

# Diversity of Riga 21<sup>st</sup> Century Apartments

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**Abstract** – Taking into account the wide variety of household types, it is crucial to provide different housing. The research focuses on the diversity of Riga 21st century apartments, considering the principles of the housing diversity concept and the context of Riga development. Theoretical studies as well as empirical research methods were used. According to the research results, in general the diversity is satisfactory. However, several negative aspects were identified. Therefore, it is necessary to take actions in order to achieve a greater housing diversity and overall sustainability.

**Keywords** – Apartment, contemporary architecture, housing diversity, residential environment, Riga.

## INTRODUCTION

Housing plays a vital role in the context of quality of life, urban regeneration and a wide range of other aspects. Residential zones occupy 26 % of Riga area [41] and 93 % of citizens are living in apartment buildings [27]. In parallel with the renovation of existing buildings, new residential areas are being developed. Since 2000, around 23 000 new apartments have been built in Riga [2], [8]. These newly built apartments should accomplish not only the needs of a wide range of households, but also have to be developed in a social responsive, resource efficient and sustainable way. Although previous research has shown the general situation of housing typologies, distribution in the city and other aspects [4], [30], they were mainly focusing on the overall residential environment. Far too little attention has been paid to the investigation of new housing developments. This paper examines the diversity of Riga new built apartments in order to provide a deeper understanding of the current development trends.

## I. RESEARCH OBJECTS AND METHODS

The general situation was evaluated using the overall data about apartments, which were built in the time period of 2000–2018. In order to determine the level of apartment diversity, forty-nine (49) 21<sup>st</sup> century apartment complexes in Riga were selected for deeper research. Each of the selected complexes is constructed as an architectural ensemble and consists of at least 2 buildings with at least 80 apartments. Also, in the selected complexes at least the first phase of construction has been completed in the period between 2000–2018. Depending on data availability, some measures were calculated from a smaller range of research objects. In this case it is noted separately.

Theoretical as well as empirical methods were used in the research. The analysis of scientific papers and sustainable strategies was used in order to evaluate the significance of

the housing diversity concept as well as to identify possible approaches and trends. The analysis of legislation, urban plans and other documented sources was used to explore the context of Riga. Field studies of the selected cases were used to identify several aspects of housing diversity, such as building height, local urban structure, etc. In order to determine some other aspects, such as apartment area, citizen preferences, etc. the analysis of statistical and sociological survey data was used.

## II. THE CONCEPT OF HOUSING DIVERSITY

Adequate housing is a fundamental human right [49]. In order to accomplish the needs for housing of different households by income level, marital status, lifestyle, etc., it is necessary to achieve a wide variety of housing types by size, number of rooms, building typology, density, price, tenure type, etc. Moreover, diverse apartment types may ensure a greater stability in the long term due to the balance of the supply of housing for a wide range of households and the changing needs of the occupants [3].

The concept of housing diversity not only refers to the general diversity of housing types, but also to the mixing strategies. Developments of integrated and mixed communities are encouraged by the United Nations in order to ensure adequate, safe, healthy and affordable housing and to avert gentrification, gated communities and segregation [18]. The most commonly named benefits of housing diversity mix are as follows:

- potential to achieve a wider range of the population in the neighbourhood;
- opportunities to relocate during a different life phases (income increase, family grounding, aging, etc.), without the need to leave a neighbourhood, thus allowing to remain in a community and keep social network;
- encouragement of diverse social interactions;
- increase of equality and opportunities;
- avoidance of a place-based stigma;
- reduction of anti-social behaviour and provision of role models for education and work;
- potential for more housing units to be occupied throughout the day, thus increasing community safety;
- protection from formation of gated communities and segregation [6], [9], [33], [40].

At the same time, there are also some concerns regarding the success of mixed communities. It is claimed that:

- social interactions have not been successful enough, mostly due to socio-economical differences;
- housing mix is not a one fit solution for every situation and can lead to the creation of "average neighbourhoods";

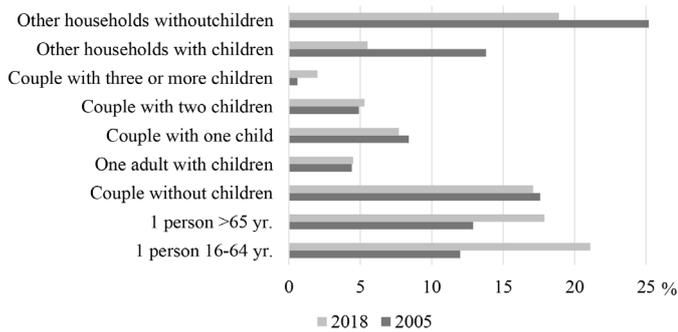


Fig. 1. Riga households by demographical type in the period of 2005–2018, % [Author, using [35]].

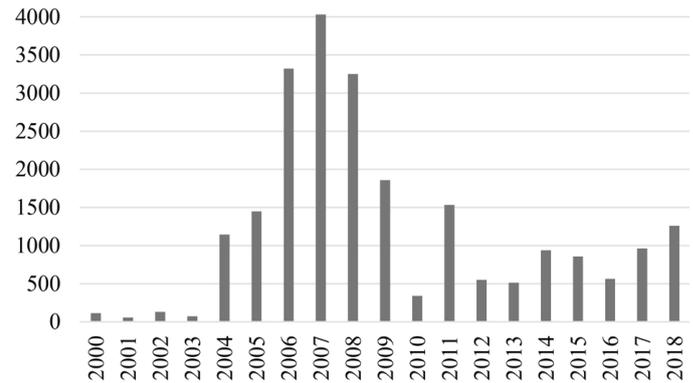


Fig. 2. Constructed Apartments in Riga in the period of 2000–2018 [Author, using [2], [8]].

