

Chapter 7

Architectural Transcendence in Soviet-Era Housing: Evidence from Socialist Residential Districts in Tallinn, Estonia



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Abstract In Central and Eastern Europe and the Former Soviet Union, housing estates are often associated with inhumane architecture, unwelcoming public space and unending repetition, outcomes that have been attributed to strict design requirements in a rigid centralised system. Due to the uniformity and standardisation of residential housing produced during socialist times, both the design process and its master—the architect—are believed to have played only minor roles in shaping townscapes. This study, situated in the large housing estates of Tallinn, Estonia, challenges these assumptions using analyses of archival material. The study also explains—through first-hand interviews with senior architects who were key players in building socialist cities—the relations between strict Soviet regulations and vital elements of the city building process, including creativity, power and artistry. Analysis of primary source materials highlights an oversimplification of socialist modernism, which suggests more nuanced explanations for town planning outcomes that differ from what strict adherence to Soviet guidelines would have produced. Findings also suggest that regulations issued in Moscow for USSR-wide site planning played a less important role than previously assumed in town planning outcomes in Estonia. International modernist city planning ideals, combined with local expertise (and a willingness to push boundaries yet remain within the political system), strongly influenced town planning practice in the Soviet ‘West’.

Keywords Architecture · City planning · Housing estate · Mikrorayon · Modernism · Socialism · Soviet Union · Tallinn, Estonia · USSR

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7.1 Introduction

State socialism provided unique opportunities to experiment with new models of city planning. Centrally planned systems—and government ownership of all land and industry—permitted a grand-scale approach to urbanisation and a mechanism for promoting rational use of human and industrial assets, improving lives and reducing costs. Through central planning, state socialist governments sought to reorder society and plan new urban territory during rapid urbanisation, industrialisation, employment-driven migration and military consolidation (Domański 1997; Ericson 1988; Hess et al. 2018; Ofer 1977; Shomina 1992). Much power resided in central government decision-making. With land in state ownership, the development process occurred under central authority, and a powerful single-party system controlled land development decisions to promote the expansion of industrial strength and military might.

Vast housing estates—residential complexes dominated by high-rise block apartment buildings—were established between the 1960s and the 1990s to respond to crushing demand for urban housing due to employment-based migration triggered by industry and military expansions. They were critical components of modern, planned cities for housing socialist lives in industrial-utopian centres (Gentile et al. 2012; Kovács and Herfert 2012; Power 1997; Wassenberg 2004). Architects charged with planning new housing estates had great power to shape cities, demonstrating that city planning was a centrepiece of central economic planning (Liepa-Zemeša and Hess 2016).

The peculiarities of town planning (and resulting urban form) during state socialism have intrigued scholars for decades. A number of contemporary studies have retrospectively critiqued socialist urban systems, particularly policies leading to the formation of mikrorayons, or comprehensively planned residential districts composed of standardised buildings (Hatherley 2015; Lizon 1996; Stanilov 2007; Turkington et al. 2004; Wassenberg 2004). While previous research has highlighted the role of central planning and socialist principles in shaping modernist housing estates that are prevalent throughout Central and Eastern Europe (CEE) and the Former Soviet Union (FSU), this chapter, drawing upon on first-hand information gained from interviews with architects from the socialist period, reconsiders several dogmatic notions about urban planning under socialism. We argue that positioning local architects as mere executors of higher political commands controlling city planning oversimplifies the formation of modernist housing estates in socialist cities. Our findings suggest more powerful western influences on large housing estate design than previously assumed and demonstrate the existence of independent architectural thought in the Baltic republics.

The chapter is organised as follows. The following sections describe the socialist framework for city planning that produced mikrorayons as a novel urban form. We synthesise the contemporaneous urban planning system and the role of socialist architects, and we conduct a detailed empirical analysis of three residential districts in a capital city in the former Soviet space. We distil from the analysis key themes

related to contact that facilitated knowledge acquisition about international modernism and the role of architects in the Soviet city building process. Our concluding thoughts emphasise how, contrary to conventional wisdom, architects had more power than the Soviet system suggests and were able to embrace opportunities to create unique building environments.

7.2 Mikrorayons: Centrepieces of Socialist Urban Form

During the Soviet era, city planning was part of the production process. Egalitarianism and a lack of differentiation across urban space were driving objectives; no residential area should be more appealing than any other because of style, size or location (Hausladen 1987). Equality, a key ideological feature of socialist residential planning, was vigorously expressed in Soviet housing estates and mikrorayons through predefined and universal maximum (walking) distances to schools, bus stops, shops and parks. Everyone was, in theory, meant to have comparable access to comparable assets and amenities. The architectural ensembles composing mikrorayons and residential housing estates were meant to be socialist modernist and, owing to influences from Le Corbusier, free from historical references (Berman 1982; Boyer 1994; Charley 2004; Zhuravlyev and Fyodorov 1961). As a result, many projects denied their immediate context, instead of relying on serial implementation of predetermined standardised forms (Choay 1970).

The first apartment houses built using prefabricated panel walls (in the 1960s) took advantage of industrial production to orchestrate residential building more cheaply. This was followed by improved standard designs, introduced in the USSR in the mid-1970s and used widely by the 1980s (Andrusz 1987; Meuser and Zadorin 2016). Each housing unit included ‘modern’ conveniences—kitchens, washrooms and toilets, central heating, large windows. As the design process matured and mechanisms within it advanced during subsequent iterations, the height of residential buildings increased and the size of individual dwelling units expanded (Lehmann and Ruble 1997; Smith 1996).

