Planning urban proximities: An empirical analysis of how residential preferences conflict with the urban morphologies and residential practices

Marc-Edouard Schultheiss [*], Luca Pattaroni, Vincent Kaufmann

Ecole Polytechnique Fédérale de Lausanne (EPFL), Laboratory of Urban Sociology (LASUR), Station 16, CH-1015 Lausanne, Switzerland

ABSTRACT

Urban proximity planning is foreseen as a solution to foster a "sustainable" city, including economic viability, environmental soundness and social inclusivity. This paper focuses on the inclusivity aspects by questioning the adoption of urban proximities: how far planning for urban proximities resonates or conflicts with current residential preferences and practices? Based on functional, social, and sensitive attributes, five latent residential preferences have been identified: spatial proximity, tranquility, elitism, social proximity, and conviviality. These aspirations form the basis for a longitudinal, spatial, and clustering analysis. The results of the analysis, conducted on 2200+ respondents in Geneva, reveal characteristics in residential preferences. Firstly, preferences are stable over time, but malleable to changing circumstances. Secondly, some preferences show clear spatial distribution patterns when regressed with residential location choice. Thirdly, the gap between preferences and actual residential practices varies across morphological attributes. As a main result, the clustering analysis shows that 43 % of the population aspire more to tranquility than to functional proximity; and those aspiring for proximities (32 %) are the youngest and wealthiest. This questions the relevance of models of urban proximities as an inclusive solution – raising issues of generational divide, territorial segregation, and injunctive and targeted planning.

1. Introduction

Contemporary and progressive cities face ecological, social, temporal, and spatial challenges (Ascher, 1997; Rosa, 2010). To tackle these issues, an increasing number of decision-makers in Europe and beyond are promoting the concept of Urban Proximities (Gil Solá & Vilhelmson, 2019; OECD, 2012). "Proximities" are seen as a key planning instrument to promote more sustainable urban development (Scoffham & Vale, 1996), as exemplified and vulgarized by the 15-Minute City (FMC) model (Moreno et al., 2021). This model builds on Jane Jacobs' (1961) ideas, allowing individuals to live locally and meet their daily needs within a short walking distance from home. In the wake of this somewhat ideological renewal of the compact city (Burton et al., 1996), cities such as Melbourne (Plan of Melbourne 2050, 2017), Detroit, Barcelona (Barcelona City Council, 2022), Paris (Ville de Paris, 2022) have recently committed to incorporating proximities into their local development plans. In Geneva (the use case of this paper), local authorities funded an assessment of the territorial situation in 2022 to promote the FMC model in their forthcoming Development Plan (Saqalli et al., 2022).

Urban Proximities, preceded by Compact Cities, have a long history in Europe (Allam et al., 2023). Over the past few decades, compact planning has been expressed, theorized, and implemented in various ways (Westerink et al., 2013, Pozoukidou & Chatziyiannaki, 2021; Elldér, 2024). However, the feasibility of Urban Proximities and their effects remain contentious issues in political agendas and controversial among experts (Bibri, 2020; Guzman et al., 2024) due to the shortcomings of compact city interventions (Neuman, 2005, Stevenson et al., 2016; Chamboredon & Lemaire, 1970).

In the 1970s, the "Ville Nouvelles" were developed in France to prevent urban sprawl and car dominance. Experience has shown that people continued to use cars, thus canceling the potential benefits of compact-oriented planning (Dupuy, 1999). Meanwhile, the reappraisal of old urban morphologies and their walkability led planners to other compact city models (Häussermann & Haila, 2008), such as the Transit-Oriented Development (Cervero and TRB members, 2004; Calthorpe, 1997). Again, experience has shown a controversial success from a sustainability perspective due to associated side effects such as rising real estate prices and gentrification (Paul & Taylor, 2021). Similarly, the

---

* Corresponding author.
E-mail address: marc-edouard.schultheiss@epfl.ch (M.-E. Schultheiss).