- in some cases, in order to accomplish the requirements of housing mix by number of rooms, some development included a few large apartments, which were planned particularly for large families, but in the end these apartments were used by sharers [6], [33], [40], [46]. Although housing mix has a range of benefits, it has to be seen in a wider context and accompanied with other tools and actions toward sustainable development.

### III. THE CONTEXT OF RIGA

#### A. Demographics and Household Characteristics

In the period of 2000–2019, the population of Riga has declined by 17.5 %, and in the beginning of 2019, it accounted for around 633 thousand [20]. Due to continuous shrinkage of residents, it is expected that in 2030 population could decline to 540 thousand [14]. However, according to the Sustainable Development Strategy of Riga until 2030, it is necessary to raise the population of Riga to 700 thousand [42] in order to provide a balanced socio-economic situation.

In the period of 2005–2018, the number of 1 person households in Riga increased by 14.1 %, especially in the age group of 16–64 yr., but households of 4 persons have dropped by 5.3 % [34], [19]. Distribution of households by demographical type can be seen in Fig. 1.

Although recently there is a slight increase of couples with several children, the overall data shows, that during the last two decades, declining of average household size as well as aging of the society has been observed.

#### B. Existing Housing Stock and Real Estate Market trends

According to the census of 2011, around 45.0 % of the existing housing stock was multi-apartment buildings, 24.9 % had more than 5 storeys, 60 % of apartments were 40–70 m<sup>2</sup> large, and 72 % of the population were living in houses built in the period of 1946–1990 [27]. During the last two decades, real estate mar-

ket has been influenced by several aspects, including political decisions, changes in the bank lending policies, etc. Due to economic growth and other beneficial aspects, starting from 2004 real estate market experienced a rapid growth, which sharply declined after economic downturn in 2009 (Fig. 2). In the period of 2000–2018, around 23 thousand new apartments have been built in Riga [2], [8].

In recent years, construction industry is slightly recovering, and current trends show that, due to the rise of demand for economy class housing, developers tend to build more budget class apartments [47]. In the end of 2018 prices for new built apartments were in the range of 1 500 up to 6 000 euro per m<sup>2</sup> in luxury cases [10].

Riga faces undeveloped rental market [4] and the rent prices in residential neighbourhoods are usually 30–40 % higher in the new built apartments than the rent in Soviet-era buildings. For a 2-room apartment the rent is between 350–550 euro, but for a 3-room apartment – 500 to 750 euro [10]. Moreover, Riga faces competition of agglomeration regarding real estate market due to lower prices and higher subjective quality of living environment [16].

There are several support options such as program *ALTUM*, which guarantee a housing loan in cases when a family with at least one child or a young professional has a steady income, but does not have sufficient savings for the first down payment [37]. In some cases, it is possible to apply for a social housing. According to the statistics, in 2018 there were 17 buildings of social housing in the city with a total of 1 596 apartments, as well as 340 apartments with a social status outside the social housing. In October 2018, there were 3 414 families waiting for help regarding housing [24]. Although the percentage of newly built developments in the total housing stock increases each year and support programs are available, the poor rental market, waiting list for social housing, competition of the agglomeration and other weaknesses do not allow achieve the best possible results and creates threats for further developments.

### C. Sustainable Development of Residential Environment

One of the action directions in Sustainable Development Strategy of Riga until 2030 is “Quality living environment and accessible housing”. This aspect is important in order to prevent the decrease of population and improve the quality of life within the limits of the city. To achieve this goal, it is expected to promote the renovations of existing housing stock, as well as to expand the range of municipal rental and social housing and develop a monitoring system [42].

In accordance with Riga municipality survey in 2018, 52 % of respondents were satisfied with the housing offers in the city [43]. However, as stated by the Riga City Council Housing and Environment Department, it is necessary to increase housing affordability by continuing and expanding the housing support program for young families and families with children, including regulation of new tenancy ratios, and facilitating the availability of public sector rented housing. By improving housing accessibility, it is expected to increase return migration, to ensure job market stabilization, to provide conditions for urban and economic development, as well as improve demographic situation [38].

According to the Riga Thematic Plan of Housing Development it is expected to promote the following developments:

- in the city centre, development of multi-apartment buildings with a limit of 6 storeys, except *Skanste* district, where it will be allowed to build up to 15 storey buildings;
- outside the city centre, development of multi-apartment buildings with a limit of 3 to 5 storeys;
- in a few districts, such as *Trīsciems*, *Mangalsala*, *Jugla* and *Berģi*, development of the single-family housing sector, in order to compete with the Riga agglomeration offers [32].

Equality and inclusion are also important aspects of sustainable development. According to the existing legislation of Latvia, all new built multi-storey apartment buildings have to accomplish environmental accessibility requirements for access to the building on the ground floor level or up to a lift. Building and apartment entrances, lifts and other common areas shall be designed without thresholds or steps and shall have ramps when needed. If the apartment building provides apartments for persons with reduced mobility, there are extra requirements [28], thus providing suitable environment for people with reduced mobility.

## IV. DIVERSITY ASSESSMENT

### D. Location and Urban Grid

The data of the research shows that new apartment complexes have been built all around the city – 70.8 % are located in different residential neighbourhoods, 14.6 % are constructed in the periphery territories (more than 8 km from the city centre), and 14.6 % are created in the central area including the *Skanste* newly developed district (Fig. 3), [22], [23], [25].