Considered to be a highlight of modern city planning, enormous housing estates included apartments (at high density, in standardised high-rise blocks) with modern conveniences in mixed-use settings containing schools, everyday services, day care, and recreational and socialisation opportunities. Usually, one housing estate consisted of several mikrorayons, which were designated by central authority according to housing requirements that were calculated proportional to the needs for workers in enterprises. Site selection for large housing estates was usually designated in general town plans prepared for up to 25-year horizons.

Within new residential districts, site planning was conducted at the district or mikrorayon level with detailed planning projects that were magnificent in size and comprehensive in scope, covering street networks, architectural elements, access and transport and greenery (Port 1969). Strict norms dictated the living space that was allowable for each family, and housing units were allocated according to need

(based on family size) with rent computed proportional to income (with large state subsidies).

7.2.1 The Role of Socialist Architects in City Planning

Important decisions about urban growth and housing policy occurred at high levels in the USSR, and local authorities were involved in mundane decisions, primarily in site selection for new housing districts that were prescribed by Soviet administrators (Tosics 2004).

City planning in USSR republics—and especially the addition of vast residential housing estates—was firmly based on administrative norms and instructions issued by supervising authority and directed by the communist party. Trained architects undertook all city planning duties. General plans and detailed plans for mikrorayons were, as a rule, prepared by professional teams whose members possessed various backgrounds (engineers, traffic specialists, landscape architects, etc.).

Soviet density norms became instruments of town planning and predefined access to workplaces, services, and recreational facilities and the distribution of funds for construction (Yanitsky 1986). Standard high-rise apartment block designs developed in Moscow were adapted locally in state design institutes (Bunkse 1979; interview with J. Lass, 2016). Through site design in particular, architects created an ensemble—composed of residential buildings, service structures, pathways and roads, and open space—that forms the long-lasting effect of mikrorayons on urbanisation. Local governments were only partly in charge of the location and site design of housing estates (the level of control differed depending on the city or the sister republic) (interview with J. Lass, 2016). Such weak contributions to city planning have often been described in scholarly literature as follows: ‘the majority of the housing units were prefabricated apartment blocks, and the architect’s role was reduced to site planning for a limited number of housing types’ (Lizon 1996, 106). Given the large number of inarguable directives to be followed in city planning under socialism, it was suggested that ‘the discipline of urban planning has abolished itself in favor of fulfilling guidelines’ (Meuser and Zadorin 2016, 145). It is likewise argued that, throughout the Soviet Union, ‘since the building forms of the standard designs were predetermined, this meant that the urban design concept was greatly diminished to the extent of fulfilling guidelines’ (Meuser and Zadorin 2016, 153).

The actual power resting within the hands of local architects is consequently debatable, since the state suggested the location for residential space, dictated its volume, and furnished land and financing (Meuser and Zadorin 2016). This notion has been periodically captured in scholarly literature: ‘architects, as employees in mammoth state design offices, had no say in the actual design and were reduced to draftspeople whose role was to draw site plans of the predesigned blocks of slabs and point towers to house a maximum number of residents picked from long waiting lists and crowded into a cookie-cutter housing estate’ (Lizon 1996, 109).

Second- and third-generation standardised apartment towers were designed to be sectional and interchangeable and could be assembled in various forms but always in large quantities (Meuser and Zadorin 2016); the requirements for standardisation and prescribed repetition itself implies modest emphasis on artistry and individuality. However, with a fast-paced and vast expansion of housing supplies in cities of CEE and the FSU, architects who planned modernist housing estates had great power to shape city form, and their effects have been long lasting, since few residential districts have been demolished or significantly changed and most are fully occupied.

7.3 Research Strategy

To explore the role of architects in practice, we turn to primary sources from the 1960s, 1970s and 1980s to gather key decision-making information about the formation of residential districts in Tallinn, Estonia (Metspalu and Hess 2018). We use official planning documents and, importantly, semi-structured interviews with critical informants. Personal interviews carried out in Tallinn and Tartu with senior architects (D. Bruns, Tallinn Chief Architect, 1960–1980; I. Raud, *Eesti Projekt*, 1969–1989 and Tallinn Chief Architect 1989–1991; O. Zhemchugov, *Eesti Projekt*, 1970–1977; J. Lass, Estonian State Building Committee, 1982–1990; R. Kivi, *Eesti Projekt*, 1969–1972 and Tartu Chief Architect 1972–1991; P. Männiksaar, Architect, Tartu District Executive Committee, 1981–1993), now at the end of their professional careers, give us access to their observations which seldom appear in written form because of censorship during Soviet times. Primary source interviews and review of archival documents—plans and planning documents, including original protocols and memos and contemporaneous newspaper and magazine articles—allow us to assemble a meaningful picture of planning practice related to large socialist housing estates. We also review various materials published in Estonian Socialist Republic newspapers and weekly magazines.

