased use of passenger cars. In 1970, 45 % of all motorized journeys were made with

passenger cars, and today this figure has already surpassed 50 %. The reason for this lies in the fact that 98 % of available funding was invested in road infrastructure and only 2 % in public transport infrastructure. Since city buses as a rule have to share the road with cars, their journey times are up to 30 % longer than those of passenger cars. In this way public transport is automatically reduced to a means of transportation which is, as a rule, used only by passengers who have no other alternative.

Very similar proportions can be found in commuter passenger transport, where in 1991 54 % of all travel was done using public transport, of which 72 % was by buses and 28 % by trains, and the remaining 46 % by car.

Road and Railway Traffic

Ljubljana is an important, primary road, traffic intersection. Traffic flows through Ljubljana are therefore constantly on the increase, both in terms of local traffic, which chokes the city center, and long- distance traffic, which burdens mainly the as yet uncompleted bypass around the city. At a distance of 3.5 km from the city center, this bypass is an intersection of road routes leading from the West to Central and East European markets, and from the North to the Balkans, and further on to the Middle East. Due to the present uncertain situation in the Balkans the latter axis is burdened to a much lesser extent. The railway network is utilized to a considerably lesser extent, as the bulk of freight traffic still rolls on the roads.

Bus and railway stations in Ljubljana are located in the city center. In 1993, 998,000 passengers departed from the railway station alone. Freight railway terminals are located in the city periphery, but, unfortunately, all freight traffic passes through the center of Ljubljana and, what's more, through the passenger railway station. No substantial changes are to be expected in the near future, since an agreement on the construction of a bypass railway line has not been concluded yet. In 1993, 89,000 tons of goods were loaded and 206,000 tons unloaded at Ljubljana railway stations.

In the last few years the city center has become even more jammed with traffic, as there are already 390 cars per 1000 inhabitants. The use of passenger cars has increased substantially in recent years, as indicated by the fact that in 1993, a 15% rise in traffic was observed on the western bypass road. This results from the increasing number of cars registered after 1991, when import duties for cars were lowered. The number of registered passenger cars has therefore climbed by as much as 25,7 % in the last five years.

Pedestrian Areas and Bicycle Paths

At the end of the 1970s, two streets in the city center (Čopova and Nazorjeva street) were closed for all traffic in a total length of around 350 m, and later on also the old medieval core between the Ljubljanica river and the castle hill.

Bicycle paths run along some arterial entry roads on separate lanes, thus enabling fairly easy and safe access to the city center. The network of bicycle paths in the center of the city, which runs in the East-West and North- South directions, is modest and does not meet the requirements of city cyclists.

An acute shortage of pedestrian surfaces and bicycle paths in the city center hinders the normal flow of pedestrians and cyclists in the center of Ljubljana. As no essential improvements or changes of these surfaces are envisaged, this remains a very urgent problem.

City Public Transport

Since 1990, Ljubljana has had 21 city bus routes for a total length of 228.3 km, and at present no new routes are being planned. These bus lines cover a major part of the city, but in recent years, no study has been done on the adequacy of these routes. Daily rush hours are from 6.30 to 9.00 and between 13.00 and 16.00, when city buses carry 65 % of all passengers. Only a few years ago, the morning rush hour was from 5.00 to 8.00, but the number of passengers travelling between 5.00 and 6.30 has fallen by 80 % as a consequence of changed working hours (adaptation to the EU) and the increasing number of passenger cars. In 1994, city buses carried 110 million passengers, while in 1985 this figure was 135 million. According to forecasts this figure should reach its lowest value in 1997, when the age structure of passengers (younger and older) should become extremely apparent.

Bus fare is SIT 80 (DEM 0.98), regardless of the distance travelled. Tokens bought in advance cost SIT 60 (DEM 0.74) and a monthly ticket for unlimited travel for adults is SIT 2000 (DEM 24.54).

The entire fleet of city buses is completely outdated, the average age of a vehicle being 8.5 years. It is stipulated that this figure should not exceed 6.5, which means that up to 15 % of all buses from the fleet should be replaced annually. This percentage, however, was attained only in the last three years together. After 1991, there was a change in the standard of engines used in buses. The standard now requires diesel, so-called euro 1 engines, which in some EU countries have already been replaced by euro 2 engines whose price is even higher. The so-called euro 1 engines are more environment friendly due to their considerably lower emissions of exhaust gases and noise. Presently, only five buses with euro 1 engines are included in the city bus transport. Even more environment friendly are gas-driven buses, whose emissions in the air are reduced up to 98 %. After seven years of preparations one such bus is currently being tested in the streets. In general, fi-

nancing is left almost entirely to the company itself. In 1994, the company received SIT 500 million (DEM 613,496.93) in subsidies, which represents only 12 % of its budget.

The speed of city buses is limited to 50 km/h, but the actual speed on the busiest lines through the city ce nter does not even exceed 10km/h, although back in 1990 it still exceeded 20km/h. This problem cannot be resolved unless separate bus lanes on the principal street in the city center (Slovenska road) are enforced 24 hours daily, and without redirecting some of the city bus routes to the 450 m distant, parallel Resljeva street. As early as in 1990, in one hour during the morning rush hour only 90 buses left in one direction from the most heavily used bus stop on Slovenska road. As each bus stayed at the bus stop for 2 minutes, up to 120 m-long uninterrupted lines of vehicles were formed. Only on one of the arterial entry roads, on Celovška road, which leads to the garages, are two of the four lanes for a length of 2,4 km reserved solely for city buses and taxis during rush hours. In Ljubljana, the construction of seven parking lots located at city bus terminals (the so-called park and ride system - P+R) has long been contemplated. In 1990, the first and as yet the only such parking lot was built. However, it was not a success, since motorists have no incentive to leave their cars 3 km from the city center and, against payment, ride to the center of Ljubljana by bus, as long as they can park however they please and free of charge on the edges of the city center.

Pressure from inhabitants living near public garages and along the busiest city bus routes is considerable. They complain particularly about high levels of noise, which were also confirmed by emission measurements. But until new, quieter buses are introduced, there will be no lasting solution to this problem.

In Ljubljana, there are seven taxi associations incorporating 235 drivers with their own vehicles. In the morning, when the demand for taxis is greatest, 130 vehicles are available while at night there are only about 60. Taxi switchboards usually receive up to 1400 calls daily and taxi drivers themselves pick up a slightly greater number of customers at taxi ranks and outside them.

Parking

Parking in the city center is completely unregulated and chaotic, representing one of the biggest problems in the regulation of city traffic. Parking garages can take in only 2400 vehicles. Approximately the same number of cars are parked on the roads and streets, and up to 10,000 cars are parked outside the roads and streets (pavements, bicycle lanes, courtyards, green and other surfaces). Parking lots are used primarily by local residents, visitors and employees. In the city center barely one- third of motorists have their own parking space or garage. Too many people drive to work by car. The rotation factor of these vehicles is very low, amounting to less than 1.2, while the rotation factor of cars parked for other reasons is significantly higher and amounts to 7.6. According to international standards the rotation factor of vehicles on public parking lots should be somewhere between 5 to 10. In Ljubljana it is less than 4.0, which means that the share of those who commute to work in their own cars is definitely too high.

Parking rates in public parking lots and spaces are stipulated by the decree of the Executive Council of the Assembly of the City of Ljubljana. In first-category parking lots they are SIT 70 (0.86) for the first hour, while in second-category parking lots and in parking spaces marked with a blue line, where only short-term parking is allowed, they amount to SIT 110 (DEM 1.35) for the first two hours. In third-category parking lots and blue zone all-day parking spaces, rates are SIT 150 (DEM 1.84) daily.

A comparison between the demand for parking space by all users and the existing legal parking possibilities shows us that in the present situation the demand exceeds the supply by 20 to 90 %. At the same time it can be established that the demand on the part of visitors, for whom the parking lots are mainly intended, nowhere exceeds the supply and that about 40 % of public parking lots are occupied by resident car-owners who do not have their own parking places or garages (Guzelj, 1994).

Impact on the Environment

City users, both residents and employees, and partially also visitors, are feeling the negative impact of the traffic system, as is the environment.

Noise, caused mainly by motor vehicles, represents an ever growing problem. One should be aware that in Ljubljana at least half of the inhabitants are affected by excessive levels of noise. More than 135,000 inhabitants are exposed to a noise level of over 55dB and 43,000 inhabitants to a noise level of over 65dB. Excessive noise concentrations have negative effects on people's well-being and decrease their productivity at work.

Air pollution resulting from the emissions of motor vehicles is harmful to the health of people, vegetation , soil, underground water, etc. Motor traffic in Ljubljana emits about 30,000 tons of harmful gases annually. The biggest share of harmful gases in Ljubljana is caused by passenger cars. But SO_2 emissions are higher in the case of trucks with diesel engines. Great quantities of fuels used by passenger cars are the reason for substantial emissions of CO_2, the gas with the strongest greenhouse effect. The emission of CO_2 by passenger cars in the Ljubljana area is 650kg per inhabitant. Despite the obsolete fleet of city buses, the latter are less harmful to the environment than passenger cars, if the quantity of emissions of major pollutants per every person transported is taken into account. Buses use

less fuel per person transported and their CO_2 emissions are therefore lower by a factor of 5.6 (Paradiž, 1994).