FMC is expected to increase neighborhood inwardness and inequities, thus negatively impacting urban hospitality while benefiting wealthy downtown residents (Veltz, 2022). (Re)transforming the "inherited city" into a city of proximities is not only about densifying neighborhoods; it also requires changing inherited cultures, incorporations, institutions, and ways of life (ibid.). In a similar argument, Westerink et al. (2013) shows that compactness is often mistakenly equated with urban morphology density, overlooking the diversity of needs and the complexity of ways of living.

Hence, one way to empirically navigate such debates is to raise the question of how far planning for urban proximities resonates or conflicts with current individual preferences and practices, particularly when it comes to choosing a place to live. If a large part of contemporary urban planning emphasizes the importance of reinforcing a dense fabric of urban amenities within walking distance, one can ask if such an urban setting is valued from an individual or household perspective and, on the other hand, actualized in their everyday practices. Thus, we will empirically investigate several sub-questions to build our argument: What are the salient residential preferences? How did they evolve in the last decade? Where are these preferences spatially distributed? How large is the gap between preferences, location-choice, and morphological attributes? What are the archetypical residential ways of living? Who aspires to what?

Based on these premises, this article aims to gain a better understanding of the gaps between individual residential preferences, residential practices, and proximity planning policies. This is crucial at a time when new urban models are becoming a core element of ecological transition in Europe (Gil Solá & Vilhelmson, 2019). We argue that urban planning should be grounded in a certain form of anthropological realism, meaning that it should adjust to or at least engage in a dialogue with the way households practice their territories and, more fundamentally, the forms of "good life" they aspire to.

The remaining text is organized as follows. After the introductory section, Section 2 provides a background to conceptually differentiate the proximity planning policies from residential choices, preferences, and ways of living. Section 3 focuses on data, use case, and method. It is based on a longitudinal analysis of residential preferences (using two cross-sectional surveys conducted 10 years apart), spatial regressions, and hierarchical clustering. Section 4 presents the results, addressing the subquestions introduced before. Section 5 discusses the results from a broader perspective and summarizes the findings. Section 6 provides the conclusions.

2. Theoretical background

2.1. Urban proximity planning models

In the latter half of the 20th century, the rapid development of the "system of automobility" (Urry, 2004) caused a rupture from the European tradition of proximity planning (CEC, 1990; Williams, 1999). Urban areas evolved from pedestrian-oriented cities (which were already dense and local) to motorized cities marked by intense land consumption (Colville-Andersen, 2018; Wiel, 1999). This affected the relationship to "proximities", both as a residential aspiration and an everyday practice (Ravetz, 2000). Recent statistics show continued car dominance in Europe (Fiorello et al., 2016), with suburban areas remaining attractive (e.g., Booi & Boterman, 2020 in a European case study). The persistence of the "desirability of suburban ways of living" (Collectif., 2013; Breheny, 1997) – along with a "rural idyll" of beautiful landscapes, closeness to nature, larger and more affordable houses, easier socialization, and easier access to socio-cultural facilities (Bacqué et al., 2016; Wiel, 1999) – conflicts with the different planning models of urban proximities. Post-Covid, this conflict between aspirations and urban planning pathways seems to remain as demographic growth has shifted towards suburbs and small cities rather than city centers (e.g., Åberg & Tondelli, 2021; FSO, 2023; Lodovici et al., 2022).

In the European tradition of urban proximity mentioned above, several planning models have emerged. The Compact City or Short-Distance City models are essentially based on an urban containment agenda, involving a high density, mixed-use urban area (Williams, 1999). More recent proximity-based models include Paris' FMC, Barcelona's Superblocks, the Car-free City, the Low-traffic Neighborhood, or a combination of these. They aim to go beyond the physical attributes of compactness; considering social, institutional, political, and ecological implications of Urban Proximities (Haarstad et al., 2023; Nieuwenhuijsen, 2021; Pozoukidou & Chatziyiannaki, 2021). Four pillars that should be equally treated are identified, namely the proximity of urban amenity, inclusion (e.g., access to public services through housing policies), health (e.g. policy against health deserts, easy access to fresh and affordable food), and safety of the urban environments.