7.4 An Ensemble of Mid-Twentieth Century of Housing Estates in Tallinn, Estonia

The socialist industrialisation process was accompanied by fast urbanisation throughout the USSR and particularly in the Baltic states, the western periphery of communism. Due to various factors shaping socialist urbanisation (Bater 1980; French 1987, 1995; Lewin and Elliott 2005), cities in the Baltic States are uniquely preserved. Apart from certain scholarship about Lithuania (Dremaitė 2013; Rimkutė 2014; Maciuika 1999), a lack of reliable written material exists about state socialist residential planning theory as implemented in planned developments in the Baltic States.

As a site for our empirical inquiry, we select Estonia, the smallest of the three Baltic States, where there is comparatively less literature on residential housing formation than in other parts of Europe (Kährlik and Tammaru 2010). During the Soviet occupation, several hundred thousand Russian speakers emigrated to or were settled in Estonia, and all Estonian cities experienced population growth between 1944 and 1991 (Tammaru 2001; Kulu 2003). In the 1950s and subsequent decades, there was strong demand for new housing in Estonia, especially in the capital city Tallinn, as Estonians moved from the countryside to towns and Russian-speaking immigrants arrived to support various USSR enterprises. During Soviet times, approximately 76% of housing units in Tallinn were state-subsidised rental units (a higher share than elsewhere in CEE) and by the end of Soviet occupation, about two-thirds of the population lived in large prefabricated housing estates (Kalm 2002). Each city in Estonia had a master plan, which reserved space for future detailed site planning (Bruns 2007; Port 1983; interviews with R. Kivi, 2013; P. Männiksaar, 2013).

Today, housing estates in Tallinn offer bold visual symbols of the socialist past. Prefabricated panel buildings do not suffer from a bad reputation and have not experienced ghettoisation predicted following the dissolution of the Soviet Union (Sild 2014; Szelényi 1996). However, official policy within the housing sector sometimes reinforced social separation and exclusion (Hess et al. 2012; Leetmaa et al. 2015). Housing in mikrorayons is often unpopular, and many families are driven by a desire to escape the drab environments of Soviet-era housing estates and relocate when possible to new or renovated upscale dwellings or detached homes in the growing suburbs (Tammaru et al. 2009).

In Tallinn, three large mikrorayon-based residential districts—Mustamäe, Väike-Õismäe and Lasnamäe—were constructed successively and at comparable distances from the city centre (see Fig. 7.1). The districts depict an evolution of town planning ideology during the Soviet decades and reflect a maturation of the mikrorayon concept and requirements for larger per person living space in apartments (Andrusz 1987).

7.4.1 Mustamäe: A Cautious Test of Socialist Residential Planning Principles

To liquidate the housing shortage in an optimistic period of 10–12 years, the communist party launched an ambitious housing construction programme in the USSR in 1957 (Bruns 2007). Following directives from Moscow, site selection for the first large housing estate in Tallinn was immediately initiated.

The winning design by T. Kallas, M. Port and V. Toppel served as a guiding conceptual plan for Mustamäe (Tammaru et al. 2009) (see Fig. 7.2). In 1959, the plan was elaborated in a detailed planning project in which key planning principles—mikrorayons composed of large residential building blocks and schools, kindergartens, shops within walking distance—were for the first time expansively

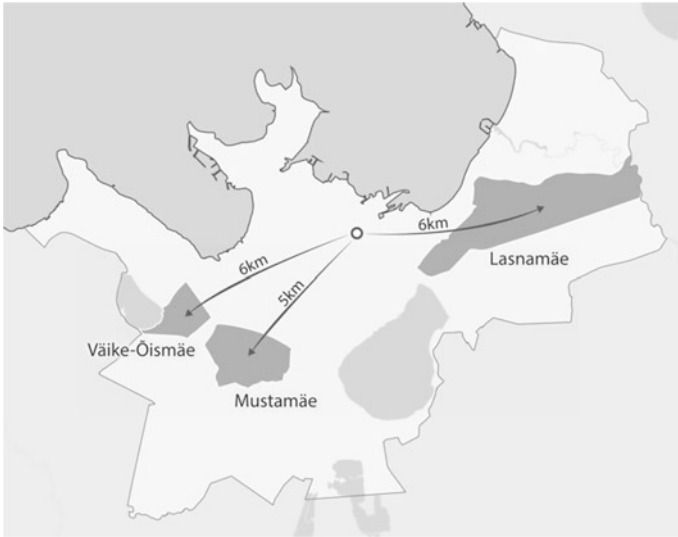


Fig. 7.1 Location of large housing estates in Tallinn, Estonia



Fig. 7.2 Mustamäe architectural competition entry by Group X. Original drawing, 1958. *Source* Museum of Estonian Architecture, used with permission

realised in Estonia (see Fig. 7.3). Later, in the 1960s and 1970s, new detailed planning projects were compiled to provide additional residential space in Mustamäe for Tallinn’s rapidly increasing population.