Each of the new apartment complexes has been influenced by location and city’s grid. Figure 4 represents three main urban structure types.

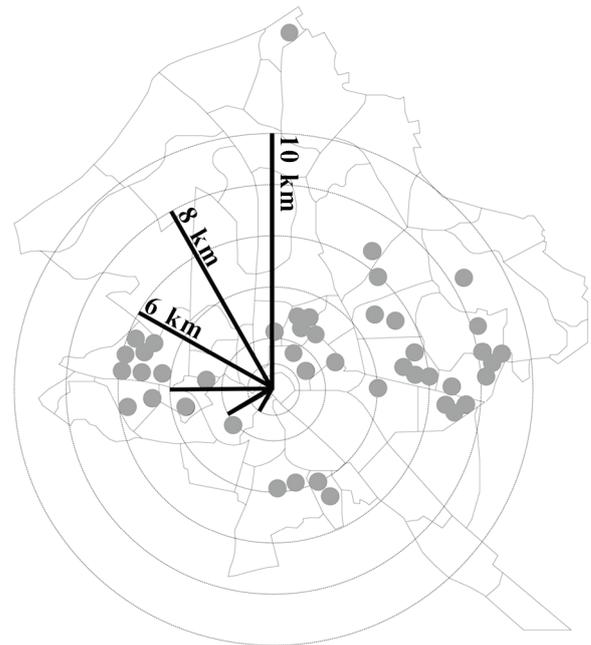


Fig. 3. Spatial distribution of new apartment complexes built in the period of 2000–2018 [Author, using [22], [23], [25]].

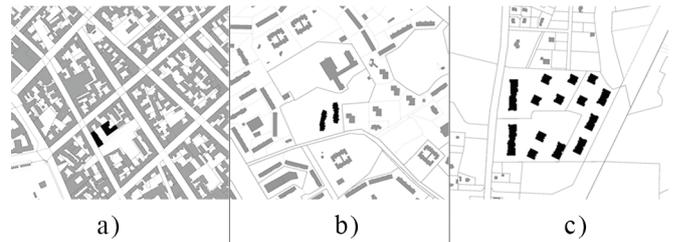


Fig. 4. The main urban grid type examples of newly built residential environment: a) “Centrus”; b) “Dammes Liepas”; c) “Jaunbikēri” [Author, using [22], [23], [25]].

In accordance with *Bonava Latvia* and SKDS conducted survey, 77 % of respondents mentioned that it is important to live close to the city social life. At the same time, 68 % of respondents want to live further away from the city centre and closer to nature [5].

### E. Building Height

Building height plays a significant role in human scale and perception of urban environment. The data of the research shows that 15 % of the research objects are low rise buildings with less than 5 storeys, the vast majority, 72 % of the research objects consist of buildings with 5 to 15 floors, 9 % are high rise buildings with more than 15 storeys, but 4 % consist of buildings with mixed height (Fig. 5).

According to the survey conducted by *Latio* real estate company 40 % of respondents would prefer to live on the first or second storey, around 30 % would choose the third or fourth storey, around 12 % – the fifth or sixth storey, but around 18 % would prefer a top storey [47], so the vast majority prefers to live on the 4th storey.

TABLE I.  
AVERAGE AREA OF APARTMENTS [22], [23], [34], [35]

Number of rooms in an apartment	Apartment types by number of rooms, %	Households by number of people, data of 2018		Households by demographic type, data of 2018		
		Share of all households, %	Number of people	Total share of all households, %	Share of all households, %	Demographic type
1	19.2	39	1	39	21.1 17.9	1 person 16–64 yr. 1 person >65 yr.
2	38.2	28.5	2	36	17.1 18.9	Couples without children Other households without children
3	28.3	17.7	3	12.2	4.5 7.7	One adult with children Couples with one child
4	13.4	10.3	4	10.8	5.3 5.5	Couples with two children Other households with children
5 or more	0.8	4.5	5 or more	2	2	Couples with three or more children



Fig. 5. Apartment complexes with different building heights: a) “Bišumuiža”; b) “Purvcieņa projekts”; c) “Skanstes virsotnes”; a) “Brīvības gatve 386” [a), b), c) – by author; d) – from [7]].

F. Number of Rooms and Area

Diversity by number of rooms has been calculated from 1 232 apartments located in 11 research objects. 6 of 11 objects had 1 room apartments and 1 project included 5 and more room apartments. Almost 67 % of apartments have 2 or 3 rooms [22], [23]. In general, households choose apartment size and number of rooms in accordance with the number of persons of a household and a family type. The research data (Table I) shows that the biggest difference can be observed between the share of 1-room apartments and 1 person households. However, according to the Riga Thematic Plan of Housing Development it is desirable in the future to achieve housing supply, which delivers one room

more than the number of persons in the household living in this dwelling and achieve 35 m<sup>2</sup> of housing per person in apartment buildings [32].

As reported, in 2014, 57 % of Riga municipality housing estate apartments were 1-room apartments. However, 79 % of municipality housing requests and 95 % of social housing requests were exactly for 1-room apartments [44], (Table II), clearly showing the shortage. At the same time, it is necessary to plan also 3 and 4- room apartments, due to the changes in legislation, which allows low income families with 3 or more children to obtain renting premises first [44].

