

RESIDENTIAL PREFERENCES TOWARDS SUBURBAN LIVING IN POST-SOCIALIST METROPOLIES

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Abstract

Suburban areas are transforming into modern residential areas in the formerly centrally planned countries. The spatial location of newly built residential areas in suburbs has taken many forms – some are found as integrative parts or logical extensions of already established settlements, others as compact separate developments cut off from the existing settlement structure. The third type comprises those new housing units which are scattered in suburban space. Previous studies point to the different level of sustainability attached to these different settlement types, where it is in general the separated monofunctional new compact or scattered settlements without necessary basic amenities and services which are considered less sustainable, in comparison with those areas which make up integrated parts or logical extensions of the existing settlements.

Lack of research still exists on the main agents in the process – the households, who have moved to the new residential areas: on their motivations behind the moves, as well as contentment with amenities and service provision in their neighbourhoods. This paper aims to fill this gap by analysing motives to choose a particular new suburban residential neighbourhood in Tallinn urban region, and residential satisfaction with neighbourhood qualities there. Particularly interesting findings emanate from the comparison of residents of two types of new housing areas: those which are integrally connected/are located side by side with existing settlements, and those ones which are free-standing within former agricultural fields and/or forests.

Key words: new residential areas, Eastern Europe, neighbourhood choice, residential satisfaction

1. INTRODUCTION

Since the 1990s significant transformations in suburban landscapes can be found in the metropolitan areas of Central and Eastern Europe of former socialist countries. The relatively compact settlement structure with low level of suburbanisation during the communist period has witnessed urban sprawl in suburban regions (Brown and Schafft 2002; Kupiszewski et al 1998; Sýkora and Cermák 1998; Tammaru *et al* 2004), which implies a pattern of periurban growth with spatially unlimited low-density leapfrog development. The pattern of metropolitan growth and processes that lead to such developments resemble those in Western

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Europe and North-America during the last decades (Downs 1999; EEA 2006, 5; Squires 2002, 2).

It is the negative consequences of such processes in particular that have caused a wide-scale debate on urban sprawl on institutional level, i.e. EU, national and regional level, as well as called for a volume of academic research on the topic. Among other issues, environmental concerns around suburban expansion underline the discussions, in particular, the losses on environment caused by extensive automobile use, related traffic needs, and spatially extensive construction. Impacts on energy consumption, reduction of arable, forested and recreational land, its adverse impacts on bio- and stratosphere are frequently mentioned in studies on urban sprawl (EEA 2006, 6, ESDP 65; Downs 1999; Squires 2002). However, social and economic aspects have attracted much of the discussions as well, in that the new suburban villages tend to be exclusionary in terms of social composition, and as these new settlements attract most affluent residential segments mostly, the processes lead to increasing segregation patterns on metropolitan level and concentration of poverty in some central city areas (Atkinson, 2006; Atkinson and Flint, 2004). EEA report (2006, 35) also brings in front the demographic selectivity of suburbanisers as the typical migrants to new areas are families with children, whereas the young and old more often stay in inner-cities, leading to demographic segregation as well. Lowering the tax revenue in central cities, and difficulties related to provision of public transportation and other services and infrastructure in a cost-effective manner to low-density residential areas are mentioned among economic impacts (EEA 2006, Squires 2002). Urban sprawl is recognised as a major problem of urban conurbations also in many new EU member countries (Van Kempen *et al.* 2005, 256).

This review on adverse impacts of urban sprawl leads to questioning the effectiveness of current planning practices in post-socialist metropolies, which favour suburban sprawl. Particularly conflicting impacts relate to those „edgeless“ new developments that are located further away from existing settlements (Squires 2002), in comparison of those which lie in outer fringe of existing built up areas, extensions to them, or as in-fills in existing settlements.

Apart from high volume of studies on impacts of suburban sprawl, less is known on demand-side mechanisms shaping suburban sprawl, i.e. on residential preferences and satisfaction with living in new suburban areas, the lack of research exists in particularly about transition countries of CEE. Whilst an institutional context is essential in building opportunity structures for households' relocation, the factors inducing residential moves, and shaping their residential choices as well as satisfaction are central in explaining metropolitan social dynamics in market economy conditions. Induced by this, the migration considerations of those people who moved to new suburban residential areas, as well as their area preferences and satisfaction with residential qualities is the focus of this paper. We also aim at comparing two subgroups of residents of new housing areas – those who live in new areas that form logical extensions to existing settlements, and those which lie separately in suburban space. Tallinn metropolitan region is selected as a case study area, as an example of country where especially radical and fast reforms took place in the 1990s.

The analyses is based on data from the New Residential Area Survey carried out in 2006 in suburbs of Tallinn, and it was guided by the following six initial hypotheses:

(1) The main migration considerations to NRA-s were related to adjusting housing conditions, a desire to live in private house/ to own a plot of land. As pointed out in literature (Tammaru *et al* 2009) a limited and high-price housing market in the city of Tallinn and within the

borders of existing other settlements was not able to satisfy the need for modern living space, and the requirements for privacy (Kõre *et al* 1996);

(2) We expected that factors such as proximity to Tallinn, availability of technical infrastructure and land/housing price probably outweigh others, less tangible neighbourhood factors, in choosing a particular residential area;

(3) We assumed new suburban residents to hold higher satisfaction levels with various dwelling/garden aspects, safety matters in neighbourhood, technical infrastructure availability, possibilities to spend leisure time in general due to natural recreation areas to be often found in the proximity of NRA-s, social community aspects due to homogeneous population groups with similar interests and financial opportunities, whereas lower satisfaction levels reveal in relation to accessibility to social infrastructure and public transport.