The plan offers the first attempt in Estonia at free-form planning, considered novel at the time, in which large residential buildings are distributed freely and do



Fig. 7.3 Mustamäe concept plan, 1959. *Source* Drawing by S. Samuel (2016) based on original plans

not follow traditional street rights-of-way, producing more sunlight and open space between buildings (Estonprojekt 1959). A number of features in the planning concept can be identified as characteristic of Finnish and Swedish modernist residential planning, where building blocks are harmoniously attuned with surrounding landscapes. Foreign influences in city planning can be attributed to the Khrushchëv thaw (McCauley 1995; Peirumaa 2004), which made possible organised study trips for Baltic professionals to capitalist countries and limited distribution of international city planning and architectural literature. More than half of the members of the Estonian Architects' Union visited Finland during the 1960s, following an inaugural trip in 1957, coinciding with the formation of concepts for Mustamäe (Dremaitė 2013; Kalm 2002). Architects who had the chance to visit capitalist countries openly popularised western ideas upon their return by writing articles and columns in newspapers.

Adhering to a density norm of 9.5 m² per inhabitant, the total residential space in Mustamäe was 538,000 m², embodied in 9 mikrorayons. A majority of buildings (88%) were five storeys high and a small share (4%) was high-rises. Within every mikrorayon, several elementary schools and one high school (or gymnasium) were planned; in addition, two cinemas, a library, hospital, four canteens, a restaurant and four saunas were required. Shops and service centres (hairdressers, laundry, etc.) within so-called ABC centres were evenly distributed within a radius of 500 m of residences. Greenery was preserved in a surrounding forest park, and each mikrorayon included sports facilities and playgrounds. A network of pedestrian paths connecting major destinations was carefully planned. Public transport played an important role; in addition to trolleybuses and buses, a tram was planned, and the location of stops was integrated with the pedestrian network. Garages and shops were designed in the proximity of major thoroughfares to avoid heavy traffic in mikrorayon interiors. Commercial and community centres, with various attractions (including dance halls, fashion studios and sports centres) were planned as

organising foci in the southern part of the district at the intersection of major radial thoroughfares. The plan stresses unique designs—avoiding standard Soviet projects—for important community assets like a cultural centre, department store, market hall and hotel.

The construction of Mustamäe occurred between 1962 and 1973. Major shortcomings in the operation of the district appeared when certain features were not built, including a centrally located business and community centre and several 16- to 22-storey tower blocks. A lack of recreational facilities, greenery development and landscaping were evident immediately after construction (Port 1969).

7.4.2 *Väike-Õismäe: Aerial Architecture in a 1970s Makrorayon*

A detailed planning project for Väike-Õismäe was completed in 1968, overseen by architects M. Port and M. Meelak, and a redevelopment enhancement plan was subsequently issued in 1974, adding services and amenities (but none were actually built).

According to Soviet building regulations, the area should have originally been divided into three or four mikrorayons. However, during the detailed planning project, several alternative solutions were proposed (see Fig. 7.4) which disregarded the central principles of mikrorayon formation and abolished the strict population normative. In the end, the architectural team courageously devised a novel *makrorayon* approach instead:

The makrorayon concept evolved quite unexpectedly when we tried to avoid the usual shortcomings of a traditional mikrorayon-based approach. The main logic is quite simple: the street is fringed with buildings on both sides, radial avenues are unneeded, the traffic operation scheme is more simple, and the required street length is halved. To avoid monotony, the buildings are grouped in various combinations; 9-storey buildings are interspersed with “freely placed” 16-storey highrises’. (Port 1969, 35–37)

The district was planned as a makrorayon with a compositional focus on a broad encircling street, which was, characteristic to socialist-modernist urban form, impressive when viewed from above (see Fig. 7.5) (Hess 2017). The outer parts of the oval contained mostly five-storey buildings and the inner part mostly nine-storey buildings (with occasional 16-storey high-rises) (Port 1969) (see Fig. 7.6). The circular layout is punctuated by an artificial lake at its core. Schools and childcare centres are situated symmetrically around the centre. Due to natural circumstances (location on a limestone plateau), green space is restricted in size. According to the plan, the total residential space is 357,000 m² for 37,750 occupants [adhering to a density norm of 9.5 m² per resident (initially) and 12 m² (after full implementation)]. Car parking spaces were planned for 5,050 vehicles (norm of 170 cars per 1,000 people). Following the norms, 75 groceries and 12 shops for

