POST-INDUSTRIAL ELEMENTS IN URBAN DEVELOPMENT OF LOS ANGELES (XX – EARLY XXI CENTURY)

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DOI: https://doi.org/10.31435/rsglobal_ws/30112018/6229

ARTICLE INFO
Received: 11 September 2018
Accepted: 19 November 2018
Published: 30 November 2018

ABSTRACT
The article is dedicated to the distinction of specific features of urban development of Los Angeles, which can serve as an example of the emergence of a new urban paradigm of post-industrial nature.

KEYWORDS
Urban planning, Los Angeles, impulses.

Introduction. According to recent tendencies of the population growth in global scope, we can say that big urban conglomerations and large cities are likely to become the main places of residence of the vast majority of mankind in the XXI century. This tendency, in turn, may lead to the emergence of new tasks, of urban and planning nature, which overlap with the processes of critical reconsidering of the means of modern urban planning and management methods, the realization of which confronts several influential forces at once, in particular major construction corporations, civil society activity, complex and inconsistent legal and regulatory activity, etc. In this regard, it is important to identify and study the examples of urban development that testify to the existence of a fundamentally different paradigm for the implementation and modeling of urban processes and may be an alternative to modernist inertia, which underlies most of the commonly accepted ideas about modern interpretation and understanding of urban organism.

Among the range of publications, relevant to the concept of post-industrial development of urban fabric of Los Angeles, one should refer to the scientific research of Edward Soja “Space and Power” [1]. Although the author brings a lot of emphasis to problems of social inequality and defends the positions that can be characterized as socialist, the work itself contains a lot of information about the unique way that the city of Los Angeles went through during the twentieth century. And that a very peculiar feature of this way was the relatively weak implementation of the principles of modernist urbanistic discourse, which resulted from the coincidence of a variety of circumstances.

Given the specifics of the topic related to the search for probable examples of a new urban paradigm based on the experience of Los Angeles, we should understand that there is quite a limited number of issues and tasks which, at least at this stage, can not be extended to create a more systematic and holistic theory. In this context, it is important to identify key differences between the traditional modernist settlements and the peculiarities of the population units of the Los Angeles
Valley in the sense of: a) density of the unit, b) the method of organizing city-building processes, c) the ways of maintaining highly independent and self-sufficient population groups.

**Research results.** Based on the analysis of some relevant scientific and journalistic materials, one can speak about the work that considers perspective urbanism from the abovementioned point of view. This is the study of Edward Soja "Postmodern Geographies: The Reassertion of Space in Critical Social Theory".

In this book, the author analyzes urban development of Los Angeles over the past forty years, and on the basis of a series of arguments, claims that the experience acquired there does not correspond to the commonly accepted concepts of the traditional parameters of a modern city, formed in the era of modernism. Although much of Soja's book deals with the social aspects of capitalist economic relations, he nevertheless invokes the concept of heterotopy. He gives examples of different parts of the city which demonstrate and interpret Los Angeles as an experience of "deconstruction" of the traditional urban system with a new typological model, which can be called as a "district community" or "community of neighboring groups" [1].

The initial conditions in which the urban structure of Los Angeles was formed can be considered rather typical. The vast valley between the mountain range on the one side and the ocean on the other, did not create any obstacles for the development of a monocentric structure with radial expansion zones. As a consequence, in 1991, the Los Angeles Economic Development Corporation (LAEDC) developed "the 60 mile circle strategy", which fixed the monocentric-radial nature of urban fabric that evolved from one point, gradually absorbed new territories and smaller settlements, having grown to a diameter of about a hundred kilometers [2]. The monocentricity of Los Angeles, in its time, was strengthened by the system of administering drinking water, whose additional volumes were forbidden to spread beyond the city [3]. This led to the rapid voluntary entry of surrounding settlements at the city limits and their merger with its management structure. (Fig. 1).

