

I. Introducing Ljubljana

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I.1. Position

Ljubljanska vrata are one of the most important European transport junctions. Here, in the extensive Ljubljana Basin, at the junction of the Alpine and Dinaric land, Ljubljana developed in the valley 1.5 km wide and between the western and eastern Alpine foothills about 400 m high. By the middle of the 20th century, development of Ljubljana was limited to the gravelly Ljubljansko polje, extending north of Ljubljanska vrata to the Sava River which was more suitable for construction; later, the construction intensified also in the humid Ljubljansko barje which was under a constant threat of floods.

Ljubljanska vrata are the junction of major European transport directions that connect Ljubljana and the entire Slovenia with large and economically important European regions which are significant for their economic, developmental, cultural, social and political diversity, and thus provide for their interconnection. Ljubljana is situated on the junction of two important European traffic corridors, the 5th and 10th transeuropean corridor. The 5th corridor, running in the direction Barcelona – Lyon – Venice – Ljubljana – Budapest – Lvov – Kiev, connects South Europe from the Pyrenees Peninsula to Ukraine and Russia in the east. The 10th corridor runs in the direction Salzburg – Jesenice – Ljubljana – Zagreb – Belgrade – Skopje – Athens, with a branch to Zidani most – Maribor – Graz – Vienna (Černe, 2002, 193). Thus, Ljubljana connects a significant part of Europe with the Balkans and the entire SE Europe, and further with Asia Minor and Middle East. With the construction of the Slovene motorway cross, transit road freight transport has significantly increased in the past years. Through Postojnska vrata, the fourth traffic branch connects the Europe through Ljubljana also with tourist regions on the eastern Adriatic coast, with Istria, Quarnero and Dalmatia, and the northernmost Mediterranean seaports Koper and Trieste. This extraordinary traffic and geographical position, as well as openness towards eastern European countries, favoured Ljubljana already before 1991, when it was just one of the republic centres, with numerous development advantages, and provided for a intensive economic connection with those countries.

Ljubljana has the central geographical position in Slovenia and is the centre of the transport, economic and population cross with an extremely wide gravitation area which includes in certain segments almost the entire state territory. This is indicated by a rapid development of the city and strong suburbanisation of the entire Ljubljana basin. Construction of the Slovene motorway cross which will strengthen the role of bigger urban centres, will also strengthen the role of Ljubljana (Plevnik, 2000, 241).

I.2. Historical development of Ljubljana

The formation and development of Ljubljana is closely associated with its position near Ljubljanska vrata, where the antique settlement Emona developed at the most favourable crossing from the Apennine peninsula to Podonavje, and was ruined around the year 580. As a settlement, Ljubljana was developing gradually between the castle hill and Ljubljanica,

to occupy in the middle of the 13th century a leading position in the emerging Carniola. It became the capital of the county and state. In 1335, it came under the direct Hapsburg authority and oriented its development into transit trade and finance. At the end of the Middle Ages, it had 4 to 5 thousand inhabitants (Enciklopedija, 1992, 223). Ljubljana recovered in the early capitalism when, besides transit trade, some processing plants developed. The city was settled by large capitalists, and the economic area of Ljubljana spread also towards east. This resulted in a more vivid construction of the city and arrangement of the near environment so that in 1754, it had 9,400 inhabitants (Enciklopedija, 1992, 225).

In Illyrian Provinces (1809 – 1813), Ljubljana was a seat of the general governor and the capital of the territory from Hohe Tauern to Boka Kotorska in Montenegro. In the middle of the 19th century, when it operated only in the function of provincial government, its gravitation area decreased. Such condition, with only a short interruption, was preserved almost until the First World War (Enciklopedija, 1992, 225).

Among large Slovene cities, in the first half of the 19th century Ljubljana was the least industrial. It was characterised by small craft industrial and industrial businesses. Further development of Ljubljana was provided by the railway Vienna – Trieste which was constructed in 1849 – 1857. With other railway connections finished by the end of the century, Ljubljana became an important railway junction and one of the most important geostrategic points in this part of Europe, somewhat as a door to the Balkans towards the Adriatic Sea, and towards the entire SE Europe and East Mediterranean.