TABLE II.  
MUNICIPALITY HOUSING AND REQUESTED HOUSING BY NUMBER OF ROOMS [44]

Number of rooms in apartment	Municipality housing		Social housing	
	Apartments constructed in 2009–2014, %	Housing estates in 2014, %	Requested municipality housing in 2014, %	Requested social housing in 2014, %
1	59	57	79	95
2	25	30	17	4
3	12	11	3	1
4	4	2	1	-

Layout examples show possible variations of apartments with different number of rooms. In small apartment segment, there are available one room studio type apartments, where kitchen and living room/bedroom are merged (Fig. 6 a)), [12], as well as one-room apartments with a separate kitchen (Fig. 6 b)), [11]. Apartments with two rooms usually have a separate bedroom and living room with a kitchen area (Fig. 6 c)), [1].

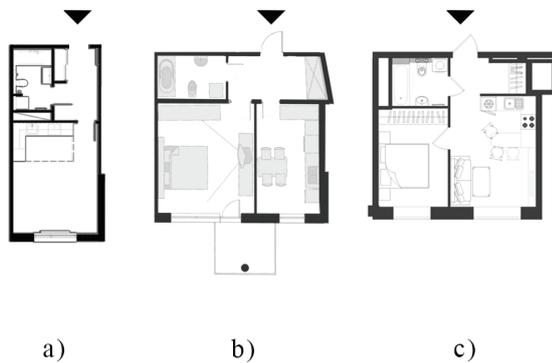


Fig. 6. Layout examples of 1 and 2-room apartments: a) "Rembates nami"; b) "Dammes Liepas"; c) "Ezerparka nami" [1], [11], [12].

Larger apartments mainly have one master bedroom, as well as one or several smaller bedrooms, two bathrooms, living room with integrated kitchen area and storage (Fig. 7 d) and e), [17], [26]).

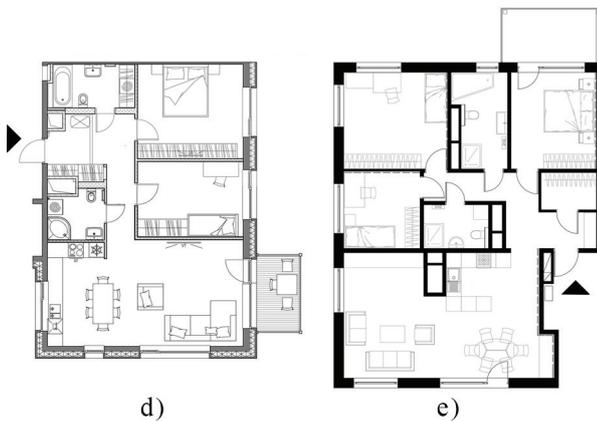


Fig. 7. Layout examples of 3 and 4-room apartments: d) "Gaiļezera nami"; e) "Bišumuiža" [17], [26].

Average area of the Soviet-era apartment was from 33.4 m<sup>2</sup> for a 1-room apartment to 78 m<sup>2</sup> for 5-room apartment [13]. In the new housing developments an average area for one-room apartment is 34.8 m<sup>2</sup> and it is similar to Soviet-era cases. At the same time 3-room apartment area in new apartment complexes on average is 74.3 m<sup>2</sup>, which is 13.5 m<sup>2</sup> more than of a 3-room apartment in the Soviet-era building and 19.2 m<sup>2</sup> more than in social housing standard (Table III), [22], [23].

TABLE III.  
AVERAGE AREA OF APARTMENTS [13], [22], [23], [44]

Number of rooms in apartment	Soviet-era housing, m <sup>2</sup>	2000–2018 apartment building, m <sup>2</sup>	Social housing standard, m <sup>2</sup>
1	33.4	34.8	35
2	45.3	55.0	40
3	60.8	74.3	55
4	67.7	103.2	65
5 and more	78.0	160.7	-

Average area of social housing can be seen as a balanced approach between adequate housing and effective usage of resources, while the free market average area has been influenced by increasing living standards. Despite the fact that on average free market apartments are bigger than those of the Soviet-era or social housing apartments 75 % of the respondents of the *Bonava Latvia* and *SKDS* conducted survey, highlighted the importance of smaller quadrature of a living space, as its maintenance requires lower costs not only in short term, but also in the long term [5].

G. Socio-economic and Tenure Types

In the end of 2018, prices for new built apartments were in the range of 1 500 up to 6 000 euro per m<sup>2</sup> in luxury cases [10]. For example, project "Centrus" is located in the city centre and has 2 to 4-room apartments. Average price is slightly under 4 thousand euro per m<sup>2</sup> [15]. In comparison, in project "Tribu Homes", which is located in *Pļavnieki* neighbourhood, the average price is about 44 % less – 1.760 euro per m<sup>2</sup> [48], thus proving also economical options for households with less income.

In October 2019, according to *City24.lv* data about Riga new built apartments with completed construction, there were around 240 offers for buying [39], but only 24 for renting [21]. 2 room apartment monthly rents are from 350 to 550 euro, but for a 3-room apartment – 500 to 750 euro [10]. For example, in project "Varavīksnes nami 3" the rent price is 7.2 euro per m<sup>2</sup> per month, excluding utility costs [51], but in "Skanstes virsotnes", the rent price is around 30 % higher – 10.2 euro per m<sup>2</sup> per month [43]. Social housing rent is reduced to 0.06 euro per m<sup>2</sup>, and for a 55 m<sup>2</sup> large 3-room apartment the renter has to pay 3.30 euro [45].

In project "Dammes liepas" housing is available for rent with buying rights. At the beginning a client must pay the down payment – 5 % of the sales price of the apartment. Afterwards monthly payment is in the range of 450 to 550 euro. 60 % of the monthly payment goes to the saving deposit. After two years the tenant can apply for a bank mortgage, redeem a property from own expense or terminate the lease [11].