The first phase of active development of the city is associated with the discovery of oil deposits and, correspondingly, the growth of the oil industry, which led to an increase in the population [4]. However, given the further history, this factor can not be considered the only or decisive one in the formation of the contemporary hyper-urban organism of Los Angeles. (Fig. 2). Indeed, the oil boom can only be viewed as the first economic impulse factor in the history of urban development of Los Angeles, which was followed by the others. In the early twentieth century, with the development of cinema, the city became the main film production center, given the favorable climatic conditions (low rainfall and a large number of sunny days), as well as the possibility of avoiding the monopoly on film production by Thomas Edison Studio, which was the case in the East Coast of the US [5]. The combination of these factors led to the transformation of Los Angeles into the world center of film production, where, as at the beginning of the 1920's, there were concentrated 80% of its total global volume [6].
The development of film production industry quickly formed one of the largest heterotopias of the city concentrated in the Hollywood area (which became a part of Los Angeles in 1910). (Fig. 3). Due to both the impulse factor and the heterotopic core, Hollywood has become a part of the city's unique multi-sense identity and socio-cultural phenomenon with significant legendary and attractive potential. From the point of view of economic sustainability of urban system, film production proved to be much more reliable resource for it, since it ensured constant availability of various forms of employment from a qualified permanent (the construction of pavilions, scenery, infrastructure support) to low-skilled and temporary (participation in mass scenes, disassembly of scenery etc).

The next factor that influenced the specifics of city evolution, and which can be characterized as an impulsive one, emerged during the Second World War and is associated with a rapid development of military industry. Located on the Pacific coast - the main strategic arena of confrontation with Japan, with a large population and a major port, Los Angeles became the center of military equipment production, primarily for aviation supply (Fig. 4). The boom in military aircraft production led to the concentration of a large number of skilled workers in this area, which, in turn, led to the emergence of the broader range of aviation production, including civilian. After the war, the main producers of Douglas, Lockheed, Northrop and others remained permanently in the area. The dynamic development of aviation technologies associated with the introduction of jet engines and getting to the speed of sound threshold has transformed the industry into another, along with Hollywood, marker of the city's exclusivity and subsequently getting the area to its next heterotopic layer.

The same period was also marked by a significant growth of the Los Angeles port in the Long Beach area, which at the end of the twentieth century became one of the three largest container hubs in the world (along with Singapore and Hong Kong). A significant urban structure with a length of 7 kilometers and a width of 8.5 kilometers, at the same time turned into a kind of an infrastructural issue for the city, since it cut off its central part from the coast and occupied the potentially best recreation area.

To a certain extent, the strain of such a 'deformation' was balanced by the Palos Verdes Peninsula, west of the port. Additionally, it was also compensated in the east, by the thirty-kilometer Huntington Beach coastal strip with an adjoining population of about 200,000 inhabitants, as of 2016 [7].

Almost the same principle underlies another feature of the urban structure of Los Angeles - distribution and interaction of various racial-ethnic groups that are divided into four basic segments: Americans of the Caucasian/European race, Afro-Americans, Latin Americans and Americans of Asian origin. Within the urban fabric of Los Angeles, they form a conglomerate of distinct territorial passages that directly correlate with the distribution of inhabitants by the level of economic development/living standards.

In spite of the relatively large number of African, Asian and Latin American inhabitants (as of 2015, the number of Latin American people made up 45% of the population [8]), the area of their distribution within the city is generally smaller than that of Americans of European origin (Caucasian race).

The above factors of heterotopy and 'kaleidoscopicity' of the urban structure of Los Angeles, however, constitute only one part of the atypical nature, as according to Soja. Another part of it derives from the spatial organization of the city, which is characterized by the prevalence of low-rise buildings and the lack of developed/dominant business center, concentrated in one place.

The current business center, relatively small in size - about 3.5 kilometers in length, began to form only at the end of the twentieth century. Its core was made up of Art Deco buildings: City Hall East and City Hall South, Los Angeles Times editorial office and the police station, which later was rebuilt in the so-called Parker Center. Although stylistically the complex reflected the main trends of the representative high-rise building of New York and Chicago, by its parameters it significantly differed from them and looked rather like a series of simplified provincial imitations. In addition, such a small number of objects was not enough to form a visual center, whose population in other urban areas already at that time could reach three million inhabitants.