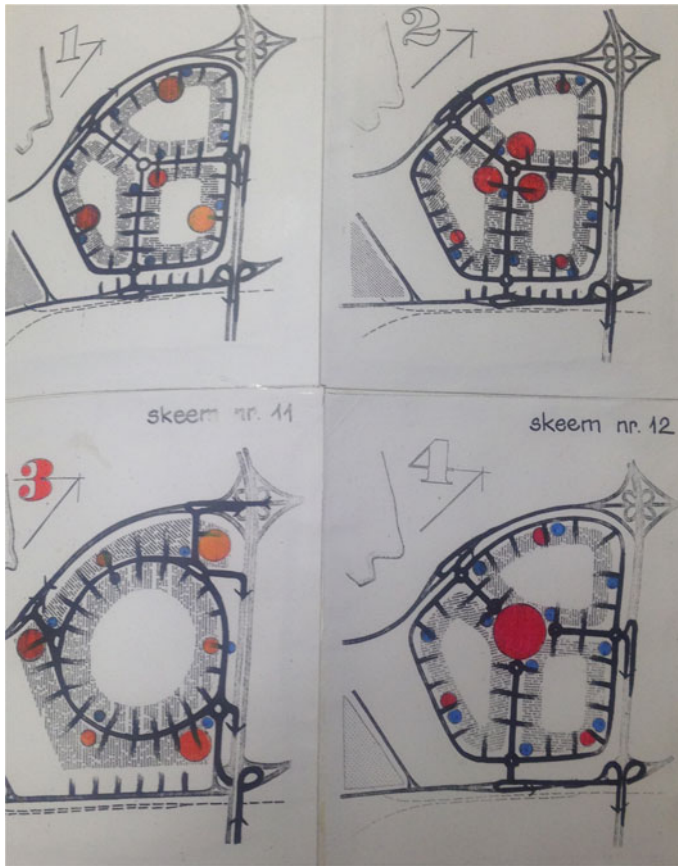


Fig. 7.4 Original drawings for Väike-Õismäe detailed planning project, 1968. The drawings represent alternative transportation network schemes; option 3, which configures the district as a single *makrorayon*, was the selected option. *Source* Tallinn City Government Archives, used with permission

other goods were planned, as well as 3 canteens, 30 beauty salons and community centres. Only 25% of these planned services were ultimately built.

Construction of the Väike-Õismäe *makrorayon* began in 1973. Despite the fact that in Väike-Õismäe, USSR building regulations were creatively interpreted—for example, a single *makrorayon* instead of three *mikrorayons*, pedestrian crossings not separated from vehicles, etc.—the architectural team was awarded the Prize of Architecture of the USSR Council of Ministers in 1976 (Port 1983). Some parts of the original plan were never implemented (such as large communal car parks between dwelling groups). Deficits in shops and services were severe: only three grocery shops were built, which resulted in constant queues, and only two of three planned community centres were constructed.

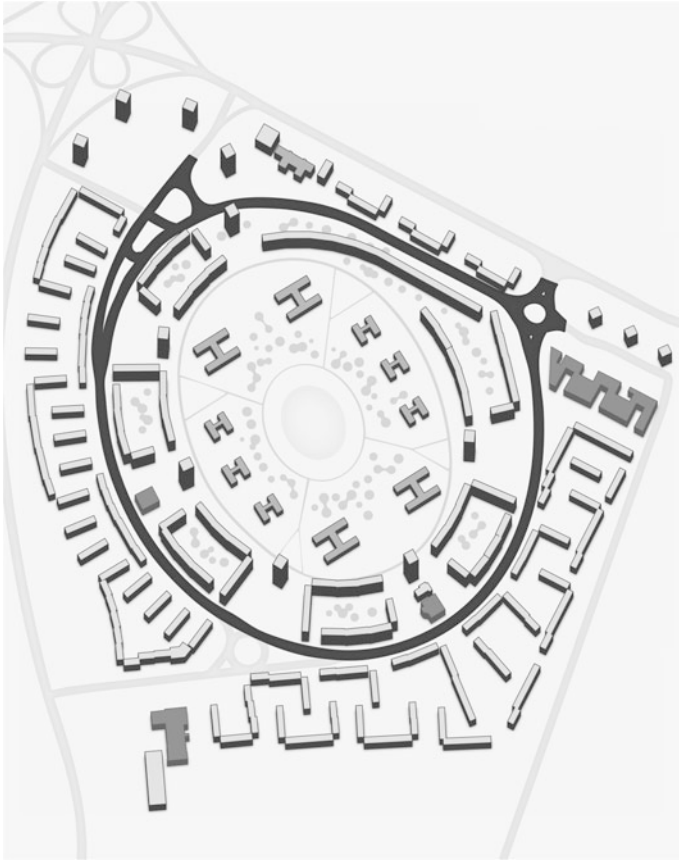


Fig. 7.5 Väike-Õismäe concept plan, 1968. *Source* Drawing by S. Samuel (2016) based on original plans

7.4.3 Lasnamäe: Soviet Megalomania, Built to Only Half Completion

An all-union design competition for Lasnamäe, an enormous residential area, took place in 1969 (Port 1983). The winning design (one of four submitted) produced by M. Port, M. Meelak, O. Zhemchugov, H. Karu and R. Võrno became the basis for the detailed planning project prepared in 1970 by the State Planning Institute *Eesti Projekt* (see Fig. 7.7). In 1979, an updated general plan was issued to increase residential densities and provide better connections to neighbouring industrial zones.

The guidelines issued by Tallinn City officials and prepared by the city architect's office in 1970 established additional principles for detailed planning: the general structure should be based on *makrorayons* (25,000 to 30,000 inhabitants)



Fig. 7.6 Graceful curves in Väike-Õismäe, Tallinn, Estonia. Photo by Johannes Külmet. *Source* Museum of Estonian Architecture, used with permission



Fig. 7.7 Lasnamäe concept plan, 1970. *Source* Drawing by S. Samuel (2016) based on original plans

with administrative and business centres; residential building arrangements should form inner courtyards for wind protection; expressive exterior ‘gateways’ should be composed; buildings of citywide importance should be included and a pedestrian esplanade should top the limestone cliff (see Fig. 7.8) (Eesti Projekt 1970). The backbone of the detailed plan included two key east–west thoroughfares, one of them sunken (7 m deep), making possible flyover bridges and permitting higher traffic speeds below while enhancing safety for pedestrians (Hess 2017). Pedestrian precincts were planned as landscaped boulevards planted with trees, running parallel to the motorways and crossing the traffic lanes via footbridges near community centres and parking lots (see Fig. 7.9). All community centres adjoin pedestrian