3.2. Development of Traffic in Ljubljana

Two years after the earthquake (1895) a decree was passed on the construction of tram routes that would connect the area of the city center, and link it, through extensions along the city's main entry roads, with the growing suburbs. In Ljubljana, the first electric tram was introduced in 1901, when it drove on two routes. Despite fast development of the city and the demand of the city council that tram routes should be supplemented and extended, the tram network was not expanded for almost 30 years. Unregulated inner city traffic, especially along the city main entry arteries, began to hamper the city further development. The situation became so unbearable that in 1928 public bus transport was introduced, and in the same year the construction of new tram routes began and continued until 1938, when the tram network obtained its final shape. The completion of the tram network accelerated and enabled the birth of the so-called big Ljubljana. The city began to spread along its main arterial roads, where tram routes were also built, thus changing in shape from a monocentric into a radial, star- like form that remains characteristic for the city even today.

In 1948, Ljubljana already had 120,947 inhabitants and that is why, in 1951 and in 1956 trolleybus and also bus traffic were introduced under the influence of motoring. In 1958, tram service was eliminated for good. After 1963, the role of buses increased steadily, and by 1971, they had entirely replaced trolleybuses as well.

After 1960, motorization and use of passenger cars began to rise in Ljubljana as well. Motor traffic in the city had been steadily growing until 1979 and, after a five-year's period of stagnation that followed, it is today once again on the increase. Such a development has caused a conflict between the passenger cars and the existing structure of built-up areas. In terms of urban planning, the center of Ljubljana was not designed for the use of cars as a means of mass transportation. Such a development influenced the transformation of the urban environment. Streets were widened and traffic space needs were growing bigger and bigger. In the beginning of the sixties, underpasses began to be built under the railway lines. The first intersections were widened and the first four-lane road was built. In the seventies and eighties, construction and reconstruction of roads continued (Guzelj, 1991). A bypass highway around Ljubljana is just being completed.

3.3. Legal Regulation and Traffic Regulation Policy in the City

In Ljubljana, in the field of traffic regulation, both laws adopted at the state level and regulations passed at the city level are in force. The most important of these are presented in detail below.

Regulation on the Road Traffic System from 1992 specifies special traffic surfaces intended for pedestrians and special traffic surfaces intended for pedestrians and cyclists, where motor traffic is allowed only to residents and those with parking places in the area, and for delivery. In the narrow city center it is prohibited to learn to drive a motor vehicle. Parking and stopping is permitted on specially designated parking areas. Bus stops must be situated outside driving surfaces unless the competent agency stipulates otherwise. Bicycles and mopeds may be parked only at places equipped with bicycle racks not to obstruct the traffic. Towing away of illegally parked vehicles is carried out by an authorized company. In the Official Gazette 8/1992 the Ordinance on the Traffic System is presented, which stipulates in detail the purpose of particular traffic surfaces in the city. The ordinance was amended in 1993 and in 1994.

The Regulation on Public Transport within the area of the Ljubljana communes, published in the Official Gazette 18/1983, regulates passenger bus services on bus routes in the city of Ljubljana and in nearby urban and suburban settlements.

The Regulation on the Organization of Taxi Transport from 1989 stipulates the non-stop and spatially unlimited coverage of car taxi ranks and related activities.

The Regulation on the Disposal of Deserted Vehicles is presented in the Official Gazette 65/1994 and regulates the procedures and conditions for and the manner of removing deserted vehicles from public traffic surfaces.

Although the regulations issued by the Assembly of the City of Ljubljana were passed, and later on amended several times, their implementation is often deficient due to inadequate provisions for their implementation.

In recent times, politicians and city planners have been advocating an idea that cars should be banished from the city center. Some of them would like to prohibit all personal passenger traffic in the wider city center without first building an inner bypass road, while others envisage the prior construction of such a road. Their visions regarding the construction of parking garages, too, differ widely, as some would like to have them built altogether outside the center of Ljubljana.

Even more disparate are their ideas about public transport. Some advocate the modernization of city bus transport with no essential and expensive construction interventions, while certain planners of future development see the solution to the public transport problem only in the construction of an extremely expensive city railway network that would entail destruction of a huge number of buildings.

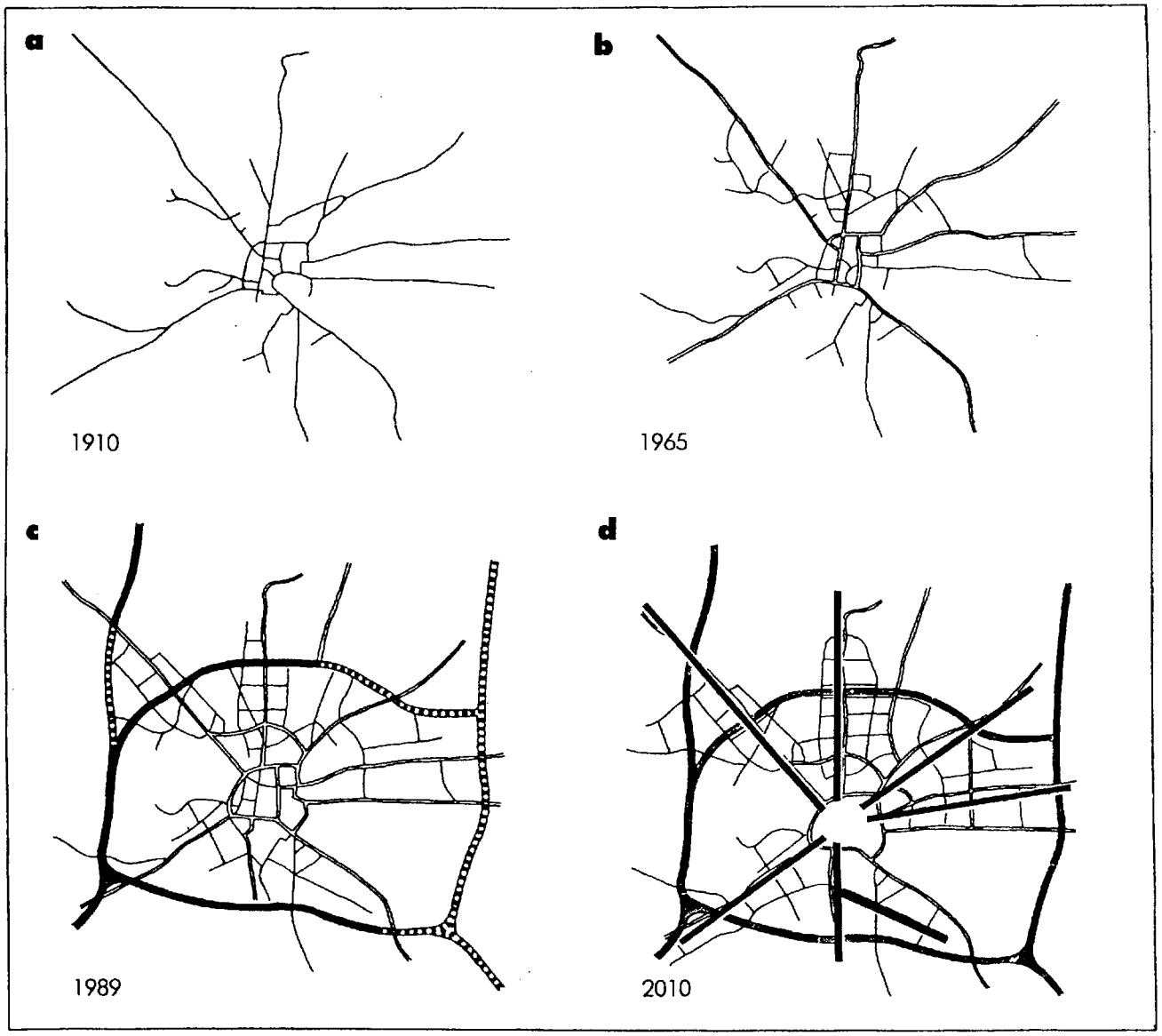


Fig. 3. The development of the city network (Guzelj 1991)

A very worrying sign is that none of those in authority at the city level are contemplating expansion of the bicycle paths network despite the fact that Ljubljana is highly suited to bicycle traffic. The settled part of the city is mostly located on Quaternary alluvia, and climatic conditions, too, enable cycling at least eight months of the year.

3.4. Planned Measures for Improving the Traffic Situation in Ljubljana

Although traffic in Ljubljana is extremely unregulated and in fact represents the most acute problem of the city, no plan has been adopted yet that would try to resolve this extremely urgent problem. A few studies have been made on the introduction of a city railway, expulsion of passenger cars as a form of commuter transport from the city center, and construction of underground and above-ground garages in the city center. Residents will begin to go to work in the city center by public transport only when appropriate positive and negative incentives are in place: "park and ride", subsidized public transport, high parking rates in the center of Ljubljana that would get lower towards the edge of the city, and similar. Once such changes were introduced, city life would become not only more friendly but also more healthy as this would essentially decrease noise and exhaust gas emission.