At the turn of the XX-XXI centuries, a number of some very representative objects such as the Disney Theater, Gateway Center, Department of Water and Power and several others were added to this complex of buildings. With their help, the historical nucleus acquired a certain spatial-visual identity and created a landmark in the 40-kilometer axis of the Grand Avenue, which extends to the coast. The layering and kaleidoscopic nature of the city is here accentuated by the reconstruction of the park El Pueblo de Los Angeles, which occupies the original Spanish-Mexican core of the city. The park preserves a complex of buildings of the nineteenth century, including the Placita church, Oliver street, the Merced Theater and others. El Pueblo is directly adjacent to the business center and is part of its perimeter creating an obvious stylistic, meaningful and significant contrast.
One of the following features of the development of Los Angeles was the emergence of parallel, to the above, business centers. This was triggered by both the indistinctness of the latter, and the eccentricity of its location within the boundaries of the urban area. In the period of developed modernism, the new large business district of the city was formed - the so-called West-Side, which includes the Criminal Court Building, the Hall of Records, the Library of Legal Literature, LA County Courthouse and the Hall of Administration.

West Side also hosts such architecturally significant urban complexes as the Century City, Westwood, Brentwood, extending westwards to Santa Monica, Malibu and Pacific Palisades, and Beverly Wood and Beverly Grow in the eastern regions. Between the two centers there is the Wilshire Boulevard, part of which is the so-called "Miracle Mile", which serves a good example of commercial-development approach to urban planning of the 1960s. In fact, the Miracle Mile is a commercial and entertainment area whose economic concept is based on intensive communication between the two major sites of the urban structure - the historical centre and West Side (including rich residential areas of the coastal zone). The concept of the Miracle Mile is, to a large extent, a spatial reflection of the marketing strategy, which was later developed into the theory of so-called "economy of attention" [9]. The eleventh-kilometer highway was gradually filled with a series of visual accents that adjoined each other, creating a kind of "suggestion of attention", which resulted in formation of a district dialectically associated with the post-modernist ethos of Las Vegas.

In its reflection on the unique heterotopic development of Los Angeles, two other important aspects can be highlighted, which were also mentioned by Soja: a) the community organization of the districts; and b) a large selection of life experiences. In the first aspect, to a certain extent, it is due to the author's socialist outlook and his ideals of "grassroots" self-organization, which must determine the actions of central government. The second aspect of the heterotopic development of the city is concentrated on the category of choice itself, as a characteristic of the urban living space. Los Angeles, which has been ontologically developed as a proto-post-industrial city, has a much wider selection of choice for ordinary citizens compared to similar cities of its size.

Although the affiliation of the Los Angeles poly-impulse mono-centric structure to the proto-post-industrial dimension of urban planning already has a certain theoretical basis, it is worth considering its main parameters in the context of infrastructural, demographic, economic, and myth-making factors of impulse development.

We must admit that the experience of Los Angeles, creates a kind of methodological problem, precisely because of the chronological novelty of its development. The initial impulse, which triggered the population growth and is associated with the discovery and development of oil fields, in fact did not have a decisive influence on the formation of urban structure that allows us to define Los Angeles as the most developed proto-post-industrial city.

Already from the beginning of its "proto-post-industrial" strategy, Los Angeles developed under the influence of overlapping of two different impulses - the development of cinematography and aircraft engineering. Although the first one was chronologically ahead of the second for several decades, that was the combination of these impulses that shaped the urban pattern of the city as it is today. Both cinema and aviation industries required large areas for pavilion and hangar building, runways with appropriate radius of regulation of high altitude development, etc. As a result of the absence of a developed business center, the high cost of land expanded to a larger territory depending, primarily, on natural factors, which led to a change in the typological scheme of housing construction.

Since the beginning of the twentieth century, Los Angeles has become a permanent residence place for a large group of highly self-sufficient population groups, which have managed to create a range of new clusters of economic development and employment. It was due to the demographic factor that the formation of the poly-impulse nature of the urban fabric of Los Angeles took place, which in turn created favourable grounds for other impulse factors.

At the same time, it is important to outline the segment circle of those economic spheres of employment that were developed and had a considerable influence on the specifics of the formation of urban fabric of Los Angeles. The main sectors of economic activity of self-sufficient population groups became, mainly, the industries associated with creativity and intellectual pursuits: cinema, advertising, fashion, sound recording, entertainment, design, as well as enterprises of aircraft and military industries, technology companies. Although there are some traditional economic sectors in the structure of the city, it is obvious that Los Angeles has formed into the first city in which the economy of knowledge and creativity prevails. Developed in the course of the twentieth century industrial model of Los Angeles focuses on the creative and innovative branches, and is closely linked to further
realization of the demographic impulse that turns into an economic one, for which adaptability is an important feature.