As regards the comparison of two types of settlements we expected

(4) moves to scattered villages to be more triggered by environmental stress factors;

(5) accessibility of public transport and social infrastructure in residential environment to be more relevant to residents who moved to „edge-communities“, i.e. that their location choice in the vast proximity of existing settlements was not arbitrary but rational; whereas that price and proximity to Tallinn, as well as dwelling and garden-related characteristics to be more important for residents living in separate villages;

(6) we expected residents of separate communities to be much less satisfied with their neighbourhood quality, as regards availability of social infrastructure and public transport facilities, i.e. frequency and availability of public transport.

2 CONDITIONS AND DRIVING FORCES FOR SUBURBAN GROWTH

From the residential mobility point of view suburban growth could be explained by the interplay of various 'pull' and 'push' factors that lead to a decision to move to new residential areas (Parkes & Kearns, 2003, 673). Behind these moves is often the household's intention to alter the type and quantity of housing consumption, neighbourhood characteristics, and accessibility (Clark and Onaka 1983; Parkes & Kearns, 2003, 675), but this need can be induced by household formation/dissolution and associated with changes in life cycle or other individual or household characteristics, and the accompanying change in housing needs or lifestyles (Rossi, 1955; Clark *et al*, 1986; Clark & Onaka; Parkes & Kearns, 2003). Feijten & Mulder (2002) found a strong relationship between household events, and the level of commitment with partner in particular, and migration to single-family dwellings. For residential mobility to take place there is usually a certain amount of 'stress' involved between current housing situation and household's aspiration (Brown & Moore, 1970; Clark & Cadwallader, 1973). Residential dissatisfaction level with the current neighbourhood and the home in particular tends to have an influence on actual moves, given the concurrent changes in life course and financial opportunities (Parkes & Kearns, 2003).

The aspiration region can be defined by dwelling characteristics, but also by the desired situational characteristics, i.e. the physical and social environment of the neighbourhood, its proximity to schools, shops, etc (Knox & Pinch 2000). Growing lifestyle and socio-economic differences are reflected in different housing consumption needs and opportunities (Clark & Onaka 1983). While the characteristics of a house and garden space tend to matter more than location (Kauko 2006), the residential environment and location in urban space is gaining importance in explaining individuals' locational choices due to families' need for various services (Floor & van Kempen, 1997, 29, Karsten 2007, p. 85). Therefore, the traditional explanation to suburban expansion that translates suburbanisation into process of better-off

urban families into suburbs in search for better living conditions (Van den Berg et al. 1982) should be broadened and understood in a more complex framework of trade-offs households are engaged involving a variety of costs and benefits related to the type of neighbourhood and its location (Karsten 2007, p. 85). Living conditions in cities are often considered unsuitable for the needs of children (EEA 2006, ESDP 1999, 66); whereas residential preferences seem to be weighted towards lower density living in suburbs, a „traditional“ ideal of living in one’s own house with private garden (Senior et al., 2006). Desire for suburban living is supported by cultural traditions and associated values related to selfrealisation and perceived freedom (EEA 2006).

Residential preferences and housing choice, however, can be realised within the given opportunity structures, or within the frame of broader structural changes (Knox and Pinch 2000; Feijten & Mulder 2002). Improved road networks and progress in technological development, the macro-scale socio-economic conditions, given housing stock, availability and affordability of residential land in suburban areas, and institutional system set conditions for housing opportunities (ESDP 1999, 66; Knox and Pinch 2000, 293-4) and have made possible to increasingly realise the desire for new lifestyles in suburban environments (Squires, 2000).

Suburban expansion was modest in Eastern and Central European transition countries in the 1990s due to structural economic regression, but increased significantly in the 2000s (Ouředníček, 2006; Tammaru *et al.* 2009). New trends became comparable in character with those driving developments in Western economies (Champion 2001; Van den Berg 1982), including preferences of some of the population groups and increase in personal wealth, and emerging of a functioning and affordable mortgage market (Downs 1999).

The political and institutional reforms, incl privatisation and restitution taking place in the 1990s created preconditions for development of land and housing markets (Sailer-Fliege 1999). Fast increase of housing and land prices in central cities set pressure on suburban developments due to existing rent-gap. Private developers in search for profits found investments in suburban areas highly profitable, facilitated by neo-liberal attitudes of local administrations (Wießner 1999). Land reform in the form of restitution created preconditions for the scattered patch-wise spatial distribution of new residential areas, as developers were able to buy only small plots of land due to the large number of owners that emerged as a result of the restitution, and the land available for housing development entered the housing market only stepwise (Tammaru et al. 2009; Ouředníček, 2007; Timár & Váradi 2001).

The prevailing neoliberal approach trusted on unregulated market that was seen as a mechanism for allocation of resources that would generate a wealthy, efficient and socially just society (Sykora 2006; Ruoppila, 2005; Wießner 1999). Municipalities increased power in town planning (Sailer-Fliege 1999). The legal constraints for developing new housing areas became fairly loose - the detailed plans for small parcels of land rather than the comprehensive strategic land use plans guided the housing construction (Metspalu, 2005; Tammaru et al 2009).