Redeveloping pre-automobile urban proximities is undoubtedly an important tool for sustainable development in the context of the Paris Agreements and IPCC recommendations (IPCC, 2022). However, such redevelopment may not meet all residential preferences and practices equally, making it a somewhat ambiguous approach. The debate about the acceptability and desirability of Compact City models and their aforementioned shortcomings was vigorous in the 1990s (Breheny, 1997; Burton et al., 1996; Gordon & Richardson, 1997). However, to the best of our knowledge, the newest urban concepts remain barely debated, criticized, and tested in recent empirical literature.

2.2. The social dynamic of residential choices

Residential choices are the result of arbitrations that involve various dimensions of existence. It is socially influenced by tradition, culture, way of living, or social position; but also subject to strong economic, axiologic, and contextual constraints (Authier et al., 2010). The literature on the extent to which a choice is socially constructed remains unclear, as exemplified by the residential self-selection effect (Guan et al., 2020) or how some segments of population develop strategies to reduce their commuting distance (Escolano-Utrilla et al., 2024). A disciplinary divide between economics and sociology has led to confusion on the matter. In the dominant tradition of economic science (Ben-Akiva & Lerman, 1985; Pareto, 1968), the logic of action underlying a rational choice implies optimization of objective attributes in the "housing package", such as size, price, ownership, number of rooms, and location (Lucy, 2019; Schelling, 1971). This involves a "place utility" (Wolpert, 1965) and a willingness to pay, assuming homogeneous preferences across the population. But the ability to control one's living space is unequally distributed among social groups.

Questioning the homogeneity of rational preferences, theories of social action have explored the way housing and neighborhood characteristics are differentially valued within the population, highlighting "distinction" effects induced by the social position of the agent (Bourdieu, 1984) but also contrasted appraisal of the social characteristics, aesthetic, and other sensitive judgements of the environment (Clark et al., 2006). Those differentiated preferences are linked, among other, to the proximity of the support network such as family or friends (Tosi, 2017), the lived experiences in neighborhoods (Sun & Manson, 2012), the familiarity and sense of place (Bonvalet & Gotman, 1999; Felder, 2021; Hipp et al., 2012); as well as quality of schools, crime rates, representation of safety, or ethnic diversity (Schwanen & Mokhtarian, 2007; van Ham & Feijten, 2008). Furthermore, the seminal work of Böhme (1993) and more broadly the pragmatist approaches suggest that the individual's physical and emotional experience of space is constitutive of a sensitive evaluation of the built environment which cannot be reduced either to a rational or purely social logic (Gaudin, 2018). Concepts such as ambiance or atmosphere (Bille et al., 2015; Gandy, 2020) have opened up a renewed "sensory urbanism" (Schivelbusch et al., 2005).

Applying a Weberian approach (Weber, 1922), one can argue that different logics of action, including tradition, affect, purpose, and

values, can be combined. This aligns with the principles of housing disequilibrium models (e.g. Hanushek & Quigley, 1978), which involve trade-offs and complex compromises and conflicts between residential preferences (Clark & Dieleman, 1996). Even under financial constraints, actor's aspirations and values appear to still play a role in the way they navigate through them (Pagani & Binder, 2023). Hence, residential choice as an anthropological process involves much more than the rational evaluation of the costs and benefits associated with a housing package; and are never entirely free or rational.

To account for the way preferences are embedded in the ways actors experiment and evaluate their life environment, lifestyle approaches to residential preferences appear to be a promising way to address the multilayered and processual dimensions of residential choices.

2.3. Considerations of residential preference

We refer to the concept of residential preferences to understand how a diversity of aspirations, financial means, past experiences, and lifestyles more broadly, influence residential choices. Booi and Boterman (2020) explain that residential preferences, similarly to choices, are composed of a complex and sometimes inconsistent set of factors. These factors are related to the housing features (such as tenure, price, and size), its location (including the social and symbolic construction of the place), and its proximity to amenities like schools, as well as its ability to facilitate social interaction with friends and family. Preferences are also situated, contextual, and can shift over time (Pagani & Binder, 2023); and are influenced by the diversity of sensitive appraisal of the build environment (Thomas & Pattaroni, 2012).