At the end of the 19th century, Ljubljana gradually overtook the leading role in political, economic and cultural life of Slovenes. The beginning of modern Ljubljana reaches back before the earthquake in 1895 when the city centre was severely damaged and Ljubljana was granted a significant aid and favourable legislation in respect of the post-earthquake reconstruction. In 1929, Ljubljana became the capital of Drava Banovina in Slovenia. With the dissolution of the Hapsburg monarchy, the significance of certain provincial institutions was extended to the entire Slovenia. Special meaning was attributed to the establishment of the longed-for University (Enciklopedija, 1992, 227 - 228). In 1931, it also obtained the function of the biggest Slovene economic centre with 60.000 inhabitants. In comparison to other industrial cities, the number of inhabitants of Ljubljana was growing at a slower pace and hardly doubled in the period 1869 – 1910 (Poselitev, 1998, 21).

With the formation of Yugoslavia in 1919, the significance of Ljubljana as Slovene capital became even stronger. The city was spreading along main radial roads outwards. In 1935, some neighbouring municipalities were joined to the city, which increased its surface to 6,500 ha and the number of inhabitants to 80.000. Rapid increase in the number of inhabitants during the period 1895 – 1910 was followed by a slow-down after the First World War, while the vivid urbanisation of neighbouring settlements continued. A development scheme of the Ljubljana urban agglomeration was elaborated in 1926, and it was already in the sixties that the city was spreading into its surrounding (Vrišer, 1956).

In the period 1931 – 1945, the increase in the number of inhabitants of Ljubljana slowed down.

During the Italian occupancy in the Second World War, Ljubljana was surrounded by a barbed wire fence, boundary blocks and strongholds (Korošec, 1991, 187). This was followed by a more rapid growth of the city, strengthening of its functions, extension of the

Ljubljana influence area on the entire Slovenia, and spread of the dominant Ljubljana influence onto the major part of Slovenia. The position of Ljubljana near the “western boundary” which was more and more opened already in the sixties, meant also numerous new functions that were taken over from the entire Yugoslavia, related in particular to economic connectedness with Western European countries. This contributed to a significant intensification in daily migrations to Ljubljana and its extensive suburban hinterland where increase in the number of inhabitants in the last twenty years has been faster than in Ljubljana. The natural increase was low or even absent. However, the number of workplaces was increasing rapidly.

In the period 1948 – 1981, the share of Ljubljana inhabitants increased from 8.3 % to 14.4 %. However, during the 1997 – 2007 decade, the number of inhabitants of Ljubljana decreased by 1.777, and of the Urban Municipality of Ljubljana by 7.520, due to suburbanisation of the area which was spreading. Suburbanisation has contributed to the negative migration balance of the Urban Municipality of Ljubljana together with almost all municipalities of the Ljubljana region in the past years (Statistični letopis, 2008). Due to immigrations, the share of non-Slovene inhabitants increased after 1961, from 9 % in 1971 to 19.6 % in 1991 (Enciklopedija, 1992, 234). Construction of apartments of blocks at the skirts of the city centre and of the city attracted inhabitants living in the city centre where the housing function was decreased also on the account of expansion of service activities.

The number of workplaces in Ljubljana increased from 142.000 in 1997 to 191.000 in 2007. After 1971, employment in non-commercial activities was increasing at a faster pace than in commercial; the share of employees in numerous small and various industrial installations amounted in Ljubljana to 21 % and was the lowest among Slovene cities.

When Slovenia gained independence, Ljubljana became the capital of the state and thus obtained numerous new functions. Ljubljana is also an expressive regional centre situated on the most favourable strategic junction between the Middle and South-Eastern Europe. It also became competitive with the capitals of neighbouring countries, with other republic centres of the former Yugoslavia, and with neighbouring cities of a comparable size, such as Trieste and Graz (Pichler, 2001, 72).

Ljubljana is first of all a business, cultural, university and research centre of Slovenia, with tourism representing an important development potential. Moreover, Ljubljana is also Slovenian the strongest economic centre. Companies with registered offices in Ljubljana hold one third of the Slovene capital, one third of the value added, and somewhat less than one third of transactions and net income, and provide employment for one quarter of all employees. Besides, the Ljubljana economy is favoured by an advantageous sectoral structure, and the Urban Municipality of Ljubljana and its urban region are the most developed areas in Slovenia (Pichler, 2001, 74).