Another important experience of impulse development of Los Angeles is the so-called myth-making factor. The high degree of presence of different employment segments, which are considered prestigious and have been romanticized in the popular culture, have created very favourable conditions for the myth-making factor.

There are several main components that can be derived from the coincidence of natural and man-made circumstances that create the functional living space of the city. On the one hand, it is exceptional for the US climatic conditions of the subtropical ocean zone, with pleasant conditions for human living (average temperature in January +14, in August +24, the smoothed contrast of temperatures due to ocean breeze, moderate rainfall and a large number of sunny days, etc.) The richness of the natural area, which combines ocean beaches with the "Mediterranean" mode of the microclimate and mountains with the infrastructure of winter recreation, the diversity of local flora and the archipelago of the islands close to the city - all these factors contribute to the creation of a living space of wide choice. In turn, it is complemented by the unique quality of urban fabric, in which most of its fragments can not be regarded as peripherals, despite the historically monocentric structure.

Artificial elements of the living space of wide choice include the areas with 'mythological' connotation (especially for those who belong to the sphere of cinematography), such as Hollywood, national quarters (Spanish-Latin, Chinese, Korean, Armenian, etc.), artificial historical allusions ("Los Angeles Venice"), educational institutions and centres of knowledge (University of California, Griffith Observatory), business and shopping districts - the historic core, the Miracle Mile, West Side, etc.

Considering the role of universal factors of impulse development in shaping the peculiarities of the urban fabric of Los Angeles, it is worth paying attention to the factors of accelerated development, which derive from the features of the post-industrial socio-economic formation. Four such factors were distinguished in our case: living space for intellectual interaction, techno-biospheric symbiosis, dynamic originality, regional accumulation of global data. In this context, we should outline both some obvious parallels and significant differences between these factors and the post-industrial development of Los Angeles.

The formation of a living space for intellectual interaction in the context of the development of Los Angeles in the second half of the twentieth century did not become anything like 'special methods' in urban-planning interpretation. However, functional small-fragmented structure of the city, in its essence is a substitute for such special interpretations, and some areas like the Miracle Mile, West Side, historic center, etc. serve as means of city communication/interaction and is complemented by intelligent interaction of various self-sufficient groups.

There are some other features of post-industrial impulse development factors such as dynamic originality and regional accumulation of global data, that were more fully expressed in the context of the city. The development of art- and creativity-oriented industries in combination with small-fragmented functional structure and ethno-cultural symbiosis, triggered the emergence of large units of complex identity and a changing aesthetic model. As examples of such a complex we can consider Hollywood and Highland Center (32,000 square meters), which opened in 2001. The center includes important symbolic structures for the visual and entertainment industry, such as the Chinese Theater and the Dolby Theater, as well as the Hollywood Hotel's incorporated sites and the Alley of Glory. The specificity of the complex is its openness and syncretism. In the perimeter of about 260 x 130 meters there are some objects with different associative connotation, which combine modernist universalism with historical and subcultural allusions. In particular, there are some elements of synthesis of the Chinese Traditionalist architecture and Art Deco, motifs of ancient Babylon ethos, zoomorphic accents and post-modernist modification of the classical elements - a combination which by itself got mixed responses from critics [10] and was a replica of one scene from one of the first Hollywood movies. In addition, the planning and spatial organization of the Center - which is characterized by a combination of heterogeneous geometric shapes, has a great potential of temporal transformation.

This kind of structure, as an example of a dynamic originality, also serves as a model of reconsidering the category of value in urban space. Given the fact that it was not formed of historically important objects (heritage) that require protection and preservation of authenticity, the Hollywood and Highland Center space is a reflection of the values of the information society based on the 'phenomenon of attention'.

Since Los Angeles is a global center of intellectual and art production, the factor of regional data accumulation here consists of both exchange and accumulation of information resources via conventional communicative sources and is based on self-reflection of own experience. Therefore,
from all factors of impulse development, which have a post-industrial formative character, the convergence of regionality with the data globality is expressed here most fully and is organically linked with its own system of economic life support.