Public transport has to be modernized so that passengers will feel comfortable when using it, yet at the same time, buses have to be introduced which would not excessively pollute the environment. Parking must

also be regulated, so that the inhabitants of Ljubljana will use chiefly comfortable public transport. But, as it has already been mentioned, the fact that almost no one thinks about regulating bicycle traffic is very worrying.

The biggest problem preventing any rapid improvement of this chaotic situation is the lack of financial resources. Some people are already suggesting that funds earmarked for this purpose be secured from the state and municipal budgets, along with international credits.

4. Policy area II: Retail Location

4.1. Retail - General

Unlike traffic, retail is an activity which is more service-oriented and concentrated in specific areas with a clear affinity for the city center. In this way its relationship to the hierarchy of central places is also defined. Of all services trade is the most urban one, being at the same time also a very good indicator of the city development. Contrary to retail trade, wholesale trade is oriented mostly to the outskirts of the city. Major shopping centers, too, are moving away from the city center, alongside some more important arterial roads.

As to its function and size the urban agglomeration of Ljubljana cannot be compared to any other city in Slovenia. The scope and diversity of the structure of services has to be considered, therefore, not only in light of the needs of the city but also in light of its wider role. Similar to other European cities, Ljubljana has in the last few decades undergone numerous changes which pointed to the increasing gap between the growing size, diversity and quality of retail trade in the city center itself on the one hand, and the growing concentration of lower socioeconomic groups of inhabitants in this environment and related lower purchasing power on the other. These groups of inhabitants were satisfied with cheaper and inadequately equipped housing (e.g. shared sanitary facilities, no central heating, etc.). Only recently, with the renovation of flats in the old city core, has this locality become more attractive for higher socioeconomic groups, especially for those with higher education (with persons engaged in culture and art predominating, there are signs of the so-called academization of the city core, similarly as in some other West European cities). Along with this are increasing the requirements and purchasing power of local retail shop customers. Well supplied and, above all, specialized shops in the city center also meet the needs for consumer goods (clothing, shoes) of people from the city wider hinterland. This is indirectly augmenting the already high traffic pressure on the spatially limited urban space marked by a shortage of parking.

The accelerated process of suburbanization and the flight of higher socioeconomic groups of inhabitants to the city periphery in the past decades speeded up equalization of the quality of supply in these areas with that in the city, especially with respect to retail trade or goods for general consumption and daily needs. Reasons for this can also be found in the former administrative division of Ljubljana into five communes, when secondary supply centers were formed in each of them, so that centers were created which represented an intermediate stage in the supply hierarchy between the historical city core and peripheral centers.

In Slovenia there is on average one shop per every 167 inhabitants. This average is a little higher in Ljubljana (258 persons per one shop) because of the higher density of the urban population. Viewed from a wider perspective, trade in the Ljubljana region accounts for almost half of total Slovenian earnings from trade.

Some specialized shops in the city center (shops with specific Slovenian products or designer products, souvenirs, antiques, etc.) are, due to the quality of products and especially their prices, also attractive for tourists in transit, who are by far most numerous in Ljubljana. Highly attractive for both locals and foreign guests is also the Ljubljana marketplace, which is situated in the very heart of the old city core, along the river. The part of it which was designed by Slovenian architect Ple~nik represents a real curiosity and is protected as a monument. The marketplace is attractive because of its selection of produce, primarily of fruit and vegetables, as well as of products of traditional Slovenian crafts, prices of which are generally lower here than in shops.

4.2. Development of Retail in Ljubljana

Its favourable location permitted Ljubljana to establish itself very early as an important commercial center. The oldest, medieval part of Ljubljana began to perform commercial functions as early as in 1200, trade being in fact its basic urban function at the time of its creation. Although its role and especially its size and quality oscillated somehow in the past, trade had an important impact on the shaping of the city appearance in all historical periods.

After the Second World War, the size and quality of retail trade were increasing in parallel with the rapid growth of urban population. It is in the last period, however, that the number of shops rose by one-quarter (24.1 %). This can mainly be ascribed to private, often family businesses where, if necessary, all members of the family offer their assistance. Indirectly, this is also evident from the fact that in spite of the increased number of shops in the last decade, the number of persons employed in shops grew by only slightly more than one percent (1.5 %).

It is characteristic that most private shops were opened in the last five years, notably after the entry into force of the old Yugoslav Company Law, according to which a very small amount of founding capital was

required for the establishment of a company. But as early as in 1993, the growth of private companies began to gradually slow down. This is due, to the adoption of the new Law on Commercial Companies (July 1993) requiring higher founding capital and providing for substantially stricter control, on the one hand, and to increased competition and decreased purchasing power of the inhabitants on the other (as a result of social and economic transformation the share of unemployed persons rose to 13 %), which has already forced some retail shops to close down. Planners of development in Ljubljana and economists forec ast that such a relatively unbalanced development of retail trade will continue in Ljubljana for the next five years. During this time, laws of market economy will contribute to a more balanced relation between supply and demand, there will be a greater correlation between the quality and price of supply and the structure of buyers, and inappropriate shops will move out from the center of the city to its periphery. Shops with durable goods requiring road accessibility, in particular, will have to move away from the city, unless they switch over to catalogue or sample sales. The same holds true for shops whose income will not be sufficient to cover increasingly high rents in the most frequented locations.

Table 4. Retail in Ljubljana

year	no of shops	no. of employ.	turnover in shop	
			%food	%non-food
1975	907	7821	22.7	77.3
1983	831	6827	21.1	78.9
1993	1031	6930	19.5	79.5

Spatial distribution of particular types of shops in the city should be, according to law, regulated by area management plans. These plans are fairly detailed yet in many respects no longer suit rapid development of Ljubljana's after 1991 and, above all, are not sufficiently binding. Liberalization of social and economic relations such as it is advocated by present authorities has altogether relaxed legal restrictions. But above all, certain individuals knew very well how to take advantage of the situation when the new state had not yet passed all its laws and the old Yugoslav laws which were then still in force had been adopted in a different social order (self-managing socialism). And so the designated use of particular streets and city buildings or even commercial buildings as defined in the area management plans was changed rather easily, most often into more profitable cafes and restaurants. Nor are the basic spatial requirements of particular types of shops taken into account: connection of their activities with traffic accessibility, utilization of parking facilities, basic function of the city quarter in question and its suitability for particular types of retail shops, etc.

An important regulator of spatial distribution of shops with respect to their type and quality should also be shop rents. In Ljubljana the latter began to be formed according to market principles only three years ago. Huge differences have appeared in the level of shop rents with respect to attractiveness of particular parts of the city. This has a direct influence on the fact that in the city core itself and in the most frequented pedestrian precincts there are more and more shops owned by foreign companies (Benetton, Bata, Palmers, etc.) which can pay high rents.

Ljubljana retail trade is complemented by big supermarkets erected on the city periphery, also with the help of foreign investment. On the eastern periphery, in buildings that once served as public warehouses for storing goods from former Yugoslav republics that were intended for further distribution, a huge shopping center has been built with more than 300 shops which trade mainly in textile, food and technical products. The attractiveness of this and similar centers and discount shops in the city periphery is further augmented by large functional surfaces and parking lots and, for some groups of buyers, also by attractive prices of products which are not always of good quality. In turn, shopkeepers are attracted by lower shop rents.

4.3. Legal Regulation in the Field of Retail

In April 1993, the Parliament adopted a general law on trade which determines the basic orientation of this activity in Slovenia. Retail sale is defined as the sale of goods for personal consumption and household needs. In order to carry out trade activities minimum technical requirements must be met, as well as minimum hygienic and health requirements relating to both business premises and employees, and minimum education requirements depending on the level of skills needed in particular types of shops. An important aspect of this law is that among technical requirements, conditions are also specified relating to exterior and functional surfaces needed by particular types of shops. Their working hours, however, are coord inated at the local-community level. In practice, legal regulations usually take their full effect only when appropriate measures for inspection and supervision are defined. This law gives great powers to the market inspection agency, but even greater legal order in the field of retail trade may be expected from rather harsh penalty provisions that will apply when basic requirements are not fulfilled. In the set of laws regulating sales is also the Law on the Protection of Competition, which tries to protect buyers from unfair competition by requiring well-marked information about the goods offered. The Professional Association of Traders at the Chamber of Economy of Slovenia has prepared, on the basis of the Law on Environmental Protection, regulations on returning and disposal of packaging, either returnable or harmful to the environment.

A number of specific rules concerning the operation of retail shops are regulated at the municipal or local level. In view of the fact that Slovenia carried out the reform of local self-government only at the end of the last year, the municipal statute, passed by the city of Ljubljana in June this year, is still very vague, lacking execution provisions also from the field of retail trade. More detailed spatial and organizational aspects of this activity are to be regulated in the future by a non-professional committee for trade, catering and small industry. Its administrative, i.e. professional, function in regulating the operation of retail trade is in the hands of the Department for Economic Activity and Tourism. The latter should, among other things, monitor and analyze current trends at the municipal level and provide specialist assistance in the field of trade.

4.4. Public Opinion on the State and Development of Retail

Changing relations between the public and the private that characterize the market economy pose numerous questions to planners: what to plan, what to leave to individual interests, in which cases to interfere with private ownership in the name of social responsibility, how to develop the area planning system so that it will be able to adapt to new circumstances when ownership is changed, etc. All these dilemmas a country in transition is faced with are also strongly reflected in the planning of the future development of trade as one of the basic functions of a city.