Suburban processes in post-socialist transition countries could thus be considered as the outcome of market-based location choices, and of the individualisation and pluralisation of lifestyles in the post-socialist period (Wießner 1999). As housing stock in cities had undergone depreciation during the socialist period, and there was a pressing need for residential space and different types of housing that would better correspond to families’

needs and expectations, the suburban areas, often perceived to be private and safe, became the main growth areas and destinations for the migration of better-offs (Kostinskiy, 2001; Sýkora & Cermák, 1998). The improved socio-economic conditions, and mortgage conditions that became more accessible facilitated residential moves to those new housing areas, and created premises for households to self-build housing in a plot of land purchased in the market.

Spatially, the growth is mainly concentrated near central cities (Tammaru et al 2009). Typically, the developments have taken the pattern of urban sprawl, taking place in number of scattered mono-functional settlements on former agricultural fields and green areas, adjacent to existing settlements or forming individual developments (Tammaru et al 2009). New settlements often lack access to relevant services and infrastructure, and people are fully dependent on cars to carry out their everyday activities.

The most common dwelling type is the detached house, but the importance of multifamily houses has increased throughout the 2000s (Tammaru et al 2009).

3 THE DEVELOPMENT OF NEW SETTLEMENTS IN THE TALLINN METROPOLITAN REGION

3.1. The dynamics and patterns of new suburban settlements

During the Soviet era migration to the hinterland of Tallinn was driven by the Soviet 'priorities-led' mechanisms, namely the prioritisation of industrial development, agriculture and military defence, and to the functions that the suburban areas were given by the system (Gentile & Sjöberg, 2006; Leetmaa et al., 2009). Next to industrial and agricultural enterprises, and military functions also housing construction also intensified in suburban zones in the form of compact new settlements. Migration to these new settlements was distinct from the environmentally-motivated migration in Western countries in that the process was a job-related migration (Tammaru 2001). The housing construction took the compact and the most rational form of standardized apartment blocks in suburban centres as in the city. The large-scale suburban single-family housing construction was limited. A special feature of socialist urban planning that deserves attention in relation to the residential suburbanisation later is the establishing of large summer home areas (dacha-settlements) around the major cities.

40 per cent Estonia's population or 617,000 people lived in Tallinn metropolitan area by 1990. The 1990s had decreased the population of Tallinn by 16 per cent, partly explained by suburbanisation process (Leetmaa, 2005) and the return migration of Russians (Tammaru and Leetmaa, 2007). There is no reliable data yet on population trends in the 2000s. The number of inhabitants in the whole Tallinn metropolitan area reached 525.000 in 2000 (census data), of whom about 125.000 people lived in the suburban area of Tallinn. Currently, 543.000 inhabitants live in Tallinn metropolitan area (2008). Based on New Areas Survey (2006) 17.000 individuals live in the new suburban settlements around Tallinn, constituting approximately 14% of the total suburban population in the entire Tallinn metropolitan region.

Privatization of the housing stock in the cities was overwhelmingly finished by the late 1990s. The clarification of owners' structure of suburban land sometimes took more time, and

therefore the suburban land entered to metropolitan housing market patch-wise. By the 2000s structural factors that favour suburban growth (availability of land, functioning private housing market, increase in wealth, availability of mortgage market, pressure of developers) were present, and the level of new construction increased.

New housing construction concentrates in the immediate vicinity of Tallinn rather than across the suburban area as it was in the Soviet time (Figure 1). The new suburban settlements are sprawled reflecting the impact of land market developments, but also the expansion of car-transportation. Most of the new residential areas that emerged in post-1991 period are situated on former agricultural lands and coastal meadows. The new residential areas are small, with an average of about 30 households living in them. The settlements are located very close to Tallinn — 67% of them are situated within a 5 km band from the border of the capital city. 83% are located in the neighbouring municipalities. The new settlements are also small and scattered, stretching out along the coastal areas.