Out of 49 research objects 6 were social housing apartment complexes. These complexes have been developed separately from the free market developments. Taking into account that these complexes in some cases consist of around 800 housing units [44], it raises concerns about possible segregation, socio-economic isolation as well as creation of gated communities due to the concentration of one tenure type and lack of integrated development.

H. Lifestyle and Trends

In the world such trends as micro-apartments, tiny houses, etc. have been increasing. These trends have been developing under the influence of economical as well as sustainability aspects. In project "Liepziedi", more than 20 apartments consist of one studio type room. Some of them have 22.4 m<sup>2</sup> area and exactly these apartments are all reserved or sold out (Fig. 8), [29].

Another common trend in the world is a combination of housing and workplace. In project "Magdalēnas kvartāls" 11 live-work apartments are planned. The apartment example layout (Fig. 9)

shows that living and working spaces are separated by levels. The total area of this apartment is 190.3 m<sup>2</sup> including 51.1 m<sup>2</sup> of work area [31].

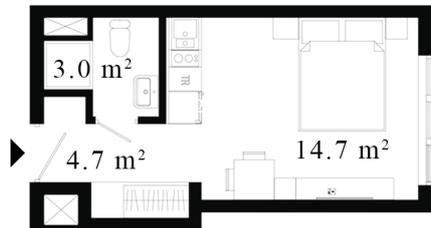


Fig. 8. A 1-room apartment of the "Liepziedi" project [29].

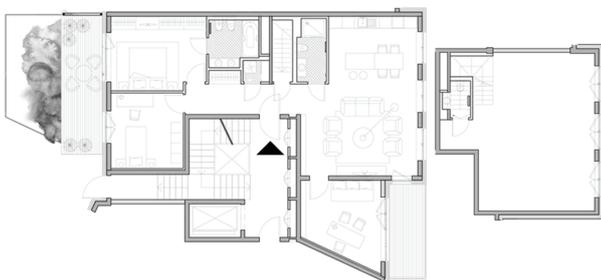


Fig. 9. Live-work apartment of the "Magdalēnas kvartāls" project [31].

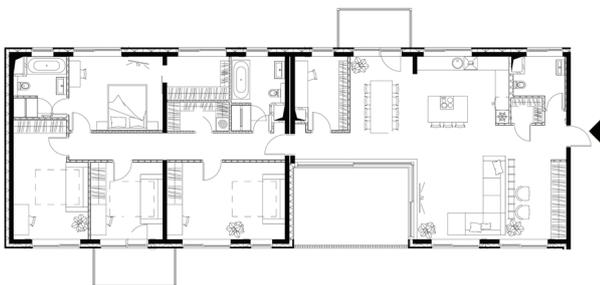


Fig. 10. 6-room apartment of the "Skanstes parks" project [50].

The opposite of a micro-apartment trend is a large apartment segment, which is mostly developed as a penthouse type housing on the top floor. The apartment layout in "Skanstes parks" is an example of a 6-room apartment (Fig. 10), which is 207.2 m<sup>2</sup> large including two balconies and one 18.6 m<sup>2</sup> large terrace [50].

Although the number of the large households is decreasing and budget class apartments are more desirable, development of large apartments can be seen as an adequate approach in order to accomplish the needs of large households and households with particular lifestyle in cases when demand and purchase ability are in balance.

Another new incoming trend is to highlight the importance of social connections between neighbours in order to provide sense of belonging, to ensure social interactions and to create stable communities. The "26Vesetas" project provides a 60 m<sup>2</sup> large common use area, which can be used for a friendly neighbours' gathering as well as for private events [36].

## V. RESULTS

The main results of diversity assessment are represented in Table IV.

TABLE IV.

THE MAIN DIVERSITY ASSESSMENT RESULTS [AUTHOR OF THE ARTICLE]

Diversity aspect	Main results			
Location and urban grid	Centre (including Skanste area)			14.6 %
	Residential Neighbourhood			70.8 %
	Periphery			14.6 %
Building height	less than 5 storeys			15 %
	5 to 15 floors			72 %
	more than 15 storeys			9 %
	mixed heights			4 %
Number of rooms and area	Rooms	Share, %	Area, m <sup>2</sup>	Area, m <sup>2</sup> , social housing
	1	19.2	34.8	35
	2	38.2	55.0	40
	3	28.3	74.3	55
	4	13.4	103.2	65
	5 or more	0.8	160.7	-
Socio-economic and tenure types	- Relatively wide range of price per m <sup>2</sup> - Purchase offers 10 times more than rent offers - 12 % social housing (from 49 research objects)			
Lifestyle and trends	- Micro apartments - Live-work apartments - Penthouses - Common-use areas within multi-apartment complex			

## CONCLUSIONS

Housing diversity and its mixing strategies are one of the key principles used to provide the development of sustainable residential environment that has a wide range of implementation benefits. However, housing diversity by itself cannot provide solutions for all problems of urban environment, therefore it should be accompanied by other planning tools and actions in order to achieve the set goals.

This study has identified that Riga faces population shrinkage and aging, increasing level of one person households, competition of real estate market of agglomeration, poor developed rental market, etc., thus creating challenging conditions for sustainable development.