Experience of the past five years has shown that the totally liberal attitude towards the development of trade in Ljubljana has caused a considerable functional and visual "pollution" in the city, and especially in its old core. There are too many shops which simply do not belong in certain parts of the city. The public, both professional and lay, is dissatisfied with this situation. They believe the city authorities should intervene in this activity, and not leave everything to the operation of the market with the excuse that unsuccessful and inappropriate shops will go out of business. Instead of existing kiosks and other improvisations, the city should offer to interested parties shops and other premisses or office facilities along the busiest streets and roads. In such a way the latter would obtain their street function, with public activities on the ground floor, and residential functions assumed by higher floors.

There are increasing demands that the activities in the city core should be directed so that the latter would become an attractive shopping and service center with quality, although more expensive, goods. The expansion of trade stalls, which offer just about everything except specific and culturally or touristically interesting articles, should be prevented. Although Ljubljana seems a relatively attractive town to foreigners, the local population looks forward to more specialized shops with a clear and aesthetic visual image. This does not nec essarily imply ultramodern design but rather a replica o old traditional shops.

There is a pronounced need for a new town plannin program with a clearly defined purpose for and priorit of particular parts of the city (provided also by the ne city statute). Along with this a variety of both negativ and positive tools for its implementation should be de veloped.

In general, there is a widespread opinion in the ci that in developing the city and its activities quality shoul be given priority over quantity. All activities that ar powerful generators of traffic but not in interaction wit local residents have to move out from the city core.

People expect the city authorities to carefully monito the impact of privatization of trade and services, sinc privatization is introducing new elements in the spati structure of the city central area, and notably in those o its edges and areas situated along main entry road With respect to areas outside the strict city cente experts call for evaluation of locations that are access ble from the highway system and other city arteries ar optimal for the development of large-scale shoppin and service activities. According to the development o the concept of shopping center, such activities must b integrated into the city and c onnected with it by efficie public transport (so that they are no longer isolated the periphery and oriented solely to passenger car use

5. Policy Area III: Green Spaces

5.1. Green Areas in Ljubljana

Green areas in cities are one of those public good whose importance is appreciated only after they n longer exist. While they are still there we very often d not even perceive them.

Ljubljana is a relatively green city in comparison wit other cities in this part of Europe. The quantity of greer ery has never been pointed out as a problem in this cit neither its specific quality. Yet, vast green areas Ljubljana have not been created on the basis of som comprehensively elaborated plans. Above all, they ar a consequence of natural conditions and efforts of ce tain individuals. The entire city is surrounded by a gree belt, which at some points projects into the very ci center itself. To the South, Ljubljana is bounded b Ljubljansko Barje, to the South-East it is penetrated b the green wedge of Golovec and the Ljubljana cast hill, while from the West Tivoli with its hinterland int grates into the city core. The city's urban spread toward the North was confined by agricultural land, which ha been preserved here primarily because of water supp in Ljubljana.

Such an "unprofessional" and at times even discrim natory attitude towards green areas persists even t

day. Within the framework of the city, the green areas can in no way begin to live equally and independently, as its component part. On the basis of this finding and the fact that in Ljubljana the structure of greenery is more problematic than its quantity, a so-called green system was conceived under the expert guidance of landscape architects, which represents preparations for a complex and systematic treatment of green areas. This is a proposal for the comprehensive resolution of the problems of public green areas in Ljubljana (the world "public" refers here to the mode of use and accessibility, and not to ownership). The green system should function as a mechanism for coordination and operation. A part of it is also the concept of public green spaces as a planning category, ensuring coordinated development of urban structures and public green areas within them (Simoneti M., 1992).

As it can be seen from a chronological review, the green areas in Ljubljana have always been present in the planning itself, yet very few studies were made that would have expertly dealt with this urban element (the only exception is the study Green System). Even the Municipal Geodetic Administration which is required by law to produce maps with the dimensions of all green spaces in Ljubljana, did not fulfill its task (other elements had priority). An additional problem is the fact that no classification of existing green spaces has been made. Most data on the city green spaces are therefore available in the Ljubljana Municipal Company (unit Rast), which operates and maintains public green areas.

Table 5. In 1988 the green areas in Ljubljana encompassed

parks	47.6 ha
green plots in residential areas	139.9 ha
green plots along roads and water courses	61.9 ha
the Path	43.1 ha (length 35 km)
forest parks	229.6 ha
green spaces managed by schools, nursery schools, sports associations, factories, etc.	196.0 ha
total	718.1 ha

Although a little bit out of date, these data clearly indicate that the quantity of green areas in the city is not critical, as there are over 25 m^2 of green area per inhabitant. However, these data serve merely for orientation because they include only the areas managed by the Ljubljana Municipal Company (private gardens, for instance, are excluded) and not total green areas (an error of 10 % should therefore be taken into account). In addition, they also include the green areas outside the city area that are managed by the Ljubljana Municipal Company, but their share is minimal.

Apart from the above mentioned surfaces, the city has tree-lined avenues in a total length of 98.7 km (a total of 19,000 trees). According to the data from 1994 there is a total of 67,400 trees planted in the city. In the last 25 years, the biggest increase was in the share of green plots and trees in residential quarters as this was a period of rapid growth of new city parts. This growth which was most intensive in the years between 1970 and 1990, slowed down in the last five years. It should be emphasized, however, that great disparities existed in the past in the management of green spaces in the city. Ljubljana and its hinterland were divided into five communes each of them pursuing its own rather arbitrary policy also with respect to green areas. This is also reflected in today's appearance of the city: some areas and new residential quarters are fairly green (Bežigrad, Šiška) while elsewhere the greenery is very scarce (Vič).

5.2. Chronological Review of the Development of Green Areas

The first public green areas, a public park and an avenue in Ljubljana were designed and given to the public for its use by the enlightened citizen, Mr. Zois. The complex of Zios's gardens (the area between the present-day Prešernova and Rimska streets) was also a status symbol of the city. In that period, the municipal commune had already been planted with trees as well as the principal traffic roads. Other green spaces consisted of numerous gardens belonging to wealthy citizens and monasteries (usually secluded), vegetable gardens in the city periphery, and the natural hinterlands of Rožnik, Šiška hill, Barje, the Sava plain and Golovec.

For the city and its morphological development the construction of the southern railway in the mid -19th century represented primarily a town planning problem (it cut off the promenade, Latterman avenue and Tivoli).

The first regulations affecting the planned development of public green areas in Ljubljana date back to 1875, when the Construction Order for Carniola required the municipal commune to plant, with municipal funds, trees in all streets where conditions permitted.

When in the second half of the 19th century the city started to expand beyond its medieval core, the development of the modern city began. Besides the secluded gardens, avenues with trees and planned connections with the city edge were the predominant form of green areas.

The 1895 earthquake represents a turning point in the city development. In 1896, the so-called Construction Order for Ljubljana was prepared, which envisaged a new plan for the city. Fabiani's proposal was chosen,

in which he advocated an idea that the issue of green areas should be treated in a complex way, also at the expense of private ownership. But most of his ideas, although good, were never realized.

After the First World War, town planning was continued by Plečnik. Yet his plans, like Fabiani's, were in most cases not realized. Only later, in the 1930s, the Tivoli promenade and Trnovo street on the banks of Ljubljanica were designed according to Plečnik's plans.

The Yugoslav construction law from 1931 was very advanced. It introduced protected green belts around cities that were set aside for forests, green plots, gardens and agricultural land. Construction was prohibited on these areas and along water courses . This law strongly emphasized the importance of the natural and cultural heritage.

After the Second World War, a draft of the town planning program for Ljubljana was prepared, which involved bold plans for the arrangement of green spaces in the city center. It proposed linking of both green wedges, Tivoli and Golovec, as well as an entire system of parks and greening of squares and streets. But once again the plans remained on paper, while Ljubljana was losing more and more of its green park areas.

In this period, the city was rapidly expanding but due to its huge needs the priority task of the municipal authorities was to build, provide traffic infrastructure, etc. Entire development of the city was based on half-measures until 1966, when the General Plan of Ljubljana was made, supplemented by regulation plans of individual communes. Unfortunately, the idea of a coordinated development strategy for the city regardless of the communes was never realized. With respect to green spaces this plan was quite advanced, pointing them out as an endangered element in the city structure. According to estimates of the time the share of green spaces in the city itself amounted to only 4.6 m^2 per inhabitant (standard: 25-45 m^2). The plan stressed the importance of the structure of green areas (not only of their quantity), the distribution of vegetation masses, and accessibility to green surfaces. Simultaneously, it advocated for further greening of Ljubljana's streets, for at that time, the total length of avenues planted with trees was only 36 km (according to data from 1983 the total length of avenues lined with tress in Ljubljana was 99 km or approxima tely 19,000 trees).

5.3. Planning of Green Spaces

It is evident that in this plan the public green spaces were professionally evaluated (sports and recreation were treated separately). Yet once again, this plan did not become the guideline for directing the city appearance and growth. Like most older plans and eventually also the latest plan of 1986 (Ljubljana 2000 or Long-term Plan of the Communes and the City of Ljubljana for the Period 1986-2000), it remained unrealized.