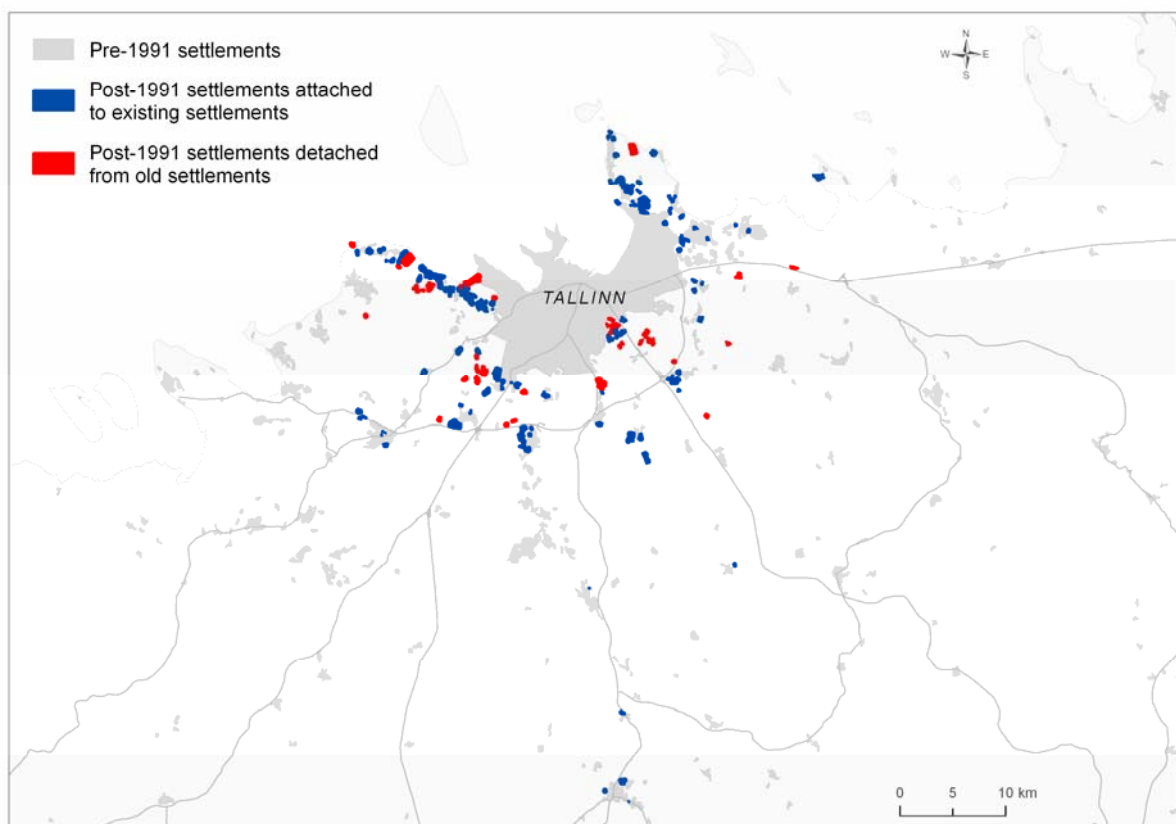


Figure 1. Distribution of old (pre-1991) and new (post-1991) settlements in the Tallinn metropolitan area. *Source:* New Residential Areas Survey 2006

3.2. DATA AND ANALYSES

Data for the current study stems from the New Residential Areas Survey 2006 carried out in the suburbs of Tallinn (see also Tammaru *et al* 2009; Kährrik and Tammaru 2008). The survey consisted of two parts. As a first step, we mapped all new residential areas built since 1991 in the suburbs of Tallinn, based on available datasets. Our study included settlements with at least five dwelling units/households built since 1991, with a minimum distance between the

centric points of houses being 200 metres. The freestanding detached houses were excluded from the survey. However, new freestanding multifamily houses with at least five households, sometimes built as in-fills in Soviet-time satellite towns, are included in the study. The selection of dwelling units (counted on the bases of front doors) as the elementary research unit aims to maintain the true distribution of households across housing types. However, we should note that since freestanding detached houses are excluded, there is a slight over-representation of multi-family houses in our data. We overcome this by adding dwelling type as a control variable in the modeling part of the paper.

The initial work with existing databases was followed by a fieldwork to check the accuracy of the obtained data. Our final house-level GIS database includes information on 171 new settlements in the suburbs of Tallinn. There are 3426 houses and 5589 dwelling units/households in these settlements with 17 224 inhabitants living in them. As a second stage of the study, we conducted a sample survey among the people living in the new residential areas. The sample was drawn from our settlement dataset, with the basic selection units again being dwelling units/households, and it consisted of 564 respondents, i.e. about 10% of all households.

To explore residential mobility considerations, neighbourhood preferences and satisfaction levels with residential area conditions in new housing areas we employed means, principal component analysis (PCA) and multivariate regression analyses. The factor analyses became useful in *a)* consolidating various items tapping the same concept, and *b)* reducing the large number of variables to a smaller set thus reducing also the problem of collinearity (Bryman & Cramer 1999; Field, 2005). In PCA the graphical scree test method was used in choosing the number of factors to be retained, and the oblimin rotation with Kaiser Normalization was applied in rotation of factors. Due to small sample size the missing data was replaced by mean values. The PCA method was proceeded with the logistic regression analysis to explore the difference between residents of freestanding communities and communities in edge of existing settlements (i.e. “edge-settlements”). The regression model enabled us to test the significance of difference between two research groups after elimination the possible impact of other variables related to individual/household and housing characteristics that proved to be significantly different in these two settlement types in Table 1. The regression model can be formalised as follows:

$$\log \frac{p(Y_i = 1)}{p(Y_i = 0)} = \alpha + \sum_{k=1}^K \beta_k X_{i,k}$$

$p(Y_i = 1)$ is the probability that an individual $i = 1, \dots, I$ lives in an edge-settlement ; $p(Y_i = 0)$ is the probability that an individual $i = 1, \dots, I$ lives in a freestanding settlement; α is a constant; $X_{i,k}$ is the value of variable k for individual i ; and β_k is a parameter describing the impact of variable k , with K variables.

4 MOVING CONSIDERATIONS, HOUSING CHOICE FACTORS AND SATISFACTION IN NEW RESIDENTIAL AREAS

4.1 Edge-villages vs unattached settlements: general characteristics

$\frac{3}{4}$ of the new settlements are found adjacent to pre-transition settlements forming edge-villages, while $\frac{1}{4}$ of them are close to transport arterials or costal areas in suburban space but spatially unattached to pre-existing settlements (New Areas Survey 2005, Table 1).