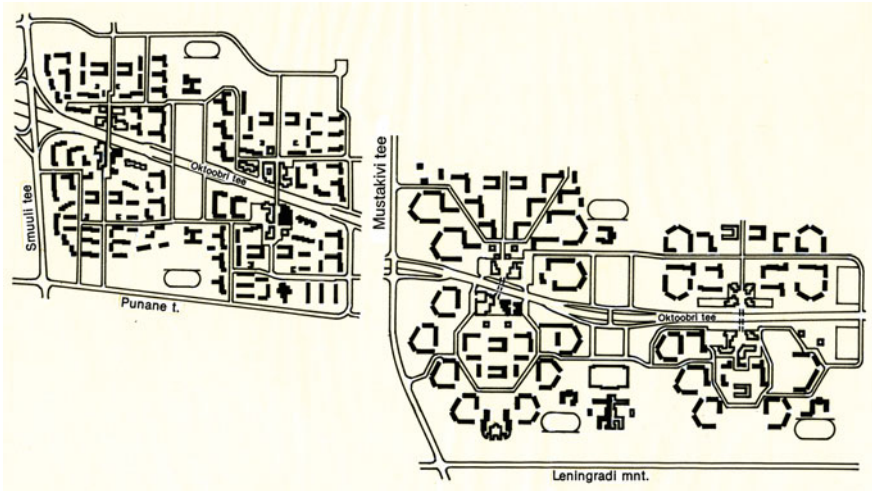


Fig. 7.8 The plan for a housing estate at Lasnamäe (Tallinn, Estonia) centres on four Mikrorayons. *Source* Museum of Estonian Architecture, used with permission

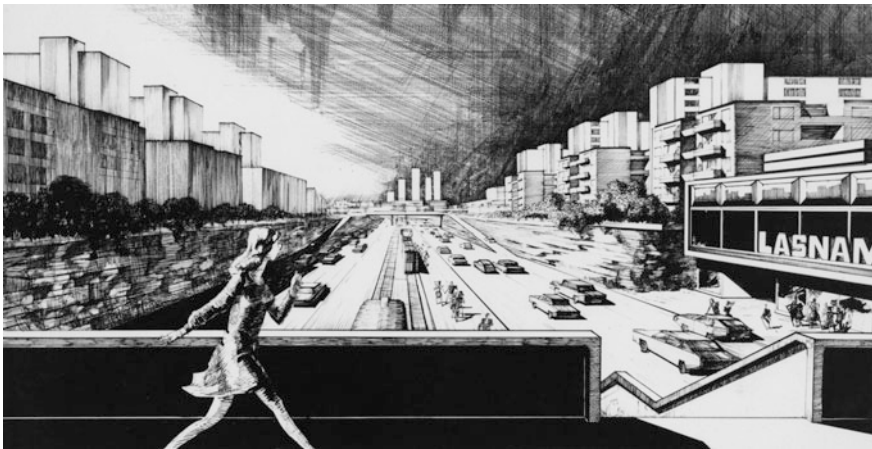


Fig. 7.9 A sketch of a pedestrian overpass providing access to the commercial centre of Lasnamäe, Tallinn. *Source* Museum of Estonian Architecture, used with permission

streets. In addition to five large sports halls, a cultural-memorial centre was planned on the edge of the limestone cliff. Housing is concentrated around the centres within a radius of 500 m. Each mikrorayon has a population of 12,000 to 16,000 inhabitants. The large-panel houses have mostly 5, 9 or 16 storeys. Two- and three-storey row houses and 22- to 24-storey towers are included (Port 1969). The total planned residential area exceeded 3.9 million m² (adhering to a density norm of 22.5 m² per capita).

Estonian housing estates and Finnish housing estates (such as Tapiola and Pihlajamäki) share elements of Finnish modernism (Dremaitè 2013). However, Scandinavian modernism and Finnish and Swedish orientation are not easily traceable in the Lasnamäe planning scheme. The cosiness characteristic of Scandinavian new towns that, according to one expert (interview with O. Zhemchugov, 2013), should have been expressed in Lasnamäe (through high-rise building blocks arranged to form inner courtyards) was lost due to the enormous scale of the housing estate.

One-third of the planned apartment houses in Lasnamäe (mikrorayons IX–XII) were not constructed; the spatial structure of the largest housing estate in Tallinn is functionally incomplete because the commercial centre of the district was never built (nor was the cultural-memorial centre). As usual, there were shortcomings in providing recreational facilities and shops, and greenery and parks are almost non-existent. The transport facilities essential for commuting are remarkably inadequate, as the high-speed light rail originally planned in a sunken motorway was not built.

7.5 Challenges and Opportunities in Large Housing Estates in Soviet Estonia

Two key themes emerge when we synthesise the findings of our detailed discussion of Tallinn's three large socialist housing estates. First, we demonstrate how international modernist ideals inspired local architects—to a greater extent than previously recognised—and influenced the development of housing estates in Soviet Estonia. Second, we explore the powerful role in Soviet Estonia—which perhaps departed from the norm in USSR republics—of local architects in town planning practice as revealed by first-hand accounts.