The plan for Ljubljana of 2000 represents the city's general - and at this moment still valid - plan that should correct the mistakes of the previous one (which was very good in its concept). Within the framework of public green spaces it deals with park areas, more important green plots, sports and recreation areas, graveyards and larger recreation spaces (botanical garden, zoo, horticultural plantations, etc.).

Table 6. In determining the dimensions of public green spaces it strictly stuck to the standards, which envisage

	m^2/inh.
public parks	5
greenery around houses	10
sports and recreation spaces	13
narrow recreation areas	17
total	45

On the basis of findings established from a chronological review and the present-day condition of green spaces in Ljubljana, a concept was made for the so-called green system, which is intended to be a global scheme for managing the city green areas. The leading role in this study was assumed by landscape architects of the Ljubljana Town Planning Institute, Institute for Area Management, and Institute for Landscape Architecture.

Natural conditions represent following main advantages in the organization of the green system:

- large forest areas on the city edges partly projecting into the city core itself
- numerous water courses (Sava, Ljubljanica, and numerous creeks)
- great ecological variety
- great landscape variety
- high share of grassland in agricultural land (which partially enables recreation)
- relatively small share of devalued land (waste disposal sites, etc.)
- good traffic accessibility to areas covered by the future green system

The present situation also has some deficiencies to which the concept of the green system should pay additional attention:

- insufficient number of system connections (such as the Path) between individual openland units
- insufficient number of parks
- marked lack of bicycle paths, and in some areas also of pedestrian paths and sports facilities
- despite good natural possibilities there are not enough wildlife refuge areas (along water courses, for instance)
- lack of improved sites suitable for excursions, picnics, etc.

- an additional problem is the existent and planned highway network which will cut the wider natural hinterland from the city.

The planned future conception of green areas is multidimensional. Public green areas have the function of specific use, they visually enrich appearance of the city and, last but not least, they have a specific ecological function. On the top of this, the green system has a significant role in forming the city morphology. Here are, apart from its "spine" which runs in the direction Golovec - Rožnik, also the city entry arteries lined by trees, and the Path, which functions as a recreational connecting ring. Ljubljana's identity as a city on rivers should also be pointed out. Water courses should be covered by integrated management plans so that they would acquire a new functional content.

5.4. The Attitude of the City towards Green Spaces

The attitude of the city and its dwellers towards greenery has gone through numerous phases. There were periods when they wanted to banish it from the city as an alien, a non-urban element, and periods when its importance was overemphasized.

Today, the green areas in Ljubljana are regulated by the Ordinance on Green Spaces in Settlements within the Area of the Ljubljana Communes, mostly insignificant amendments passed in the following years. It mainly relates only to maintenance, protection, and administration of green areas. As a result of changes that took place in Slovenia in the last few years, implementation of this ordinance is practically no longer possible. On the other hand, there is still no new "legal mechanism" that would comprehensively regulate the issue of green spaces. Consequences of this legal disorder are most strongly felt when it comes to the question of financing management of the green areas.

It has already become clear that this plan will never see its realization. While new ideas and approaches are already in preparation, no one no longer pays attention to those that are currently still in force.

Although it cannot be said that in the past decades green spaces were neglected as a planning category, they definitely were pushed aside in the implementation stage. While in the city center they were even getting in its way, slightly more attention was paid to them in some new residential areas (depending on individual initiative). In the post-war period there were practically no planned treatments, the only exception being the Path of Remembrance and Comradeship (today called simply the Path) . This green pedestrian path encircling the entire city in a total length of 35 km (29 km outside roads) shows signs of some programmed planning.

Today, the city is nevertheless green, although there is a strongly felt lack of a planned approach to town planning. Unfortunately, we were, and still are, not able to implement good plans by simultaneously taking into account excellent natural assets of Ljubljana.

However, the condition of green areas has, in the opinion of the majority of their managers, greatly deteriorated in the last five years. Until 1990, their management and maintenance was financed by commune municipal boards, later on by the city municipal board. Since 1990, when the commune municipal boards were abolished, the management of public green areas has been financed from the city budget. Up to 1990 they had had at their disposal DEM 1.2 for each square meter of green spaces (in Germany DEM 3). In 1994, this figure dropped to not more than DEM 0.5. Such a cut in funds is already reflected in the city visual appearance as well as in the growing number of complaints. In 1994, there was approximately a 30% reduction in the surface of parks and green plots managed by the city (Ljubljana Municipal Company). Of the previous almost 300 ha of green areas 100 ha have been transferred to the ownership of residents' councils. These surfaces are now tended by residents themselves or by smaller companies which, however, are not qualified for this type of work.

All in all, the inhabitants of Ljubljana are aware of the importance of greenery in urban settlements. Their opinion about the state of Ljubljana's public green spaces is pretty critical but supported with arguments. There are very few who claim that there is not enough greenery in Ljubljana. The majority is of the opinion that Ljubljana has enough greenery but lacks typically urban green features (avenues, parks, arranged footpaths), that its spatial distribution is inadequate, and that it should be improved in quality and not increased in quantity. They also point out inadequate management, as well as a lack of sanctions for inadequate treatment and management of both public and private green areas. There are very few who believe that the issue of greenery in Ljubljana is unimportant.

It can be concluded that the majority of problems relating to the issue of green areas stem from the fact that we have no law or regulation on green spaces that could be effectively applied in practice, at the present moment. Hence, we still have unregulated financing of the management of green areas and no apparatus that could sanction negative interventions in green areas of the city. As a result of such neglect, the fate of green areas is not determined by experts, planners, landscape architects or environmentalists, but left to individual initiatives and depending on current development trends.

6. Conclusions

The study on the operation of three important users of urban space, who also significantly contribute to appearance of the city, and the assessment of their

organization, legal regulation, and the levels at which decisions are made on the scope and quality of their functioning, have shown a number of common traits. It is characteristic that these municipal service activities, too, are strongly influenced by wider social changes that have been taking place in this country in transition in the last five years. On the one hand, the process of privatization and denationalization of municipal buildings and activities should be emphasized as well as the completely liberal abandonment of particular activities to the operation of market economy, which is partly also due to the lack of new legislation and the inadequacy of the old. On the other hand, it should be stressed that great changes in the functioning of the city have been introduced by the new system of local self- government, which was adopted only at the end of the last year and therefore still lacks a clearly defined distribution of responsibilities between the state and the new communes, especially larger municipal ones.

Ljubljana is now one municipal commune (previously, the city was divided into five communes). According to its inhabitants and experts this is a much better solution since it will permit the city to develop in the future as a unified urban organism internally divided into functional and physiognomical urban neighborhoods. In this way, conditions have been eliminated for competition between individual communes, as well as for irrational use of the urban environment, which in the past often led to excessive exploitation of natural resources.

Having become the capital of a new European state, Ljubljana has slowly begun to adapt to this new function as well. Experts agree that, from a broader point of view, Ljubljana satisfactorily meets requirements for the development of European cities in the next millennium. In this respect, following features have to be stressed: its wider traffic position, attractive environment (proximity of the Alps, karst, sea, green areas in the city and its periphery, cultural, historical and architectural monuments), the existing economic basis and concentration of various activities. Within the framework of the latter, it is worth mentioning high quality level of service activities, the university, research institutes and cultural institutions. All these have managed to shape their own identity, which assures them their special place within the Europe of regions.

The traffic network, important for both urban and transit traffic, remains one of the biggest problems of Ljubljana. Today, Ljubljana is paying the price for the inability of its town planning to keep up with the needs of the lightning-quick development of traffic technology, and especially of the growth of passenger car use. When speaking of ecological town-planning policies and sustainable urban development, the OECD recommendations point out that the planning of traffic infrastructure must be linked with the planning of land use. On the basis of these recommendations experts warn that the city will soon have to find more long-term solutions. But due to its central and markedly transit role, the city is also faced with demands for wider, national and international, traffic connections. Therefore, decisions on optimum traffic solutions are not formulated and taken only at the local municipal level.

In the last five years, retail trade has experienced growth in quality and, above all, in quantity, so that now it already exceeds demands of local inhabitants. The development of the activity was mainly left to private initiative and was not restricted by the city, either in terms of content or space and even less in terms of quality (visual image, quality of products on sale). More order has gradually been introduced into this activity by the not yet two-years old law and especially by laws of the market, competition, etc. However, the same still cannot be claimed of spatial distribution of shops (with respect to their quality, required traffic accessibility, type of products on sale, etc.) into particular city quarters. Spatial distribution of retail trade in Ljubljana is still relatively anarchic, although the opinions and initiatives of the expert and lay public are more frequent and decisive than in the past.

The city has preserved relatively many green areas. In addition, it is only a short-distance walk or ride to attractive landscapes in the immediate hinterland. But experts call attention to the importance of linking green areas with the living environment, the residential areas which lie in the immediate proximity of the city and are accessible to all groups of inhabitants. The green areas are at the same time the good to which the city inhabitants have, as a rule, a positive attitude and they quickly react to every change. In some residential areas it is quite common that the inhabitants themselves, upon the initiative of a group of environmentally-aware individuals, tend green spaces or even improve them. The city is technically in charge of the rational arrangement of green spaces so as to meet aesthetic and recreational demands of the inhabitants, but in many places the inhabitants themselves contribute to their improvement.