The urban sprawl nature of metropolitan growth is a result of structural conditions and uncontrolled planning, and many problems emanate from this kind of development - poor social, technical and recreational infrastructure, lack of public transport, building quality. Lack of social and public transport infrastructure troubles the sprawled villages rather than those built as extensions to pre-1991 settlements (Table 1).

The suburban housing stock just around Tallinn is an increasing mix of urban apartment houses, a variety of semi-detached houses (double-family houses, row houses, etc) and single-family houses (including the castle-like villas of the first transition years). Yet detached housing is overwhelmingly dominant in these settlements which are located separately from existing settlements, and the higher share of “self-construction” by owners refers to a higher level of heterogeneity in terms of architectural scene in these settlements (Table 1).

New settlements are typically homogeneous in population composition in that they consist of mostly young well educated white-collar Estonian families who represent the wealthiest part of the population (Kährik and Tammaru 2008). Such selective migration leads to reduction of the Soviet time differences in the socio-economic status between Tallinn and suburbs on one hand, but increases settlement-wise polarisation across suburbs on the other. Taken the already very young population structure of all new settlements, we acknowledged even a younger population structure in sprawled communities, where nearly every second adult resident is younger than 35 (Table 1). In spite of very young age of residents, their education level is significantly higher than in other new settlements; nearly 60 per cent has a university degree, and their jobs are more often located to Tallinn meaning the higher need for everyday commuting.

Table 1. Characteristics of new suburban settlements, location-based comparison of two settlement types.

		Separately located old (n=135)	Located within from or next to old settlement (n=441)	TOTAL (n=576)	Sig. (X ²)
Settlement characteristics					
Distance from Tallinn border	Up to 2 km	45,9	57,4	54,7	**
	2+ km	54,1	42,6	45,3	**
Settlement size	Up to 19 houses	51,1	47,4	48,3	**
	20+ houses	48,9	52,6	51,7	**
Share of single-family dwellings	100 percent	28,9	19,5	21,7	***
	50-99 percent	59,3	46,0	49,1	***
	Less than 50 percent	11,9	34,5	29,2	***
Distance from kindergarten	Up to 1km	28,1	60,5	53,0	***
	1-3 km	25,2	21,8	22,6	***
	3+ km	46,7	17,7	24,5	***
Distance from primary school	Up to 2km	22,2	69,6	58,5	***
	2-4 km	47,4	14,5	22,2	***

Distance from public bus stop	4+ km	30,4	15,9	19,3	***
	Up to 0.5km	44,4	73,0	66,3	***
	0.5-1km	29,6	21,8	23,6	***
	1+ km	25,9	5,2	10,1	***
Individuals' characteristics					
Dwelling type	Single-family dwelling*	79,3	67,8	70,5	**
	Apartment in multi-storey house	20,7	32,2	29,5	**
Type of construction	Self-constructed	37,0	29,5	31,3	
	Other**	63,0	70,5	68,8	
Gender	Male	49,6	46,9	47,6	
	Female	50,4	53,1	52,4	
Age	Up to 35 years	45,9	37,4	39,4	*
	35+	54,1	62,6	60,6	*
Co-habiting	Co-habiting	83,7	84,1	84,0	
	Single	16,3	15,9	16,0	
Children	Yes	54,8	54,2	54,3	
	No	45,2	45,8	45,7	
Nationality	Estonian	91,9	87,1	88,2	
	Other	8,1	12,9	11,8	
Educational level	Higher	58,5	50,1	52,1	*
	Primary or secondary	41,5	49,9	47,9	*
Job location	Tallinn	56,3	46,7	49,0	**
	Elsewhere	8,9	15,6	14,1	**
	Do not work	34,8	37,6	37,0	
Income	Less than average***	43,7	53,7	51,4	**
	More than average	32,6	30,6	31,1	
	Data not available	23,7	15,6	17,5	**
Year of moving	2000-2006	85,9	87,1	86,8	
	Before 2000	14,1	12,9	13,2	
Do not have intention to move	Yes	57,0	49,7	51,4	
	No/ not sure	43,0	50,3	48,6	

* - Includes dwellings in semi-detached and row-houses, ** - constructed by a developer or bought in secondary market; ***- average is about EEK 8000 (EUR 511)

* Significant at $p < 0.1$; ** Significant at $p < 0.05$; and *** Significant at $p < 0.01$.

4.2 Moving considerations

Firstly, as our study clearly demonstrates that these were the housing adjustment moves rather than induced moves that triggered the suburbanisation process of affluent households to new areas during the 1990s and 2000s. Regardless of that many families had also ended up living in suburban multi-apartment houses, the first and most significant underlying consideration behind mobility was the desire to own a house and plot of land. It means that under conditions of relaxing housing market and opening of supply side opportunities many young households in the beginning of their housing career have made the often un-filled dreams of their parents true when moving away from urban built-up environment to detached housing areas where they enjoy more privacy and space, and where environment is perceived to be children-friendlier (Table). As pointed out in literature (Tammaru *et al* 2009) a limited and high-price housing market in the city of Tallinn and within the borders of existing other settlements was

not able to satisfy the need for modern living space, and the requirements for privacy (see also Kõre *et al* 1996).