A major element here is the aspirational dimension of residential preferences, which is the motivational process by which an individual or household is driven towards a goal and assigns objectives to it (Boudon, 1985). Aspirations allow for the recognition of both individual socialization (Preece et al., 2020) and the differentiation between ideal preferences (such as an ideal dwelling) and realistic ones (such as what one can currently afford) (Lewin et al., 1944). In this direction, Vasanen (2012) explains that residential preferences may not align with chosen housing due to their latent nature. The author asserts that comprehending subjective values associated with housing is key to understanding how residential preferences impact housing choices.

To account for this diversity as well as for the anthropological dynamic of residential choice, a stimulating thread of research links (aspirational) residential preferences to the broader concept of lifestyle (Hilbrandt, 2019; Jansen, 2020; Vasanen, 2012; Walker & Li, 2007). It allows combining functional factors with more non-rational, culture-based factors; and accounting for variations in preferences and arbitrations across the population (Aereo, 2006). A residential lifestyle approach reveals three main ways people evaluate their environment (Grêt-Regamey et al., 2019; Pattaroni, 2013; Thévenot, 2006): functional (e.g., household's ability to organize its daily activities), social (e.g., social representation of reputation, logics of distinction), and sensitive (e.g., affective and cognitive processes when experiencing past and current urban places). These logics of valuation cannot be contained in rational choice nor directly observed. Thus, it is commonplace to identify preferences using a latent-based approach (e.g., Lee et al., 2019; Walker & Li, 2007).

3. Data and methods

Our objective is to identify, characterize, and quantify how people value different attributes of their ideal living environment, whether it is built or social. Fig. 1 summarizes the three-step method. First, we will conduct a statistical transformation of raw data (step 1). This will be the working material for further analyses (step 2). Eventually, step 1 and 2 aim to produce enough ground for discussing the research question of how residential preferences conflict with new urban concepts of proximity planning (step 3).
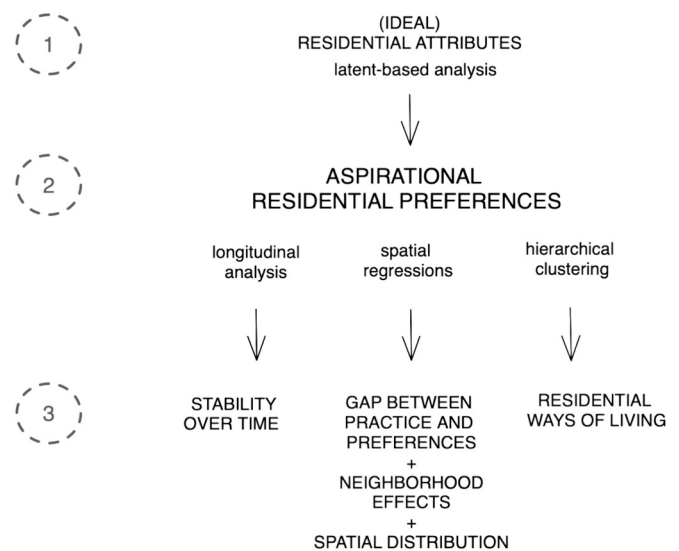

Fig. 1. Analytical device.

The remainder of the section explains each step of Fig. 1 in details, providing further details about the survey data, statistical transformations, and approaches to spatial analysis.

3.1. Survey data

The results are based on a 2021 self-reported web survey ($n = 2159$) in the Canton of Geneva (Switzerland) that focuses on the impact of social acceleration on the residential lifeworlds. An extensive description of the survey and the data is provided in a data paper (Schultheiss et al., 2023), which provides a representativity validation of the data.