This study provides the first comprehensive assessment of Riga new built apartment diversity. The main findings are as follows:

- The new apartment complexes have been built all around the city, thus providing a variety of housing choices in different density neighbourhoods, but in the context of price range the choice can be limited.
- The majority of the new built apartment complexes are middle rise, which is not only a balanced economical solution but also an adequate quality living environment. At the same time, there are also low-rise apartment blocks

and high-rise buildings, thus creating diverse options of housing and urban environment experiences.

- Vast majority of new built apartment complexes provide 2 to 4-room apartments, therefore the choice of 1-room and 5 or more room apartments is limited. In the context of increasing share of one person households and socio-economic situation, shortage of 1 room apartments has been observed.
- Shortage of social housing as well as separated development of social and free market housing create threats of segregation and formation of gated communities. Although the price range of free market housing is relatively wide, it has to be seen in the context of economic situation and purchase ability, therefore attention has to be paid to the development of support programs available to a wider range of households. Rental market should be developed as well as opportunities to attract rental investors has to be evaluated in order to provide appropriate rental options for citizens.
- In the new apartment complexes a range of trends have developed, such as micro-apartments, live-work housing, large apartments/penthouses, as well as provision of common spaces. Implementation of these and other trends can be seen as a response to the current lifestyles and in general can contribute to overall diversity of Riga residential environment.

Further research might explore how other residential typologies could contribute to overall diversity of living environment and how in the context of Riga mixed tenure type housing projects, especially with integrated social housing, could be developed.