Table 2. Factors behind the decision to move to a new suburban settlement (means in descending order), scale 1-10 where 1 - not important and 10 - very important

	Mean	Std. Deviation
Desire to live in one's own house	7,9	3,2
Desire to own a plot of land (a garden plot)	7,2	3,6
Better environment for children	6,3	3,7
Air pollution related to urban environment	5,5	3,6
Unsafety related to urban environment	5,3	3,5
Lack of children-friendliness in urban environment	5,3	3,7
Noise related to urban environment	5,3	3,6
Sound coming through the walls in previous housing	4,6	3,6
Different background of neighbours in previous housing	4,2	3,4
Amortisation problems with previous housing (i.e. techn. Infrastructure)	4,2	3,4
Increasing family (birth of child)	3,4	3,5
Co-habitation with partner	2,4	2,8
Change of respondent's job location	2,0	2,4
Change of job location of another family member	1,7	2,1

Only in the *second* position were the urban environment related 'push-factors' such as polluted, noisy, unsafe and un-secure urban environment (i.e. environmental stress factors). Factors related to previous housing conditions were *third* of importance, such as problems related to mixed neighbours and physical condition of housing. 'Induced' moves, related to child birth and other household events, or change of job-location were the *least* important among factors triggering moves to new suburban areas. The comparison between residents of freestanding villages and other new areas did not, however, confirm our hypothesis on that urban environment related stress factor was more important for those families who opted for detached settlements; these two categories didnot show any significant difference as regards moving considerations (Table 2).

Such residential moving motives confirm that the suburbanisation process has taken the shape of traditional suburban migration pattern known from Western countries of advanced economies from post-WW II era, as well as from the historical inter-war developments in Estonia and other former socialist CEE countries prior to communist regime, as regards the residential motives which orient towards better quality living environment in suburbs (Champion 2001). It means that the collapse of the rigid regime has certainly opened housing market opportunities for many households by eliminating structural constraints for fulfilling the families' ideals of residential environment, and enable to consider housing type and characteristics of neighbourhood quality besides the correspondence of dwelling size to family needs as it used to be the only criteria under housing allocation under Soviet regime (Kõre *et al* 1996).

4.3 Choice criteria of residential area

The second important question encompasses the issues around choice criteria factor of a particular new residential area. Our hypotheses on that suggest that the proximity to Tallinn, availability of technical infrastructure and price probably overweigh other, less tangible issues. As indicated by analyses it was the proximity to Tallinn and overall aesthetics of the natural environment that deemed to be underlying factors behind the choice of residential area (Table 3). Availability of modern technical infrastructure (i.e. central water supply and sewerage system), area safety, price and area image were second of importance, followed by asfalted streets and size of plots which were on the third position. Other aspects had overall minor importance in scale of considerations, but bare still relevance to lesser extent: availability of street lightening and pedastrian roads, access to public transport, former contacts with the area, proximity to school and kindergarten, grocery and relatives/friends, and architectural coherence (Table 3).

Table 3. Factors behind the choice of a particular new settlement (means in descending order), scale 1-10 where 1 - not important and 10 - very important.

	Mean	Std. Deviation
Proximity to Tallinn	8,3	2,4
Nice natural environment	7,9	2,6
The availability of central water supply and sewerage system	7,3	3,5
Safe environment	7,2	3,0
Good price for land/ housing	7,0	3,1
Good image of area	6,5	3,2
Asfalted streets	5,3	3,6
Availability of street lightening	5,1	3,6
Large plots	4,9	3,4
Good access to public transport	4,7	3,5
Earlier contacts with an area	4,2	3,7
Availability of pedastrian roads	4,0	3,5
Proximity to school	4,0	3,5
Architectural coherence	3,9	3,2
Proximity of grocery	3,9	3,2
Proximity to relatives/ friends	3,8	3,3
Proximity to kindergarten	3,8	3,5

Our test on higher significance of proximity to public transport, social infrastructure and other services in residential environment for dwellers of adjacent villages as compared to dwellers of detached settlements indeed proved to be true. The results refer to that the location choice in the vast proximity of existing settlements was not arbitrary but rational (Table 4). But what regards the more relevance of housing/land cost and proximity-to-Tallinn considerations as well as dwelling/plot size considerations for dwellers of detached settlements, this did not hold to be valid. Moreover, we didnot find a single factor of consideration to hold higher importance for movers to sprawled communities. The desire to realise their expectations to have a house-of-ones-own in the overall construction boom, favourable financial conditions and various market-offers, and, perhaps due to people’s limited „suburban experiences“ from the socialist era, turned moves to new suburbs often spontaneous haphazard decisions of young households – assumingly many of them believed that the environment regarding

infrastructure and services will be developed automatically by developers and/or local governments, after the completion of housing construction.

Table 4. Differences in (a) factors behind the decision to move to a new suburban settlement, (b) choice factors of residential area, and (c) satisfaction with residential area by the type of location of housing area (1 - located within or next to old settlement, 0 - separately located from old settlement, odds ratios).