A rapid economic and general social development influences the specific development of the city and its urban region. After 1995, private capital was intensively invested in housing construction, in the construction of shopping and service centres, and of business zones. In this way, the city construction concentrates on empty areas in the city and its periphery. Numerous empty surfaces of former industrial and construction companies and storehouses are being under construction, as well as of former military restricted areas and other empty spaces. After 1993, the BTC shopping centre emerged on the location of the

former railway storehouse at the north-eastern city skirt, with over 110.000 m² of shopping surfaces, spreading its influence over the entire Slovenia and also across the state border (Rebernik, Jakovčič, 2006, 23). After 1991, suburbanisation became even faster and spread into new areas and into urban settlements (Rebernik, 2007, 37). Such concentration of workplaces and service activities raises the problem of traffic arrangement in Ljubljana and its urban region as one of the basic development problems.

1.3. City size and its administrative division

The new legislation adopted in 1993 gave rise to extensive changes in relation to the administrative division in Slovenia. The legislation provided for the abolishment of big municipalities and contributed to the formation of numerous small municipalities. After more than 30 years, the five municipalities of Ljubljana which, except for the Centre municipality, encompassed, in addition to the city territory, also the extensive urbanised city periphery, joined in the Urban Municipality of Ljubljana. The city faced a significant expansion towards east, while in the southern and western part it maintained the traditional extent, and in the northern and north-western part only a small expansion occurred (Vrišer, 2000, 22). Thus, the Urban Municipality of Ljubljana encompassed 38 settlements on the surface of 275 km² which had, according to the 2002 census, 265.881 inhabitants, meaning the density of 967 inhabitants per km². Between 1997 and 2007, Ljubljana lost 5 % of inhabitants, while in the Ljubljana urban region, which is as from 1998 constituted by 26 peripheral municipalities and is completely in accordance with the Central-Slovene statistical region, the number of inhabitants has increased to 493.345 by 2007. Economic centralisation at the state and regional level contributed to the increased number of inhabitants and workplaces in the Ljubljana region. In 2002, there were 212.000 workplaces in the Ljubljana urban region, of which 87 % in Ljubljana, 9 % in the narrower and 4 % in the wider urban region (Ravbar, 2002, 226).

Change in the conception of the local government resulted in local communities losing their importance, which were enforced by amendments to the Constitution of the Republic of Slovenia in 1974 and operated as a sort of municipal branches, and also provided for local interests. Instead, in 2000 Ljubljana was divided into 13 functional quarter communities (Vrišer, 2002, 22), units of local self-government concluded in terms of their functional and gravitational character, which have a direct influence on the quality of living of the inhabitants and enable them to participate in spatial planning.

1.4. Geographical studies of Ljubljana

Ljubljana has always been in the focus of interest of Slovene geographers. It was already in 1930 when A. Melik published an extensive study on the development of Ljubljana in *Geografski vestnik*. He included two extensive chapters also in the regional outline "Posavska Slovenija" (1959) and in the book "Rast naših mest v novi dobi" (1964), dealing with the issues related to the development of Ljubljana. In 1959, I. Vrišer published an extensive analysis of the development of inhabitants for the needs of the Ljubljana urban plan in an independent publication.

In the 1960s and 1970s, the problems of rapid development of the city, of its outskirts, suburbanisation and rapid structural changes were the subject of many geographical studies. It was not by coincidence that the researches on socio-geographic problems were first focused on socially degraded areas in the city centre and its outskirts (M. Pak, A. Bervar, N. Škerjanc, M. Krivic and others), and an issue of the newspaper *Časopis za kritiko znanosti* was dedicated to such type of geography studies.

Numerous studies on the sociogeographic structure of Ljubljana (M. Pak) which included more and more frequently its morphological and functional structure, saw their upgrading in the doctoral dissertation "Socialna geografija Ljubljane" (1999) by D. Rebernik who emphasised in his studies also the morphological structure as well as social and morphological division of Ljubljana. In this period, geographical studies also dealt with Ljubljana industry (M. Cerkenik), its economic (Vera Kokole) and functional structure (M. Pak, R. Genorio) and supply function (M. Pak). Planning was the subject of many studies of the development of Ljubljana inhabitants (A. Jakoš).

In the 1980s and in particular 1990s, the number of geographical studies of Ljubljana increased significantly. The number of researchers increased, theoretical and methodological concepts of studies intensified, while from the contextual point of view, geographical studies included most issues in relation to city space, city buildings and ecology, and partly its urban region. Geographical studies of Ljubljana gain on the applicative character, mostly for the needs of its urban planning.