#### REFERENCES

1. 2 istabas dzīvokļi [online]. *Ezerparka nami* [cited 02.06.2019]. <http://ezerparkanami.lv/dzivokli/2-istabu-dzivokli/>
2. A. MAG050. Uzbūvēto dzīvokļu skaits statistiskajos reģionos, republikas pilsētās un rajonos, 1997. 2009.g. [online]. *Centrālās statistikas pārvaldes datubāzes* [cited 02.06.2019]. <http://data.csb.gov.lv/sq/30000>
3. Apartment mix and designing for families [online]. *Auckland Design Manual* [cited 02.06.2019]. <http://www.aucklanddesignmanual.co.nz/sites-and-buildings/apartments#/sites-and-buildings/apartments/guidance/the-building/apartment-layout/apartment-mix-designng-for-families>
4. Apbūves un vides veidošanas vadlīniju izstrāde Rīgas apdzīvotuma telpiskās struktūras stiprināšana = I daļa Mājokļu pieprasījums, pieejamība un kvalitāti ietekmējošie faktori, mājokļu attīstības prognoze [online]. *Stratēģijas uzraudzības sistēma SŪS* [cited 19.09.2019]. [http://www.sus.lv/sites/default/files/media/faili/majoklis\\_1.dala.pdf](http://www.sus.lv/sites/default/files/media/faili/majoklis_1.dala.pdf)
5. Aptauja: Latvijas iedzīvotājiem mājokļa izvēlē svarīgs ir mājīgums, funkcionalitāte un minimālisms [online]. *City24.lv* [cited 02.06.2019]. <https://www.city24.lv/lv/nekustama-ipasuma-zinas/12239/aptauja-latvijas-iedzivotajiem-majokla-izvele-svarigs-ir-majigums-funkcionalitate-un-minimalisms>
6. Bailey, N.; Manzi, T. Developing and sustaining mixed tenure housing developments, 2008, 12 p. [online]. *Research gate* [cited 02.06.2019]. [https://www.researchgate.net/publication/237640893\\_Developing\\_and\\_sustaining\\_mixed\\_tenure\\_housing\\_developments](https://www.researchgate.net/publication/237640893_Developing_and_sustaining_mixed_tenure_housing_developments)
7. Brīvības 386 [online]. *City Real Estate* [cited 02.06.2019]. [https://www.cityreal.lv/jaunie-projekti/projekts/brivibas-386/?no\\_cache=1](https://www.cityreal.lv/jaunie-projekti/projekts/brivibas-386/?no_cache=1)
8. BŪG050. Eksploatacijā pieņemto jauno dzīvokļu skaits un platība statistiskajos reģionos, republikas pilsētās un novados [online]. *Centrālās statistikas pārvaldes datubāzes* [cited 02.06.2019]. <http://data.csb.gov.lv/sq/29995>
9. Create Diversity of Housing Types [online]. *Design Your Town* [cited 05.06.2019]. <http://designyourtown.org/strategy/create-diversity-of-housing-types/>
10. Development Real Estate Market Report [online]. *Ober-haus* [cited 05.09.2019]. <https://www.ober-haus.lt/wp-content/uploads/Ober-Haus-Market-Report-Baltic-States-2019.pdf#page=70>
11. Dzīvoklis 38 [online]. *Dammes Liepas* [cited 05.06.2019]. <http://www.dammesliepas.lv/apartments/apt/sl30a-k1/38/?lang=>
12. Dzīvoklis №59 (8. stāvs) [online]. *Rembates nami* [cited 05.06.2019]. <http://www.rembates.lv/apartment/59>
13. Dzīvokļu projekti [online]. *City Real Estate* [cited 05.08.2019]. [https://m.cityreal.lv/info/dzivoklu-projekti/?no\\_cache=1](https://m.cityreal.lv/info/dzivoklu-projekti/?no_cache=1)
14. Eglīte, P., Ivbulis, B., Gnedovska, I. Demogrāfiskās prognozes Rīgā un Pierīgā [online]. *Stratēģijas uzraudzības sistēma* [cited 04.08.2019]. [http://www.sus.lv/sites/default/files/media/faili/demografiskas\\_prognozes\\_riga\\_un\\_pieriga\\_rd\\_lza\\_2012.pdf](http://www.sus.lv/sites/default/files/media/faili/demografiskas_prognozes_riga_un_pieriga_rd_lza_2012.pdf)
15. Ēkas un dzīvokļu izvēle [online]. *Centrus* [cited 02.06.2019]. <https://www.centrus.lv/lv/ekas-un-dzivoklu-izvele>
16. Felcis, R., Nikišins, J., Zača, E. Pierīgas iedzīvotāju dzīves vietas izvēles kritēriji. Pētījuma rezultātu atskaite [tiešsaite]. *Stratēģijas uzraudzības sistēma* [cited 03.08.2019]. [http://www.sus.lv/sites/default/files/media/faili/lu\\_szf\\_rd\\_pierigas\\_iedzivotaji\\_atkaite\\_par\\_petijumu.pdf](http://www.sus.lv/sites/default/files/media/faili/lu_szf_rd_pierigas_iedzivotaji_atkaite_par_petijumu.pdf)
17. Gailezera 15, 4. stāvs, 3 istabu dzīvoklis [online]. *Gailezera nami* [cited 05.08.2019]. <https://gailezeranami.lv/house6/floor/4/apartment/G15-404>
18. Housing Policies [online]. *Habitat III Policy Papers* [cited 04.08.2019]. <http://habitat3.org/wp-content/uploads/Habitat%20III%20Policy%20Paper%2010.pdf>
19. IRG150. Iedzīvotāju skaits pēc dzimuma, vecuma grupas un ģimenes stāvokļa reģionos, republikas pilsētās un novados gada sākumā [online]. *Centrālās statistikas pārvaldes datubāzes* [cited 02.06.2019]. <http://data.csb.gov.lv/sq/30005>
20. ISG020. Iedzīvotāju skaits un tā izmaiņas statistiskajos reģionos, republikas pilsētās, novadu pilsētās un novados [online]. *Centrālās statistikas pārvaldes datubāzes* [cited 02.06.2019]. <http://data1.csb.gov.lv/sq/31382>
21. Izīrē [online]. *City24.lv* [cited 05.08.2019]. <https://www.city24.lv/lv/saraksts?usp=true&fr=0>
22. Jaunie mājokļi [online]. *Latvia* [cited 02.08.2019]. <http://latvia.lv/lv/jaunie-majokli>
23. Jaunie projekti [online]. *City24* [cited 02.08.2019]. <http://www.city24.lv/lv/jaunie-projekti/latvija?ord=default&usp=true&c=LV&fr=0>
24. Kā no pašvaldības saņemt dzīvokli [online]. *Rīgas domes informatīvais portāls* [cited 04.08.2019]. <https://www.riga.lv/lv/news/ka-no-pasvaldibas-sanemt-majokli?15117>
25. Karte [online]. *Kadastrs.lv* [cited 04.09.2019]. <https://www.kadastrs.lv/#>
26. Komētas iela 22, Dzīvokļa Nr. 13 [online]. *Bišumuiža* [cited 02.06.2019]. <https://www.bisumuiza.lv/lv/majas/maja-7/stavs-4/dzivoklis-13/>
27. Latvijas 2011. gada tautas skaitīšanas rezultāti [online]. *Centrālās statistikas pārvaldes datubāzes* [cited 02.06.2019]. <https://www.csb.gov.lv/lv/statistika/statistikas-temas/iedzivotaji/tautas-skaitisana/meklet-tema/183-latvijas-2011-gada-tautes-skaitisana>
28. Latvijas būvnormatīvs LBN 211-15 "Dzīvojamās ēkas" [online]. *Likumi.lv* [cited 29.10.2019]. <http://likumi.lv/ta/id/275016-noteikumi-par-latvijas-buvnormativu-lbn-211-15-dzivojamas-ekas>
29. Liepziedi [online]. *Liepziedi* [cited 05.08.2019]. <https://www.liepziedi.lv/lv/>
30. Lūse, M., Grāve, Z. Rīgas attīstības plāna 2006.–2018. gadam apakšprojekts = Iedzīvotāju mājokļu apstākļi, pieprasījums pēc mājokļiem un teritorijām to attīstībai = Rīgas iedzīvotāju mājokļu apstākļu, kā arī mājokļu pieejamības raksturojums un priekšlikums par minimālo mājokļa standartu 2018. gadam [online]. *Stratēģijas uzraudzības sistēma SŪS* [cited 15.04.2019]. [http://www.sus.lv/sites/default/files/media/faili/07\\_rap\\_majoklis\\_viss.pdf](http://www.sus.lv/sites/default/files/media/faili/07_rap_majoklis_viss.pdf)
31. Magdālēnas kvartāls [online]. *Magdālēnas kvartāls* [cited 05.08.2019]. <https://www.magdalena.lv>
32. Mājokļu attīstības tematiskais plānojums [online]. *Rīgas domes Pilsētas attīstības departaments* [cited 04.08.2019]. <https://www.rdpd.lv/wp-content/uploads/2017/10/majoklu/Paskaidrojuma%20raksts.pdf>
33. Monk, S., Clarke, A., Tang, C. Mixed Communities = Literature Review [online]. *Cambridge Centre for Housing & Planning Research* [cited 02.06.2019]. <https://www.cchpr.landecon.cam.ac.uk/Research/Start-Year/2010/Mixed-Communities-Review/Report-to-Scottish-Government-Communities-Analytical-Services/Mixed-Communities-Literature-Review>
34. MVG040. Mājsaimniecību sadalījums pēc personu skaita (%) [online]. *Centrālās statistikas pārvaldes datubāzes* [cited 02.06.2019]. <http://data1.csb.gov.lv/sq/31392>
35. MVG060. Mājsaimniecību sadalījums pēc to demogrāfiskā tipa (%) [online]. *Centrālās statistikas pārvaldes datubāzes* [cited 02.06.2019]. <http://data1.csb.gov.lv/sq/31389>
36. Par 26 Vesetas [online]. *26 Vesetas* [cited 02.06.2019]. <http://www.26vesetas.lv/par-26vesetas/>
37. Par programmu [online]. *Altum* [cited 02.06.2019]. <https://www.altum.lv/lv/pakalpojumi/iedzivotajiem/majoklu-garantiju-programma/par-programmu/>