This research leverages a series of 16 "ideal" residential location attributes (Table 1). These attributes largely overlap the most often utilized features in housing preference research as reviewed by Boumeester (2011:30), and focus on the "environment" features i.e. the contextual and neighborhood features. Residential location attributes were introduced in the questionnaire as follows: "Here are some reasons to live in a neighborhood. Generally speaking, can you indicate the level of importance of these criteria in choosing your ideal residential location?" (Pattaroni et al., 2021:5). Respondents were asked to rate each attribute on a one-to-five Likert scale. The mention of the "ideal residential location" specifically helps us focus on aspirational preferences. Although a declarative bias may persist, such as confusion between "ideal" and "actual" residential attributes, this formulation allows us to take distance from contextual constraints, such as limited financial resources.

The scores distribution is normally distributed ($\mu = 3.4$, $\sigma = 0.61$) and unimodal, which validates the quality of the answers in statistical terms.

3.2. Residential preferences

The first data transformation consists in yielding latent residential preferences (stated preferences), that are statistical combinations of the weighted residential attributes. A Principal Component Analysis (PCA) was used to reveal the salient residential preferences, following a commonly used method as explained in Section 2.3 and in previous works (e.g. Lee et al., 2019; Vasanen, 2012; Walker & Li, 2007). The number of principal components to keep was chosen by observing the scree plot and elbow method and retaining eigenvalues greater than one to keep the prevalent components.

These latent factors are referred to as "residential preferences" in the rest of the paper and are a linear combination of the "residential

Table 1
Descriptive statistics of the 16 residential attributes obtained from the Data Domotopia (2021).

Functional	μ	σ	Social	μ	σ	Sensitive	μ	σ
Proximity to train station	2.6	1.35	School proximity or reputation	2.9	1.59	Calm and Nature	**4.3**	**0.95**
Accessibility by public transport	**4.1**	1.13	Proximity to friends/family	3.3	1.25	Charm	**3.9**	**1.01**
Accessibility by car	3.5	1.38	Cultural life	2.8	1.27	Feeling of safety	**4.0**	**1.10**
Proximity to work	3.3	1.32	Social diversity and associative life	2.8	1.28			
Proximity to shops	**3.9**	**1.05**	Neighborhood reputation	**3.6**	1.19			
Proximity to city center	3.2	1.27						
Taxation	2.9	1.34						
Optical fiber	3.1	1.27						
Average per characteristic:	*3.33*	*1.26*		*3.08*	*1.32*		*4.07*	*1.02*
n = 2159								

attributes," which can be interpreted as standardized regression co-efficients. The method employed is "principal factors" using the varimax rotation. The *p*-value (0.00 < 0.05) and KMO tests (0.86 > 0.60) validated the statistics.

3.3. Longitudinal analysis

A phone-based survey of the same residential attributes in the metropolitan area of Geneva was already conducted in 2010 (Pattaroni & Kaufmann, 2010). The sample size was smaller (n = 1266), but enough to replicate the same method as described in Section 3.2 for descriptive comparison purposes. Studies in Health often use a longitudinal analysis based on replicating a PCA at multiple points in time and different cohorts (e.g. Newby et al., 2006; Northstone & Emmett, 2008). This approach is preferred to the "applied approach", which applies loadings from t to t + 1 survey data. On these grounds, we can confidently compare residential preferences from 2021 with those obtained through a latent analysis of the 2010 residential criteria. The general trends can be compared since both samples are representative of the population. The p-value (0.00 < 0.05) and KMO tests (0.83 > 0.60) also validate the use of a PCA. More information about the 2010 data can be found in (Pattaroni & Kaufmann, 2010).

3.4. Spatial analysis

The spatial analyses have three objectives: reveal the spatial distribution of residential preferences; measure the gap between residential practices and preferences and quantify how much preferences match or mismatch environment morphologies; reveal neighborhood effects. We focus the spatial analyses on the Canton of Geneva, composed of 45 municipalities divided into 475 subsectors, including 128 in the city of Geneva. Geneva is the 2nd densest area in Switzerland, with 510,000 persons in a 245 km^2 territory. As a border city between France and Switzerland with differences in land prices, salaries and taxes, it is particularly diverse yet united with local political attitudes and practices (Clément & Gumy, 2021). The territory offers rural and urban diversity in residence opportunities. Data Domotopia (authors, 2023) is statistically representative with relative respondents per municipality close to the actual population distribution.