7.5.1 International Knowledge Inspires Architects of Large Housing Estates

Estonia's geographic position on the western periphery of communism (or 'inner abroad' in the USSR) made possible the preservation of close relations with neighbouring capitalist countries. Finnish and Swedish influences are consequently evident in city planning and architecture of the day in Estonia (interviews with D. Bruns, 2013; I. Raud, 2016) and international modernist ideas from the western world played an important role, too, in the design of large housing estates (interview with D. Bruns, 2013; O. Zhemzhugov, 2013). An adherence to modernist ideals can be detected in the 'clean sweep' urban development method—entailing

the complete demolition of existing semi-urban space in order to build something new and boldly different—heretofore untested in Estonia (Hess and Hiob 2014).

Our findings suggest that the city planning system in the Soviet Union was not as controlled as previously assumed. The 1950s Khrushchëv thaw—often referred to in hindsight as a ‘brilliant failure’—transformed certain aspects of the Soviet system (but not the system itself) and was highly significant for city planning (McCauley 1995). Liberalisation of state and foreign politics in the USSR influenced all aspects of life, including cultural landscapes (Peirumaa 2004). In the Baltic countries (and other USSR republics, although due to proximity and similarities in language, Estonians were perhaps more likely to participate), official study trips to Finland and Sweden were the manifestation of fostering international connections (and for Estonians, perfectly timed with concept development for *Mustamäe*). The trips became more frequent when, in 1965, direct ferry connection between Tallinn and Helsinki was restored (Kalm 2002). Upon return from the study trips, Estonian architects published articles about their experiences and impressions (in both public media and in professional outlets) in surprisingly candid ways, frequently debating the possibilities for urban planning practice and critiquing the planning of large residential districts. During the Khrushchëv period, social contacts with war-emigrant Estonians (mostly in Sweden and Germany) were enabled, permitting information from abroad to be easily delivered through family connections. An official slogan of the socialist system—‘learning from the mistakes of capitalist countries’—was given special meaning in the way professional architectural knowledge was openly developed from foreign books and magazines (*Eesti Projekt* 1968). While the atmosphere of censorship was strict in the USSR, inhabitants of the northern part of Estonia were able to receive Finnish television signals, due to physical proximity, readily granting them exposure to visual depictions of modern cities and residential spaces across the Baltic Sea. For these reasons, we argue that Estonia is distinctive among the sister republics for its outward connections and influence and offers an intriguing array of interrelated modernist residential planning approaches.

Orientation towards Estonia’s northern neighbours was a conceptual tendency in Estonian architecture and city planning that usurped the standard design models of the USSR (Kalm 2002) and encouraged ‘Baltic exceptionalism’ in architecture and city planning (Dremaitė 2017). Compared to architectural design of individual buildings, the influence of Finnish and Swedish town planning innovation on site planning for large housing estates is more difficult to trace. The vast scale of socialist housing estates in Soviet Estonia amplified the drabness of the districts and at the same time diminished the comforting features of Scandinavian modernism, like natural terrain emphasis and use of existing trees to create ‘tower in the forest’ settings for new housing blocks.

However, parallels between the layout of housing estates in Estonia (from the Soviet years) and contemporaneous Nordic city planning can be easily detected from our analysis of original planning documents and statements made by chief architects of the plans (Kalm 2012; interviews with D. Bruns, 2013; I. Raud, 2016; O. Zhemchugov, 2013). This was unique in the USSR, although it was matched to a

certain degree in Latvia (in Āgenskalna priedes in Riga) (Kalm 2002) and Lithuania (in Lazdynai in Vlinius) (Dremaitė 2013; Rimkutė 2014) and to some extent, in Russia. Both Estonian and Lithuanian housing districts received awards from all-Union architectural and planning competitions (Bruns 2007; Dremaitė 2013; Port 1983) and Estonia and Lithuania were the only republics that regularly fulfilled new housing construction quotas required by Soviet authorities in Moscow (Pesur 2003).

The design of Lithuania's Lazdynai, which, like the housing estates in Estonia, pushed the boundaries of Soviet design—and, in some senses, composed in opposition to a standard Soviet mass housing scheme—was later heralded by the communist party for its socialist design excellence (Dremaitė 2010).

7.5.2 Architects in Estonia Maintain a Consistently Strong Role in Town Planning Practice

Since architectural education began in Estonia in the 1920s, local professional architects had gained several decades of experience prior to the socialist era. Estonia was one of the few republics in the FSU that preserved an independent site-planning design capability in its state planning and design apparatus (*Eesti Projekt, EKE Projekt, Tööstusprojekt, Kommunaalprojekt*), a practice that can be traced to a mature architectural tradition dating from the early twentieth century (interview with J. Lass, 2016). Professional self-awareness combined with institutional powers granted by the new regime encouraged Estonian architects to take an active role in city planning under state socialism. In other republics of the Soviet Union such as Belarus and Kazakhstan (interview with J. Lass, 2016), architectural and city planning were designed and implemented from central headquarters in Leningrad or Moscow (using only standard building and district designs), with virtually no involvement with local or national experts (Rimkutė 2014; Ruseckaite 2010). Consequently, architects in Estonia maintained a considerable voice in shaping cityscapes. City planning practice in Estonia was thus not based solely on reproduction of centrally formulated urban design models or economically efficient engineering but was developed locally under the leadership of skilled Estonian architects. In municipal governance, an architectural department and architectural advisory board were important bodies, largely comprised of architects, and architectural commissions reviewed plans and projects issued by state planning and design institutes.