	Exp(B)	Sig.
<i>Factors behind the decision to move to a new suburban settlement (References = Score higher than average)</i>		
Urban environment related stress	1,011	
Change of job location	0,743	
Desire to live in private house/ have a garden	0,789	
Children's needs	1,217	
Neighbours in previous residence	0,913	
Co-habitation with partner	0,972	
Amortisation problems with previous housing	0,876	
Nagelkerke R Square	0,087	
<i>Factors behind the choice of a particular new settlement (References = Score higher than average)</i>		
Availability of technical infrastructure	0,663	
Availability of social infrastructure	1,857	**
Large plots	1,015	
Earlier contacts with an area	0,893	
Good price for land/ housing	1,210	
Area image and natural environment	1,211	
Proximity to Tallinn	0,873	
Availability of services (public transport, grocery)	3,046	***
Architectural coherence	0,758	
Nagelkerke R Square	0,165	
<i>Satisfaction factors with residential conditions (References = Score higher than average)</i>		
Space arrangement within dwelling	0,952	
Public transport services	4,821	***
Distance to job	1,080	
Opportunities for outdoor sports activities and walking	0,877	
Safety in area	0,917	
Construction quality of dwelling	1,301	
Proximity to kindergarten	1,760	**
Proximity to commercial services	0,754	
Social milieu (community relations, area image)	1,579	*
Exterior of area (architecture, greenery)	0,694	
Parking opportunities	0,908	
Size of dwelling	0,999	
Availability of playing and leisure time opportunities in area	1,185	
Proximity to school	2,108	***
Privacy	1,382	*
Nagelkerke R Square	0,255	

Note: Other control variables included in the model but not shown in table: age, education, job location in Tallinn, income, housing type, area location near Tallinn (within 2 km radius from border), settlement size.

* Significant at $p < 0.1$; ** Significant at $p < 0.05$; and *** Significant at $p < 0.01$.

It can be that at least for a share of those movers who opt for residential area more distant from existing settlement structure, other characteristics of neighbourhood, e.g. natural landscape aesthetics, compensated lack of absence of other characteristics, because a location choice could be seen as a trade-off between various neighbourhood and housing characteristics as there is rarely any residential area that corresponds to all desired characteristics.

4.4 Satisfaction with area qualities

From this point it is of particular interest to follow with the next, and last stage of our analyses, regarding the satisfaction with various aspects of neighbourhood quality in new residential areas. Given much of the public discussions on new 'field' settlements in media, spilled over with criticism towards low quality of neighbourhood and equipment with infrastructure, it is appropriate to analyse the real situation of residents' contentment with housing and neighbourhood qualities, and their correspondence to household needs.

To large extent the results verified the initial expectations as expressed in hypotheses, and confirmed indeed that residents of new suburban areas express quite high satisfaction levels across all studied neighbourhood aspects, i.e. satisfaction with various dwelling/garden aspects, safety matters in neighbourhood, technical infrastructure availability, and possibilities to spend leisure time in general (Table 5). This verifies that in spite of negative expressions in media discourse we can still conclude that contemporary residential preferences-led suburbanisation process has to large extent fulfilled the expectations of young families who opted for suburban environment, and that the planning and housing policies should keep this in mind when planning new housing areas. However, some aspects related to residential satisfaction still have gaps between residents' expectations and reality, which are in line with discussed sustainability concerns.

Table 5. Satisfaction with residential area qualities (means in descending order), scale 1-10 where 1 - not satisfied and 10 - highly satisfied.

	Mean	Std. Deviation
Size of dwelling	8,7	1,9
Air conditions in dwelling	8,7	1,8
Walking opportunities in area and surroundings	8,7	2,2
Space arrangement within dwelling	8,6	1,9
Opportunities for outdoor sports activities	8,5	2,3
Area safety at day-time	8,5	1,8
Area image	8,4	1,8
Community relations in neighbourhood	8,1	2,0
Privacy	8,0	2,2
Parking opportunities	8,0	2,8
Area safety at night-time	7,6	2,4
Proximity to kindergarten	7,2	3,0
Distance to job	7,1	2,7
Construction quality of dwelling	7,1	2,5
Distance to partner's job	6,8	2,8
Proximity to closest grocery	6,7	3,1
Proximity to school	6,6	3,0
Proximity to hypermarket	6,6	3,0

Neighbourhood's architecture	6,5	2,6
Greenery in area	6,3	3,1
Building density	6,3	2,9
Laisure time opportunities in area	5,9	3,1
Public transport infrastructure	5,4	3,3
Availability of children's playgrounds/ opportunities	5,2	3,4
Public transport availability at night-time	4,4	3,3

From the „worst-end“ to be mentioned the availability of public transport infrastructure, and also, the playing opportunities/playgrounds especially targeted to children (Table 5). „Proximity“ is indeed the concept that sums up the concern of residents, encompassing proximity to kindergarten, school, jobs, grocery and hypermarket. Certainly, to some extent, these concerns are unavoidable and part of mentioned 'trade-offs' between various neighbourhood qualities when the choice of residential neighbourhood is made. However, this discontentment can to some extent indeed be improved at least in a share of new residential areas.

Somewhat surprisingly, aspects related to built environment, i.e. the construction quality of dwellings, building density and neighbourhood's architecture in general, and greenery, as well as leisure time opportunities in area turned out to be aspect residents had expressed a 'moderate'-level-contentment with. Understandably, the high construction speed of new houses during the boom period have had some drawbacks in quality of buildings; also the architecturally mixed types of settlements – the result of unharmonised building roles – is not everybody's taste. The two other aspects are especially surprising in that while the nice natural environment was among the leading factors that led to choice of particular neighbourhoods residents are only moderately satisfied with the extent of greenery in their home area. Young families also expect to have more leisure facilities in their neighbourhood or in its vicinity.