All in all, the study is an interesting contribution to the understanding of functioning of the city and its act ivities, and should be repeated in a few years. The topical and comprehensive social changes which the new state, and with it also Ljubljana has been undergoing contribute to the fact that the urban users treated in this study are developing very quickly but also in a highly disordered way. Only when ownership transformation is over, when the municipal powers are clearly defined, and when the development plans of the city are clear, also as of the capital of the new state, the role and significance of these municipal service activities and the levels at which the decisions about their functioning are taken will be defined.

References

ČARGO, E. et al. (1994): Primerjalnaštudija izbranih lokacij za izgradnjo parkirnih hiš ob ljubljanskem notranjem cestnem obroču in znotraj njega, Zavod za prostorsko in urbanistično načrtovanje, Ljubljana.

Dolgoročni plan občin in mesta Ljubljana, 1986-2000: Uradni list SRS 11/86, Ljubljana.

GUZELJ, T. (1991): Mestna železnica v Ljubljani, SCT Tozd Projekt, Ljubljana.

Guzelj, T. (1994): Strategija razvoja vseh vrst prometa v Ljubljani, SCT- Projekt nizke zgradbe, Ljubljana.

GUZELJ, T. (1992): Ureditev mirujočega prometa, SCT- Projekt nizke zgradbe, Ljubljana.

MIHELIČ, B. (1983): Urbanistični razvoj Ljubljane, Partizanska knjiga, znanstveni tisk.

RAVBAR, M. (1992): Current proplems of Regional Development of Slovenia, Development Strategies in the Alpine Adriatic Region, A ragyar Akademic Dumatuli Tudomanyos Interete, Pecs.

RAVBAR, M. (1992): Umriss der Suburbanisierung in Slowenien, Arbeitsmaterialen zur Raumordnung und Raumplanung, Slowenien auf dem Weg in die Marktwitschaft, Bayreuth, Universitet Bayreuth.

Mesto Ljubljana, 1991: Razmišljanja o Ljubljani, Anketa o razvoju Ljubljane, Strokovna gradiva mestnega sekretariata za urbanizem, Ljubljana.

Odlok o javnem mestnem prometu na območju ljubljanskih občin, 1983: Uradni list SRS 18/83, Ljubljana.

Odlok o prometni ureditvi, 1992: Uradni list RS 8/92, Ljubljana.

Odlok o ravnanju z opuščenimi vozili, 1994: Uradni list RS 65/94, Ljubljana.

Odlok o ureditvi avto-taxi prevoza, 1989: Uradni list SRS 11/89, Ljubljana.

Odlok o ureditvi cestnega prometa, 1992: Uradni list RS 2/92, Ljubljana.

Odlok o zelenih površinah na območju ljubljanskih občin, 1983: Uradni list SRS 6/83, Ljubljana.

OGRIN, D. et al. (1994): Zeleni sistem Ljubljane, zasnova, Biotehniška fakulteta - Inštitut za krajinsko arhitekturo, Ljubljana.

PARADIŽ, B. (1994): Postavitev enotnega informacijskega sistema za nadzor posameznih onesnaževalcev na področju mesta Ljubljana, Emisije prometa, osnutek poročila, Studio okolje d.o.o., Ljubljana.

SIMONETI, M. (1992): Javne zelene površine, Urbani izziv 21, 22, Urbanistični inštitut Republike Slovenije, Ljubljana.

SIMONETI, M. (1992): Urejanje mestnega prostora - Javne zelene površine, Ljubljanski urbanistični zavod, Ljubljana.

Statut mestne občine Ljubljana, 1995: Uradni list RS 32/95, Ljubljana.

ŠPES, M. (1994): Degradacija okolja kot dejavnik diferenciacije urbane pokrajine, doktorska disertacija, Oddelek za geografijo na FF, Ljubljana.

Zavod za izgradnjo Ljubljane, 1990: Prometna zasnova mestnega središča Ljubljana, Tozd Urbanizem LUZ, Ljubljana.

Zavod RS za statistiko, 1994: Statistični letopis 1994, Ljubljana.

Zavod RS za statistiko, 1994: Statistični podatki po občinah RS št. 7/1994, Ljubljana.

Zavod RS za statistiko, 1989: Statistični podatki po občinah SRS št.61989, Ljubljana.

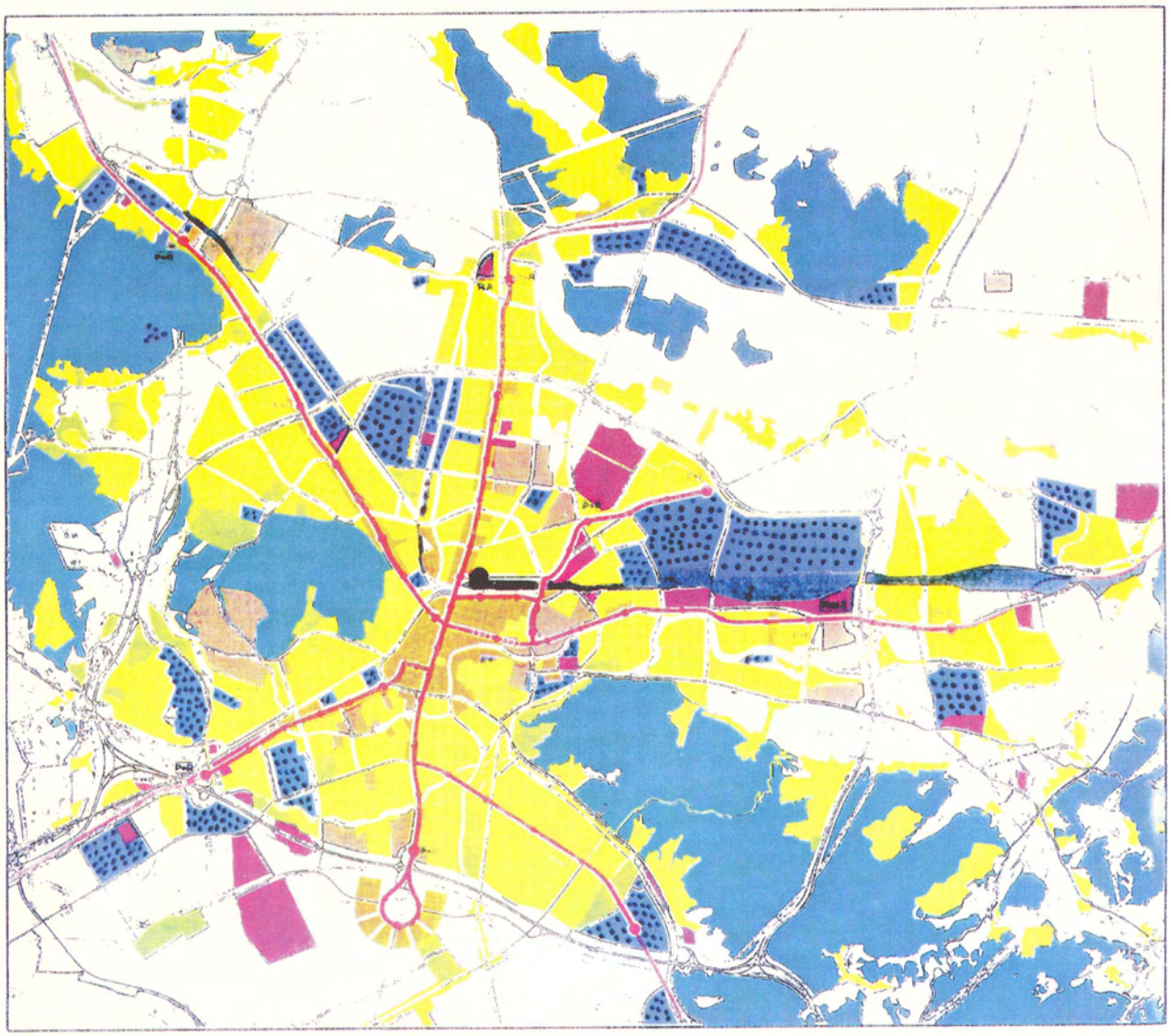
Author's addresses

Metka Špes, Barbara Lampič, Aleš Smrekar
Institute of Geography of the University of Ljubljana
Trg francoske revolucije 7, p.p. 466,
SLO - 61000 Ljubljana, SLOVENIA