Geographical studies on ecological problems of Ljubljana deal with various elements of the use of physical space (Smrekar), noise, air pollution (M. Špes, B. Lampič, D. Ogrin and M. Ogrin, D. Cigale, D. Plut), water resources and water supply (V. Brečko, D. Plut), and the quality of the environment in general (D. Plut). Considering the risk of earthquakes for Ljubljana, studies of such type are important (M. Orožen); numerous studies were undertaken of Ljubljansko barje and the related risk posed by floods in the south part of Ljubljana (A. Lah, J. Kolbezen, M. Orožen).

During the last two decades, sociogeographic studies of Ljubljana have also focused on new elements: transport (A. Černe, A. Plevnik, S. Gabrovec, D. Bole, B. Pavlin); recreation of urban population and tourism (M. Jeršič, D. Cigale); economic issues (D. Bole); certain special forms of agricultural use of land (A. Smrekar, B. Lampič, D. Kladnik, I. Rejec); new shopping centres (M. Pak, D. Rebernik, F. Stare); post-war apartments of blocks (M. Pak); ethnic structure (M. Pak, P. Repolusk); division of the city aiming at forming city quarters (A. Rus); suburbanisation issues (M. Ravbar, D. Rebernik); and the position and function of Ljubljana in the urban system of Slovenia and of the wider European region (N. Pichler). Sociogeographic problem (D. Rebernik), functional and morphological structure (M. Pak, D. Rebernik), and population problem (A. Jakoš, D. Rebernik, D. Dolenc) are still the focus of geographical studies of Ljubljana.

The results of the research project "Geografska analiza Ljubljane in njene razvojne možnosti" were published in 2002 by the Department of Geography Faculty of Arts in the publication "Geografija Ljubljane", by extensive contributions about the city area, water resources, environmental problems, sociogeographic structure, standard of living, functional structure, tourism and leisure-time function, passenger traffic, and suburbanisation. Meeting of Slovene geographers in 2000 in Ljubljana was also a significant con-

tribution to geographic researches of Ljubljana. Numerous papers on the development and structure of the city, environmental problems and the problem of suburban region are included in the collection of scientific papers "Ljubljana – geografija mesta", Ljubljana 2000. Besides, numerous geographical studies were conducted for the needs of urban and regional plan of Ljubljana and its urban region by the Urban Planning Institute of the Republic of Slovenia and other institutes.

1.5. Urban planning of Ljubljana

Development of the modern Ljubljana dates back into the second half of the 19th century when the city started to spread from its medieval centre and its suburbs towards north and west along main traffic lines that connected the old city centre with its surrounding.

After the railway Vienna – Trieste was built in 1857, the building-up of the city intensified and empty surfaces between the old city and the railway in the north were arranged. Industry was poorly developed. All big investments were undertaken by aliens. Construction development of Ljubljana was regulated by the 1857 building order that applied for Carniola. An important role in the construction of the new Ljubljana was played by a Carniola building company that built-up an extensive surface in the western part of the city (1873), which it had built-up and arranged already before the 1895 earthquake. (Mihelič, 1983, 7).

According to the company's plans, the western part of Ljubljana was divided by means of a right-angled network of streets into symmetrical building blocks and arranged into a representative city quarter. It was already before the earthquake, that districts between the old city and the railway were given the layout significant for urban settlements in the 19th century (Mihelič, 1983, 8).

The 1895 earthquake represented a crucial breaking point in the urban development of Ljubljana. First serious discussions were raised on the future development of the city; in 1896, the first official urban plan was prepared which was the basis for carrying out urban policy in the city (Mihelič, 1983, 15). The City Council invited a Vienna architect C. Sitte to carry out the first regulation plan for Ljubljana, but it decided for the draft regulation plan proposed by a Slovenian architect Maks Fabiani, to which he included an exhaustive report and explanation of the idea on the city layout (Korošec, 1991, 148). Fabiani envisaged Ljubljana's development within the limits of the north railway, regulation of the northern part of the city and its connection with the city centre, and addressed the problem of city transport. The issue was raised in relation to the city's complex renewal and renovation, growth, organisation, traffic planning and layout (Mihelič, 1983, 11).

During the two World Wars, Ljubljana became the administrative and political centre of Slovenia; 1918 was the year when its economic and political role strengthened. Nine peripheral municipalities were joined to the city which contributed to their improvement and construction of the transport, municipal and other infrastructure (Korošec, 1991, 159). Faster urban development of Ljubljana was the focus of efforts made by architects Jože Plečnik and Ivan Vurnik at the Chair of Architecture of the newly founded Slovene university. Plečnik devised Greater Ljubljana as a concentric city. He realised most of his ideas in the city centre where he joined artistic heritage of the previous centuries (Plečnik's Ljubljana). Vurnik contributed considerably to the housing construction by planning big hired hous-

es; the verge of the densely built-up city skirt was the area where quarters of bourgeois villadoms emerged, while the humid southern area was occupied by modest working-class colonies. During these thirty years, one of the highest buildings in this part of Europe was built in Ljubljana, the skyscraper as the symbol of the modern city (Poselitev, 1998,72).