Somewhat more complicated is the problem of determining the populational and transforming nature of impulse factors of the poly-impulse structure. The previously presented universal factors of accelerated development of urban structure are ontologically linked with the principle of "one impulse - one city", in which demographic growth by itself is the main indicator. Although the increase in the number of residents of Los Angeles since the discovery of oil fields was quite significant, there is evidence to suggest that since the beginning of the twentieth century, inhabiting quality of impulses was combined with the transformative one. Peculiarities of the economic model of the city, in which the branches of industry with high added value quickly replaced the raw materials, contributed to the growth of different infrastructure segments - from transport links to intellectual and informational consumption within the so-called "economy of attention". This, in particular, is demonstrated by the indicators of economic and demographic balance. As of 2015, the total GDP of Los Angeles was the third largest in the world (after Tokyo and New York [11]) and amounted to $866 billion dollars, while in terms of the population rates it is only 64th, with a population of slightly less than 4 million (within the municipality), as of 2016 [12].

The above analysis as well as systematization of individual stages and elements of impulse nature of the monocentric urban structure of Los Angeles, make it possible to draw up some general conclusive patterns, which is important in view of the purpose of the study. In this case, the historical and functional causes of the occurrence of these factors themselves are not considered, only their influence on the formation of poly-impulse structure of the city is taken into account.

Analysis of the evolution of poly-impulsive nature of Los Angeles, shows that an essential role in its formation was played by the antinomic character of its historical center. On the one hand, it was its administrative and economic activities to provide drinking water to the inhabitants under its supervision, which enabled the formation of a logistically integral and monocentric structure. Adjacent settlements flowed into the administrative boundaries of Los Angeles in order to obtain better living conditions for their inhabitants. On the other hand, the historical center did not play the role of the accumulation core, which absorbed all quantitatively and qualitatively better resources in itself, that is why they were more evenly distributed in the diameter of the so-called "60 mile circle", blurring (or at least reducing) the concept of periphery. Moreover, as a result of this specificity, the historical center itself was in the role of the relative periphery, since the settlements and territories that flowed into the city were located mainly on the territory of the 70-kilometer plateau which was on the south-east of it.

As a result, there was an eccentric location of the historic city center, when in the northern direction the distance to its limit is about 10 kilometers, and in the south-east - about 60 km. In addition, it should also be taken into account that the historical center was within tens of kilometers of the Long Beach harbor, where a large port and warehouse complex started to develop, far from the most expensive and intensively developed West Side / Santa Monica and Huntington Beach residential areas.

The eccentric location of the historic center also influenced the general planning structure of the city, which was determined by means of transport highways. Quite traditional for the American cities rectangular pattern of the streets, went through some modifications here, due to the layout of old roads (which have grown into city streets) throughout the adjacent settlements, co-opted by the Los Angeles municipality. Thus, the poly geometry of the mutual arrangement of the neighborhoods was formed, which became an additional factor of the poly-impulse development and local identification.

Hollywood neighborhoods and districts, 6 km away, also contributed to the relativization of the historic center since the 1910s. That was the area, which in the middle of the twentieth century (before the spread of television) turned into a self-contained center of production, tourism and consumption, which contained the five largest studios the film industry [13] and the environment associated with the development of the cult of popular actors and scenography.

The next factor, which should be highlighted as contributing to the poly-impulse and heterotrophic development of LA urban fabric, is the diversity of masses of resettlement and development of the territory. The eccentricity of the historic administrative center opened up opportunities for more spontaneous and random settlements on the territory of the Los Angeles basin and its natural surrounding. The peculiarity of the topography of the area also affected the nature of its urban structuring. The moderately hilly relief of the plateau with the depth of 30 kilometers is limited by the ocean coast to the south and by the mountain range of San Gabriel and the ridge of Santa Monica to the north. Some mountain ranges penetrate the valley, and there are some low valleys in the mountainous areas - the Valley of San Fernando for instance. In addition, the coast itself is of quite an
uneven lay out due to the development of the port and warehouse infrastructure on the territory of the Long Beach Harbor and proximity of the hilly Cape Palos Verde. In this regard, the 30-kilometer zone of the basin received an uneven distribution of values.

The areas within the basin were found to be the least attractive, while the most attractive ones – in its outskirts - were stretched along the ocean coast, along the mountain slopes (Beverly region) and, partly, in the valley of San Fernando, behind the Santa Monica ridge. In the middle of the valley, the area also received an uneven value gradation due to the presence of floodplains of small local rivers (Los Angeles, Compton Crig, Rio Hondo), which in certain places increased the attractiveness of the sites located nearby. The same is true of the Palos - Verde harbor, located not far from the port. As a result, various relief-landscape loci, led to the emergence of the poly impulse potential, formed by the demographic and economic factors of impulse development.