38. **Parādnieks, I.** Mājokļu politika [online]. *Pārresoru koordinācijas centrs* [cited 02.06.2019]. [https://www.pkc.gov.lv/sites/default/files/inline-files/1\\_pielikums\\_I\\_Paradnieks\\_Majoklu\\_poalitika\\_05042018\\_DLC.pdf](https://www.pkc.gov.lv/sites/default/files/inline-files/1_pielikums_I_Paradnieks_Majoklu_poalitika_05042018_DLC.pdf)
39. Pārdod [online]. *City24.lv* [cited 05.08.2019]. <https://www.city24.lv/lv/saraksts?usp=true&fr=0>
40. **Randolph, B., Wood, M.** The benefits of tenure diversification ISBN: 1 920758 91 7 [online]. *The Australian Housing and Urban Research Institute (AHURI)* [cited 02.06.2019]. [https://www.ahuri.edu.au/\\_data/assets/pdf\\_file/0021/2775/AHURI\\_Positioning\\_Paper\\_No65\\_Benefits\\_of\\_tenure\\_diversification.pdf](https://www.ahuri.edu.au/_data/assets/pdf_file/0021/2775/AHURI_Positioning_Paper_No65_Benefits_of_tenure_diversification.pdf)
41. Rīgas ilgtermiņa attīstības stratēģija līdz 2025. gadam [online]. *Rīgas domes Pilsētas attīstības departaments* [cited 04.08.2019]. <http://www.rdpad.lv/wp-content/uploads/2014/11/strategija.pdf>
42. Rīgas ilgtspējīgas attīstības stratēģija līdz 2030. gadam [online]. *Rīgas domes Pilsētas attīstības departaments* [cited 05.08.2019]. [http://www.rdpad.lv/wp-content/uploads/2014/11/STRATEGIJA\\_WEB.pdf](http://www.rdpad.lv/wp-content/uploads/2014/11/STRATEGIJA_WEB.pdf)
43. Rīgas iedzīvotāju apmierinātība ar pašvaldības darbību un pilsētā notiekošajiem procesiem [online]. *Stratēģijas uzraudzības sistēmas* [cited 02.06.2019]. [http://www.sus.lv/sites/default/files/rd\\_pad\\_skds\\_aptaujas\\_ataskaite\\_2018.pdf](http://www.sus.lv/sites/default/files/rd_pad_skds_aptaujas_ataskaite_2018.pdf)
44. Rīgas pilsētas pašvaldības dzīvojamā fonda attīstības programma 2014.–2018. [online]. *Rīgas pilsēt būvnieks* [cited 02.09.2016.]. [http://www.rigaspilsētbūvnieks.lv/media/uploads/UserFiles/rigas\\_pasvaldibas\\_dzivojama\\_fonda\\_attistibas\\_programma\\_2014.-2018.gadam.pdf](http://www.rigaspilsētbūvnieks.lv/media/uploads/UserFiles/rigas_pasvaldibas_dzivojama_fonda_attistibas_programma_2014.-2018.gadam.pdf)
45. Skanste virsotnes, Grostonas iela, Centrs [online]. *City24.lv* [cited 05.08.2019]. <https://www.city24.lv/lv/nekustamais-ipasums/izire-dzivokli/Centrs/3203314>
46. Social mixing is not a one-size-fits-all solution to urban problems”. An interview with Professor Maarten Van Ham [online]. *Housing Europe* [cited 02.06.2019]. <http://www.housingeurope.eu/resource-499/social-mixing-is-not-a-one-size-fits-all-solution-to-urban-problems>
47. Tīrgus analīze. Latvijas nekustamā īpašuma tīrgus analīze un pārskats [online]. *Latio* [cited 02.06.2019]. <http://latio.lv/lv/pakalpojumi/tirgus-analize>
48. Trebū homes [online]. *Trebū homes* [cited 05.08.2019]. <http://trebuhomes.lv/en/choose-apartment/>
49. Universal Declaration of Human Rights [online]. *United Nations* [cited 02.08.2019]. [https://www.un.org/en/udhrbook/pdf/udhr\\_booklet\\_en\\_web.pdf](https://www.un.org/en/udhrbook/pdf/udhr_booklet_en_web.pdf)
50. V15-562, 6-istabu, Stāvs: 6, Vesetas 15 [online]. *Skanstes parks* [cited 02.06.2019]. [https://skanstesparks.lv/vesetas\\_15/floor/6/apartment/562](https://skanstesparks.lv/vesetas_15/floor/6/apartment/562)
51. Varavīksnes nami 3 [online]. *City Real Estate* [cited 05.08.2019]. [https://m.cityreal.lv/jaunie-projekti/projekts/varaviksnes-nami-3/?no\\_cache=1](https://m.cityreal.lv/jaunie-projekti/projekts/varaviksnes-nami-3/?no_cache=1)



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