Reviewer

Alois Matoušek

Land use and concepts for traffic solutions for Ljubljana (after Guzelj 1991)



central city activities

housing and related activities

production activities, warehouses and terminals

municipal service activities

education, institutes, health care

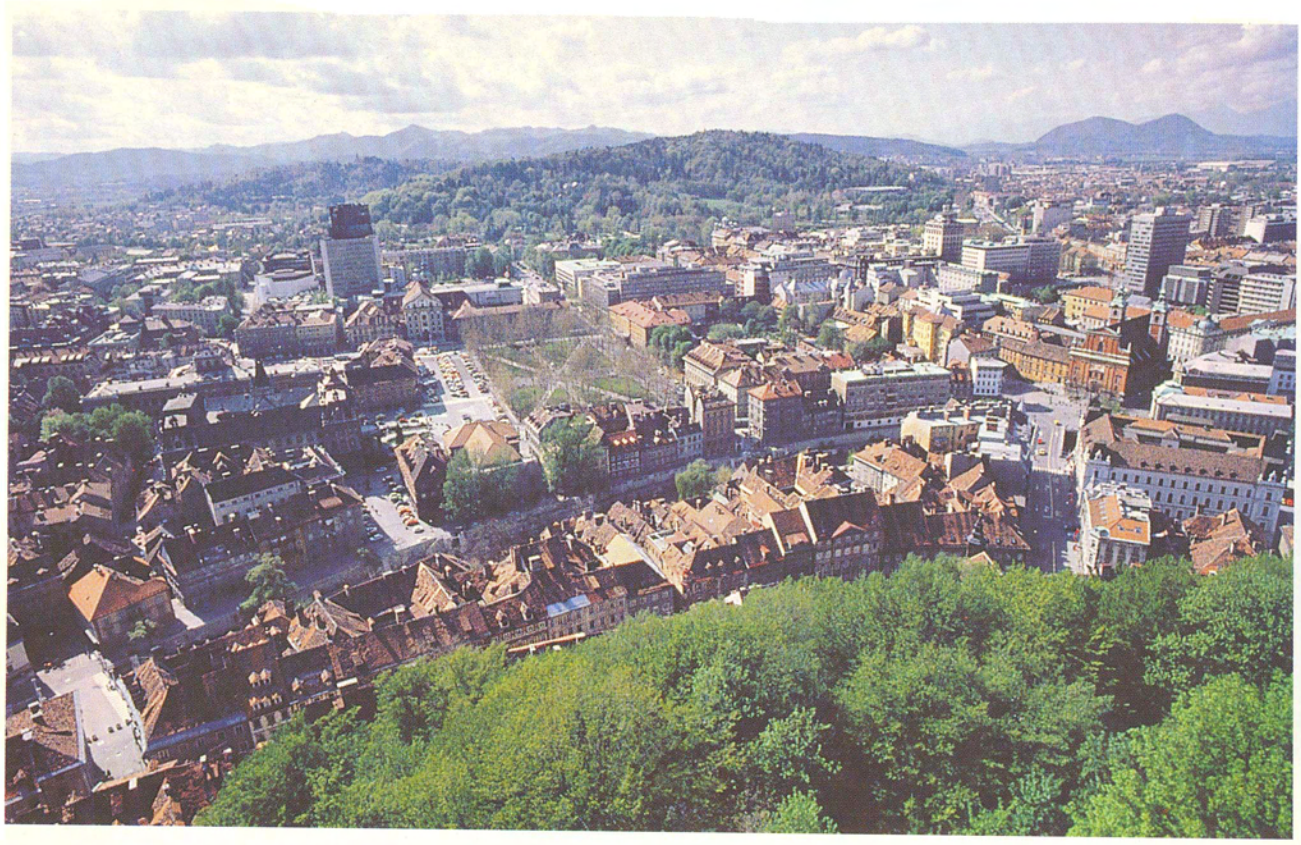
railway facilities

forest surfaces

park, sports and recreation surfaces

city railway

local railway



Panorama of Ljubljana

Photo: B. Brecelj

The old center of Ljubljana

Photo: A. Smrekar

Reports

To research of pseudokarst

(5th Pseudokarst Symposium with International Participation)

Karel KIRCHNER

Pseudokarst symposia have been regularly held since 1982. They summarize on international level new knowledge about research, documentation and protection of both surface and underground pseudokarst forms and processes, which condition their origin in non-karstic rocks. Information about the symposia held in the past years is available in K. KIRCHNER (1991), and J. KOPECKÝ (1994). Results of the pseudokarst research are directly related to geomorphology and physical geography. The issue of protection of psedokarst forms is considerably important also from the viewpoint of environment. The pseudokarst symposia are traditionally attended by experts from the Czech Academy of Sciences.

The 5th Pseudokarst Symposium with International Participation was held at Szczyrk (The Silesian Beskids Mts., Poland) in 22 - 25 September, 1994. It was organized by the Klub Taternictwa Jaskiniowego "Speleoklub" from Bialsko-Biala. With its topics the Symposium linked up with previous meetings and the programme included presentation of papers, field discussions as well as discussions over problems of research, record, documentation and protection of psedokarst landforms.

In contrast to preceding symposia the number of participants was lower this time - merely 25 specialists from Germany, Hungary, Czech Republic and Poland. Of the originally registered 16 papers only 13 were actually presented. The majority of contributions concerned mainly pseudokarst caves and processes which take part in their formation (9 papers). Other papers discussed distribution of both surface and underground pseudokarst micro- and mesoforms in various types of rocks.

Within the scope of the first thematic group G. KLASSEK (Poland) informed about morphogenetic types of caves in the Polish Flysch Carpathians characterizing their location and size. There are 318 caves surveyed in the Polish Flysch Carpathians, of which the longest one is the cave situated on the elevation point Trzy Kopcy - length of 848 m (The Silesian Beskids Mts.) and the deepest one Diabla Dziura at Bukowec - depth of -42.5 m (Roznowskie Plateau). J. KOPECKÝ (Czech Republic) presented a paper about speleological investigations and documentation of pseudokarst caves in the locality Ledové sluje, Podyjí National Park. There were 20 caves of various types registered there, the longest cave system being over 400 m long. Newly discovered caves (5 gulch caves) in the Vizovická vrchovina Highland were reported by J. WAGNER (Czech Republic). In his other paper the author discussed the issue of mapping pseudokarst caves of gulch and block types. Inventory of pseudokarst caves in Mesozoic sandstones and conglomerates of the Svatokřížské Mts. was discussed by J. URBAN (Poland) who mentioned the existence of 19 caves in this part of Central Poland. T. STRIEBEL (Germany) presented an extensive paper on the occurrence of pseudokarst caves in the vicinity of the town of Bayreuth in Bavaria. There are 70 caves recorded and documented in the Mesozoic sandstones. Very interesting were both papers by I. ESZTERHÁS from Hungary, which concerned pseudokarst caves in neovolcanic rocks and geyser domes. The author classified the caves in geyserits by their origin into syngenetic, hydrothermal and epigenetic. Attention of the participants was captured by V. STÁREK (Czech Republic) who in his paper compared the pseudokarst caves from the Kokořín region in Bohemia and Grottes de Cales in France. The caves originated in similar geological and

geomorphological conditions and have been used from the earliest times until today (dwelling, farming facilities, hiding places).

The second thematic group included the paper of K. KIRCHNER (Czech Republic), which was the first information about geomorphological survey into micro- and mesoforms existing in crystalline rocks of the Podyjí National Park. This was the first time that rock pits and lapies were documented on granites of the Dyje Massif in the eastern part of the Podyjí National Park. In his second contribution, the author presented a survey of underground and surface pseudokarst forms of the Vsetínské vrchy (Hills) in N. Moravia. There are 28 localities of pseudokarst forms registered in this area built of flysch rocks. Six of them can boast of gulch and fissure caves whose origin is connected with the processes of deep creep and rock sliding. B. WUTZIG (Germany) informed about occurrence and documentation of pseudokarst forms in granites of the Harz Mts. Until a short time ago, the area was a part of an inaccessible border zone between the former German Democratic Republic and Federal Republic of Germany. Numerous pseudokars t forms can be seen namely in the highest part of the mountains - in the area of Brocken (1142 m). The second paper of J. KOPECKÝ presented results achieved during the geomorphological research in Cretaceous sandstones of Polická vrchovina Highland in eastern Bohemia. Geomorphological mapping makes it possible to register the maximum of pseudokarst micro- and mesoforms. This area has been subjected to investigations concerning the dynamics of slope processes within the rock sandstone massifs (application of TM-71 meters, geodetic spatial network, hydromonitoring).

Friendly atmosphere of the Symposium and topics discussed in the papers opened a lively discussion which was supplemented with the presentation of slides from the pseudokarst of the Palatine Forest (E. KNUST, Germany) and with a video by I. ESZTERHÁS about the pseudokarst in Hungarian neovolcanites.

Workshop character of the Symposium was properly combined with a excursion whose route led through the vicinity of the venue - Szczyrk - and which documented the distribution of underground and surface pseudokarst forms typical of the flysch rocks of the Silesian Beskids. The participants to the excursion had a good opportunity to get acquainted not only with basic features of the top relief parts with a whole range of rock formations such as Malinowska skala 1152 m, Koscielec 1022 m, Skrzyczne 1257 m, but also to visit the cave of Malinowska as well as the largest cave in the Polish Flysch Carpathians at Trzy Kopcy (length 848 m).