In addition to these natural elements, the diversity of masses of resettlement was also associated with a number of anthropogenic factors that arose as a result of the characteristic patterns of urban economic development. First of all, this is due to the proliferation of aviation enterprises, which included runways, security zones and construction regulations, as well as oil companies, which arose as a result of the development of oil deposits, discovered here in the second half of the nineteenth century. Dispersed throughout the valley, they became the factor of diffusion and correction of other functional-typological zones, especially the residential development zone.

In the context of outlining the patterns of formation of the poly-impulse structure of Los Angeles, it is also worth noting the way of building a residential sector, whose ontology was, to a large extent, different from the principles of a modernist city, which was characterized by paternalism of certain centralized managerial institutions.

After the first phase of the rapid development of the city, associated with the discovery of oil fields, gradually ended, land prices in the basin of Los Angeles turned out to be low and affordable, due to the general lack of understanding of the region and the peripherality of its position at that time in the system of socio-economic relations of the United States. At that time, at the beginning of the second decade of the twentieth century, the rapid development of the cinematic industry began, and then, 20 years later, it was joined by the military and aircraft productions. There was quite a short-term situation, when relatively accessible land was actively built up by private individuals for their residence. This led to another - contrary to the modernist, principle of development of living space. If the latter was based on the development of centralized programs and schemes (by the municipality or development companies), leaving the individual's ability to influence the environment of his life only at the level of interior parts of the house, the first was based on a reverse strategy. Due to the attractiveness of the territory with its water supply and availability of large areas, the municipality of Los Angeles, (as well as private owners) was interested in the sale of significant, at that time, land reserves to fill the city budget. Soon after it got the owners, most of whom, already in the first half of the twentieth century, could be classified as "middle class". As a result, another scheme of formation of residential neighborhoods was developed, at which its main source was a private initiative of arrangement of the living space in conditions of prevailing estate and low-rise building.

Under these circumstances, Los Angeles succeeded in avoiding many of the problems that, in the 1960s-1970s, broke out in a modernist city crisis with criticism of its underlying principles. The level of high quality individual space, the higher level of the environment (due to the spread of private landscaping zones), more even distribution of transport load, the presence of large natural and artificial recreational areas, the combination of the advantages of urban and country residence - can be seen as the implementation of alternative ideas of the post-industrial city , including in part of its impulse modeling.

Conclusions.

1. On an example of the development of Los Angeles, the possibility of deploying a poly-impulse structure under conditions of a traditional monocentric urban development system has been analysed. It is determined that as a result of the large reserves of the territory and high economic level of inhabitants in Los Angeles, a special type of urban fabric was formed, for which the ontological deconstruction of traditional interpretation of the city became characteristic (not only in its modernist sense). It was established that this deconstruction was instrumentalized by the small fragmentation of the development area by separate (micro) impulses of different functional nature. The foundation of the economic base were the entertainment, technology, commerce, fashion and aviation industries, as well as tourism and services related to them.

2. The features that reflect the specifics of the poly-impulse development of the monocentric structure of a large city, which have developed in Los Angeles over the past 50 years have been highlighted. They are: a) multi-location, b) low density, c) lack of a single dominant center, d) multi-
layered identity, e) community organization of districts, and e) a large selection of life experiences. The connection of these features with the concept of heterotopy and its instrumentalisation in the conditions of a poly-impulse monocentric urban structure has been examined.

3. The universal factors of the poly-impulse experience of Los Angeles, which can be applied in the contexts of other hyper-urban formations that arose on the basis of historic-modern cities, have been identified. These factors include: a) the eccentric location of the historic center (located 10 kilometers from the northern boundary and 60 km to the south-east, as well as tens of kilometers from the main port and areas of intense development of West Side / Santa Monica and Huntington- beach (b) the diversity of the masses of resettlement (the orientation of various parts of urban fabric to different gravity centers - the coast, river floodplains, mountain ranges, production clusters), c) a private initiative for the development of own living space (priority of individual development of the housing sector over the centralised one), d) heterotopicity (unlike the San Francisco Bay Area, where the heterotopicity is not of a dispersed/scattered character, but is concentrated within one urban mega-structure as overlapping of few impulse layers).

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