During the two World Wars, urban development of the city was still regulated by the valid 1869 regulation plan. In 1939, the regulation plan for Ljubljana and the nine neighbouring municipalities was adopted. In 1940, the urban municipality opened a general Yugoslav invitation to tender for elaboration of the outline scheme; however, this did not influence significantly the post-war development of Ljubljana, when among other assignments (housing, workplaces, recreation and traffic), housing and industrial construction were prioritised (Mihelič, 1983, 21).

In the first post-war period, spatial structure of the city was characterised by an intensive housing and industrial construction. Beginning of the modern urbanism that complied with the European practice reaches back in the sixties when the Ljubljana Urban Planning Institute (LUZ) was founded. In 1965, the latter submitted the General Urban Development Plan of Ljubljana for discussion which was approved in 1966. It maintained the star-like (shank-like) physical city structure and envisaged significant changes in the traffic network with new by-pass railway lines, the motorway system and regulation of city inroads; housing areas were divided according to the theory of neighbourhood, while spatial structure started to reflect also the administrative structure of the five Ljubljana municipalities (Mušič, Poselitev, 1998, 86).

The General Urban Development Plan gave a new image and meaning to the city centre. The main deficiency of the plan was that the territory it encompassed was too small (Prostorska zasnova, 2002, 4).

At the end of the seventies, work for a new long-term plan and new urban design of the city started, entitled Ljubljana 2000. The draft was approved in 1985. However, the renewed draft did not reflect all the ongoing transformation processes. The result was an uncontrolled growth of too many shopping centres in the suburbs which are still growing as to their extent and number, empty shops in the city centre, unbalanced housing construction and unfinished land policy, as well as an enormous traffic density in the city. The urban image of Ljubljana also started to reflect its function of the state capital (Mušič, Poselitev, 1998, 86). An important novelty was the need for decentralisation or strengthening of suburban settlements or local centres which are today independent municipal centres. Connection of the city and its area of influence, from which about 100.000 commuters arrive to Ljubljana daily, will be empowered by the construction of a motorway system and further development of the means of telecommunications (Mušič, Poselitev, 1998, 98).

Between 1990 and 1991, the constitutional system was changed completely. Social planning was abolished, while spatial planning elements of the planning document still apply. At that time, privatisation and decentralisation started. It was the high time for the elaboration of a new development plan which would be aiming at coordinating the interests in space in accordance with an integral concept of spatial development and the principles of sustainable development of the city which provide for the protection of the environment, mixing of different uses in the city, protection and development of the city identity, and an emphasised development of public transport (Prostorska zasnova, 2002, 4 and

5). In 2002, the Urban Municipality of Ljubljana adopted two documents that determine further spatial development at a strategic level. The strategy of sustainable development of Urban Municipality of Ljubljana and the Resolution on National Development Projects 2007 – 2023 established the framework of the future spatial development of Ljubljana as a national centre and the major national traffic junction, which is to develop into an internationally competitive capital on contemporary principles of maintaining the quality of the environment and more reasonable management of the space (Strateško prostorski, 2007, 4). In 2007, Urban Municipality of Ljubljana presented the vision of spatial development by 2025 which is the basis of a new city spatial plan under elaboration (Urbanistično načrtovanje, 2008), the adoption of which has already seen many prolongations due to new proposals as to the use of physical space.

Urban Municipality of Ljubljana is the centre of Ljubljana urban region which encompasses 24 municipalities with one quarter of Slovene inhabitants (491.000), which provides workplaces for one quarter of the Slovenian active population, and to which about 30.000 persons commute to work every day, while economic concentration being even essentially higher. The settlement of the Ljubljana urban region has been lately under the influence of the processes of urbanisation, suburbanisation and formation of conurbation. On this account, and because of the opportunity for the Ljubljana urban region to become one of the central administrative, academic and economic centres in the European Union, Regional Development Programme for the Ljubljana urban region is under elaboration (Regionalni razvojni, 2002, 4 and 7).

Figure 1: Territorial Development of Ljubljana.