Good organization largely contributed to general success of the Symposium which turned out to be the next step toward solution of the issue of research, record, documentation and protection of both surface and underground pseudokarst forms. The presented results confirmed a necessity of regular international meetings of experts. The next conference will be held in Hungary in 1996 with closer coordination of activities at further pseudokarst investigations having been agreed as follows: Poland, Slovakia, Czech Republic, Ukraine and Romania in flysch mountain ranges of Carpathians, Germany, Poland, Czech Republic in Cretaceous sandstones, Hungary, Slovakia or possibly also Romania and Ukraine in neovolcanites of the Inner Carpathians. Detailed conclusions from the Symposium are presented in J. KOPECKÝ (1995). Shortened papers as well as abstracts have already been published, the complete Proceedings of all papers are being prepared by organizers for edition in 1995.

References

KIRCHNER, K. (1991): O pseudokrasu (IV. sympozium o pseudokrasu s mezinárodní účastí). Zprávy Geografického ústavu ČSAV, Vol. 28, 1991, No. 1, GgÚ ČSAV, p. 87-89.

KOPECKÝ, J. (1994): Podíl ÚOK pro pseudokras, výchovu a základních organizací ČSS na realizaci pseudokrasových sympozií. Speleo 18, 1994, ČSS Prague, p. 43-44.

KOPECKÝ, J. (1995): 5. Mezinárodní sympozium o pseudokrasu. Speleo 19, 1995, ČSS Prague, p. 24-26.

The 5th Pseudokarst Symposium with International Participation. Proceedings, Szczyrk 1994. KTJ Speleoklub Bialsko-Biala, 42 pp.

INTERNATIONAL CONFERENCE "GEOGRAPHY OF TOWNS"

Pavel VICHEREK

An international scientific conference "Geography of towns" was held in Pilsen from 3 - 5 May, 1995, which was organized by the Department of Geography, Paedagogic Faculty, West Bohemian University Pilsen, on the occasion of the 700th anniversary of foundation of the town and 50th anniversary of its liberation. The greatest share at organizing the Conference falls to Jaroslav DOKOUPIL and Stanislav MIRVALD from the Department of Geography.

The Conference was attended by more than 20 experts from the Czech Republic, Slovakia, Poland and Germany, who presented the total number of 17 papers. In contrast to the original plan, the participants did not split into individual sections, which means that all participants could listen to all papers and discussion contributions. As indicated by the title of the Conference, the presented papers tackled a whole range of issues. The papers were dealing with theoretical problems of town geography on one hand, on the other hand some of them brought concrete examples of the development of urban residences.

After the opening paper in which P. JURCZEK from the University of Chemnitz-Zwickau discussed new forms of urban systems in the Federal Republic of Germany, A. SZEWCZUK from the University of Sczeczyn assessed structural changes made in Polish agglomerations over the six years of functional market economy, B. DZIEDZIUL from the same institution discussed Polish agglomerations as the most important elements of the railway network. Application of the theory of production and life cycle on an example of development of the town of Bayreuth was documented by J. MAIER from the University of Bayreuth. M. STETTBERGER from the same university then presented a joint work of the Department of Geography, West Bohemian University and the University of Bayreuth, which tackles the development and structure of small privatization in the Czech Republic with particular attention being paid to the terciary sector in the town of Pilsen. The first conference day ended with contributions by L. MIŠTERA who discussed agglomeration factors in the development of the town of Pilsen, especially from the viewpoint of theoretical interpretation of gravitational energy in the development of industry, and by A. VAISHAR from the Brno branch office of the Institute of Geonics, which tackled transformation of the society and its effects onto changes in area-functional structure of the towns.

The second day of the meeting was opened by a greeting address to conference participants of I. BIČÍK-delegate from the Czech Geographical Society, in which he advocated for more frequent contacts of geographers from workplaces both in the Czech Republic and in foreign countries, regarding highly significance of the Conference. The Conference itself was then started by presentation of P. KOREC from the Komenský University in Bratislava, who discussed issues of industry localization in Bratislava and the related spatial structure of the city. Then it was the contribution of R. PROKOP from the University of Ostrava, who tackled problems of the new town in conversion of the region, especially on the example of Havířov. The University of Prešov was represented by R. MATLOVIČ with the issue of an analysis into functional and spatial structure of the town, and B. NIŽŇANSKÝ who discussed about the problem of creating a mental map of Prešov. V. TOUŠEK from the Masaryk University in Brno devoted his paper to transformation of economy in towns from districts of Vsetín, Frýdek-Místek and Znojmo, M. BURSA from the University of J.E.Purkyně in Ústí nad Labem described changes of residential structure in the region of North Bohemia. Following contributions concerned mainly problems of utilization of the geographical knowledge by town authorities. V. ČECH tackled the issues of geaographical and demographical aspects of marketing, J. HOFMAN from the workplace of West Bohemian University in Cheb discussed communal

marketing in service to the town future, and J. JEŽEK from the same workplace dealt with possibilities of applying socio-economic geography for development of the town on the example of Carlsbad. The last contribution was presented by a collective of authors (J PECH, M. SEDLÁČEK, J. ŠACH, F. VÁVRA) who discussed the share of geographica factors in distribution of gamapathies in Pilsen.

The last day of the Conference was tuned to relaxation. An excursion was organized in the surrounding s of Pilsen, at which the Conference participants could get acquainted with problems concerning the project of a motorway bypass in the town of Pilsen, and visited Starý Plzenec, Sedlec and the hunting chateau Kozel.

It must be stated with regret that the Conference was not attended by all registered speakers and that it remained outside the centre of attention of Prague geographica institutions. The papers will be published in the Proceedings from the Conference, which is being prepared by the organizer - Department of Geography, West Bohemina Univer sity in Pilsen. The document should not be missed by the technical public since it wi certainly offer a whole range of inspirative issues which should still be tackled in the future

Chronicle

Professor Miroslav HAVRLANT (70)

Prof. RNDr Miroslav HAVRLANT, CSc
born 5 March, 1925 - Rychvald near Ostrava

Prof. M. HAVRLANT, the many years standing pedagogist at the Department of Social Geography and Regional Development, Faculty of Natural Sciences, University of Ostrava, celebrated his 70th life anniversary this Spring - full of energy and creative enthusiasm. Prof. HAVRLANT is a renowned personality not only for Moravian geography. His works are devoted also to biogeography, regional geography, environment, travelling and recreational activities with major attention being paid to the problems of Ostrava conurbation and its background with the pronounced anthropogenic relief. He played an important role at establishing the Brno branch office of the Institute of Geonics, Czech Academy of Sciences, Ostrava - ie. indirectly at publishing this periodical.

Professor Jaromír DEMEK (65)

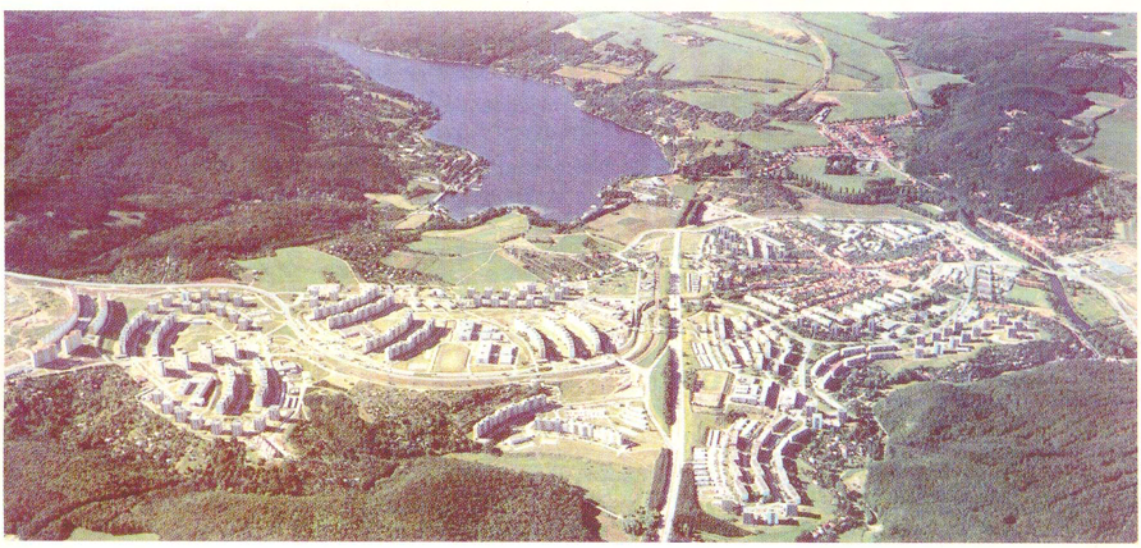
Prof. RNDr Jaromír DEMEK, DrSc
born 14 August, 1930 - Sokolnice near Brno

Prof. J. DEMEK, since 1987 the Head of the Department of Geography and Didactics of Geography at the Faculty of Natural Sciences, Palacký University in Olomouc, celebrated his 65th life anniversary in Mid-August 1995 with the feeling of full freshness and perseverant creative enthusiasm. The well-known physical geographer is engaged mainly in geomorphology, research of landscape and environment, theory of geography and regional geography. He has played an irreplaceable role in the development and profiling of Czech and Czechoslovak geography in more than the last thirty years, particularly so as a managing director of Geographical Institute, Czechoslovak Academy of Sciences, in 1963-1978.

We thank the both popular experts for their hitherto collaboration, wishing them good health, peaceful family life and enough creative energy for further success at their work.

Editorial Board

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 Svratka. 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)

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