A strong tradition of architectural competitions in Estonia, originating in the 1930s, continued throughout the Soviet occupation, generating unique designs for significant buildings and site planning for new residential districts (Lapin 1981; Port 1983). As a result, a non-Soviet international influence is highly apparent in Estonian plans for large housing estates, a phenomenon that can be attributed, at least in part, to western knowledge and information about city planning from

international sources. Notably, foreign architectural magazines were used in universities as teaching materials. Similar phenomena are recognised in Lithuania, where Dremaitė argues that modernist aesthetics and western-oriented ambitions of Baltic architects were reflected during Soviet times in mass housing as architects sought to modernise cities and also declare their membership in an international cadre of modern architects (Dremaitė 2010). We thus find support for a ‘westward gaze’ (Maciuka 1999, 23) among architects in Estonia, matching a pattern in the Baltics, as an expression during Soviet times of national and cultural identity.

This research confirms significant roles for bold and daring local architects in the Baltic republics in planning and designing large socialist housing estates. In the FSU, town planning was recognised as a critical function since it ensured the propagation of socialist ideology by translating collectivism to urban built environments which would endure. Our interviews with key architects of socialist housing estates revealed that clever interpretation of the norms and guidelines was required for architects to achieve a specific vision, and that experience and confidence helped architects to perfect the practice of creative interpretation of Soviet dicta. Architectural and planning officers in State Building Committees were known to avoid the commands of power, when possible, while working earnestly to improve the social space of cities (Oja 2009).

Our detailed investigation of mikrorayons in Tallinn demonstrates that professional architects were represented in almost all levels of official decision-making in town planning processes that produced large housing estates. The State Building Committees in the USSR republics—often referred to as the ‘architectural KGB’ (Oja 2009)—were traditionally led by a chief architect. The leader of the State Building Committee of Estonia from 1965 to 1988 has said that he accepted the position out of loyalty after being warned that if he did not assume it, a Russian would be imported to direct the institution. Undisturbed by voices of the public nor landowners, the chief architect of Soviet Tallinn was solely responsible for all decisions with spatial dimensions.

7.6 Conclusion

The massive scale of residential districts in socialist urban space required a comprehensive approach for an unprecedented scale of urban development. Chief architects, when designing mikrorayons, were tasked with designing myriad interrelated urban systems: proposing a road and traffic system, locating services and recreational areas, conducting mobility planning, establishing infrastructure and orchestrating the compositional structure of new urban fabric. We synthesise our findings to conclude that, in undertaking these enormous challenges, architects in socialist Estonia (as well as Latvia and Lithuania) can be considered visionary city builders who, when handed standard building designs for residential space, seized opportunities to innovate in site design and layout, embracing possibilities to create unique built environments in vast housing estates that influenced urban landscapes.

We further find that architects appropriated the maximum authority they possibly could (and perhaps even overreached in certain cases) within the communist system, helping them to create state-of-the-art modernist living environments that shaped lives in important ways.

What resulted were distinctive modernist spaces that, although they contained standard Soviet residential buildings at their core (this could not be helped), were otherwise state of the art. Apartments in new housing estates provided coveted conveniences (for example, modern kitchens, comfortable toilets and washrooms, central heating) that were superior to amenities offered in contemporaneous pre-World War II housing (Hess 2011) and were thus quite prestigious (Kährik and Tammaru 2010). Individual apartments in new Estonian housing estates had grown larger during the Soviet era, and, by the late Soviet years, Estonians enjoyed the highest living space per capita at (11.7 m²) in the Soviet Union (the USSR average was 9.4 m²) (Bater 1989). Only budget constraints and notoriously cheap construction materials dampened the modernist vision that Soviet-era Estonian architects created for new residential space in Estonia's capital city (interviews with I. Raud, 2016; D. Bruns, 2013; O. Zhemzhugov 2013). If the conditions in Estonia that allowed town planning innovation that we describe in this article had not existed, built environments in housing estates could be of much lesser quality than those that endure today.

We also demonstrate a new perspective of Soviet-era city planning in Estonia by helping to correct inaccurate assumptions that architects' contributions to city planning practice were generally weak and strongly controlled by the Soviet system through unchallengeable designs and plans from the USSR central party. Based on analyses of original planning documents, we suggest that, regarding site planning for mikrorayons, the regulations issued in Moscow played a less important role in town planning outcomes in Estonia than previously assumed for USSR republics. While it was necessary for architects to strictly adhere to density norms, the physical structure and site planning of mikrorayons were, as a rule, the outcome of original design processes by local architects who were strongly inspired by modernist ideals popular at the time throughout the western world. We depict in this chapter a series of three large housing estates, built in the capital city during the socialist years, showing the relatively powerful position of Estonian architects in socialist city building processes and how, using more information from abroad than is often recognised, they gained expertise in modernist city planning techniques and produced original and state-of-the-art designs. The process we describe produced more desirable housing estates in Estonia than would have resulted from strict adherence to system constraints. These events provided party leaders with exemplary town planning ensembles to support residential expansion, while Estonian architects experienced a supportive atmosphere (contrary to common assumptions about the USSR) to pursue modernist ambitions that they hoped would be admired beyond the borders of the Soviet Union.

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