As regards the comparison of two types of settlements, it seemed logical to assume that residents of detached villages are less satisfied with their neighbourhood quality, as regards availability of social infrastructure and public transport facilities, i.e. frequency and availability of public transport. This indeed proved to be so (Table 4), but we had some other interesting findings besides that which might need further research to provide sufficient explanations. This regards the satisfaction with social milieu, which levels turned out to be significantly lower for sprawled-community dwellers as compared to others. What phenomena could underlay this? We do not have a good answer to this but it might be hypothesis for the further research that the very „new“ settlements consisting of extremely young population, of households who moved to suburban landscape during the boom primarily to look for „house-of one's own with garden“, „privacy“ and „nice natural environment“ (bearing in mind that many had moved to these truly „rural“ areas when there were not many other dwellings established yet around!) had become slightly more disappointed in that they are still surrounded by a distinctive social community with possibly distinctive lifestyle as well, meaning that this lower level of satisfaction is something to do with individual and household characteristics and lifestyle of residents. Other explanation might relate to the lifecycle of communities as well, referring to that „new“ settlements and communities need to become more mature in order to achieve higher levels of social stability.

5 DISCUSSION

According to a classical model of suburbanisation, it is a first stage of the residential preferences led process when the new housing developments emerge as “bedroom communities” for the people who aim to combine both rural (housing and environment) and urban (jobs, social infrastructure and leisure time amenities) attractions (Van den Berg *et al* 1982). In the later phases the suburbanisation of jobs is assumed to take place as services follow consumers. At this stage the process often becomes self-generating, diversifying the population, housing and employment compositions in suburban areas, leading to the urbanisation of the suburbs (Gober 1989). However, considering the relatively small size of new villages and spread nature of settlement structure it is unlikely that relevant services reach the households to a sufficient level, and even when provided by local authorities this becomes highly costly for public budget. Jobs that opt for suburban locations, do not meet the demands of work force living in new suburbs – the high-educated white-collar employees. The dramatic growth in the number of commuters in the 1990s and 2000s and associated burden to road infrastructure and traffic congestions have probably had the most devastating impacts on environment and living conditions in post-communist countries (Ahas *et al* 2008; Wießner 1999).

Most of the new housing construction that has took place in suburbs of Tallinn resembles the spill-over effect of the densification of the urban housing fabric and the replacement of the out of date Soviet-era urban housing stock (Leetmaa *et al* 2009). But also, considering residential preferences towards suburban living conditions lead us to interpret suburban growth in post-communist states as a preferences-lead process known from Western Europe and U.S. from the post-WW II period (Van den Berg 1982). Fundamental to this is preference for low-scale housing, private gardens, and nice natural surroundings away from polluted urban environment. However, migration into these settlements is motivated not merely by the rural amenities, but also by the closeness to jobs, services, urban social and technical infrastructure, i.e. urban amenities.

The access to various neighbourhood amenities and services becomes important to people in their everyday-life context, however, even when this was not part of their location choice considerations. In favourable macro-economic conditions and loose planning control as a reaction to the strict planning policy of Soviet era, families had often swept for spontaneous decisions without considering various neighbourhood aspects rationally. The overall satisfaction levels with neighbourhood qualities proved to be higher for those residents who had chosen a location in the vicinity of existing settlements in comparison with those who opt for detached settlements.

The contemporary lack of housing space in many large cities and high land prices in inner cities and residential preferences clearly set an inevitable pressure on suburban growth. Regeneration programmes targeted to inner-city revitalisation can orient towards preferences of some population groups, but definitely not meet the preferences of all population categories, especially families with pre-school children, as their preferences weigh towards lower density suburbs that provides them with more privacy (Senior *et al.* 2006). Thus, more sustainable solutions for low-scale urban growth towards rural areas which corresponds to households' expectations ought to be found.

As an alternative to uncontrolled unlimited sprawl, Downs (1999 p. 966) proposes an alternative strategy of suburban growth suggesting substantial growth outside the boundary of

central city only within designated new communities centered on existing outlying settlements. Although not able to prevent many negative consequences associated with degradation of social and environmental quality in central cities and in outer fringe, such planning practice can, however, mitigate to some extent some of the negative consequences of sprawl. More controlled and steered planning practice based on strategic vision of local governments, and regional cooperation as regards infrastructure development can certainly facilitate such development. Public infrastructure facilities as well as social infrastructure remain key issues in promoting better residential satisfaction as well as sustainable development (see also Ahas et al. 2008). Existence of rural landscapes, arable and forested land is a part of consideration factors for choosing residence in new areas but this ceases to exist under continuation of ongoing urban sprawl (Roose & Kull 2008). Better linking of new areas with existing settlement structure is supportive of creating better social integration as well, in that new residents will use services in existing settlements leading to improvement of their quality.

The results of the study well illustrate that regarding residential expectations the expansion of existing settlements cannot be avoided, but nevertheless, there is a potential to find a better compromise between residential expectations as regards the neighbourhood and housing qualities, general social, economic, and environmental sustainability criteria, and cost-effectiveness when it concerns the provision of services, infrastructure, and leisure opportunities when planning new residential areas.

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