Spatial regressions are performed using residential preferences as explanatory features. Ordinary Least Squares is used to identify trends between residential preferences and space-dependent variables. Space can be introduced exogenously or endogenously, and the estimation method is adapted to address endogeneity issues that violate some assumptions of a simple ordinary least squares routine. Mathematically, the spatially lagged exogenous regressors can be expressed as in Eq. (1):

$$Y_i = \alpha + \beta X_i + \delta \sum_j \omega_{ij} X_i' + \epsilon_i \tag{1}$$

with X_i' a subset of X_i the vector of explanatory features for subsector i; and ω_{ij} the ij-th cell of a spatial weights matrix W that can be calculated using different methods (Arribas-Bel, 2019). Here, the binary Queen contiguity approach is used to define the weight matrix, which requires a shared edge with another subsector. Lastly, α is the constant, $\{\beta; \delta\}$ are the parameters to be estimated and ϵ_i the error term. Interpretatively, including an exogenous regressors suggests that the residential aspirations in the neighboring subsectors $j = 1...n$ also influence the dependent variable considered at the subsector i.

Fig. 2 displays maps of two of the three dependent variables used in the spatial analyses, namely the *network distance to the fifth amenity* and the *network distance to the fifth transit station*. These distances are retrieved from OpenStreetMap. The transit stations include the bus stop and the train or tram platforms. The amenities include the coffee shops, post offices, schools, pharmacies and bars. These are a subset used as a proxy for other urban facilities and services such as grocery stores, sports facilities or health centers. Future works must integrate a more exhaustive list of urban features to obtain a complete picture of what functional proximity is and what indicators can be used to assess it (Guzman et al., 2024). The third dependent variable included in the analysis is the *average annual square meter rental price per town* (Real-Advisor, 2022).

These dependent variables cover 3 out of the 23 attributes used in the evaluation of the FMC by Pozoukidou and Chatziyiannaki (2021). We considered three attributes as relevant and intuitive preliminary proxies for evaluating Urban Proximities from a planning policy perspective. These attributes encompass several dimensions of accessibility, affordability, and diversity in public transit, essential services, and housing. This addresses two pillars of the FMC, which are urban amenity and inclusion. The remaining pillars of safety and health can be integrated in future works. By considering the "fifth" Point-Of-Interest, we aimed at accounting for both the POI availability and the POI-specific diversity. Although diversity is undoubtedly a factor that contributes to development and attraction (Eagle et al., 2010), there is less information available about how much diversity is required to retain the local population (Graells-Garrido et al., 2021). In future work, a sensitivity analysis should be conducted to operationalize POI-specific diversity with respect to urban proximities.

The spatial compactness or centrality of the residential preferences are visually remarkable. To quantify how dispersed, random or centered a feature can be, two indicators are used. The first one is the Moran's Index to assess the spatial randomness of a feature i.e., whether distribution patterns are discernible over space (spatial auto-correlation). The Moran's index calculation includes the same weight matrix as introduced previously to account for neighboring areas. It must be interpreted as follows: a Moran's I equal to −1 indicates a perfect dispersion (like a chess board); a null Moran's I indicates no autocorrelation i.e., randomness; and a Moran's I equal to +1 indicates perfect clustering of similar values. The second indicator is derived from the Standard Distance typically used in spatial analysis to measure the compactness of a distribution. Eqs. (2) and (3) shows the centrality index C^k for feature k, and min-max scaled weighted standard distance $\widetilde{SD_w^k}$ for feature k.

$$C^k = 1 - \widetilde{SD_w^k} \tag{2}$$

(a) Access to 5th amenity
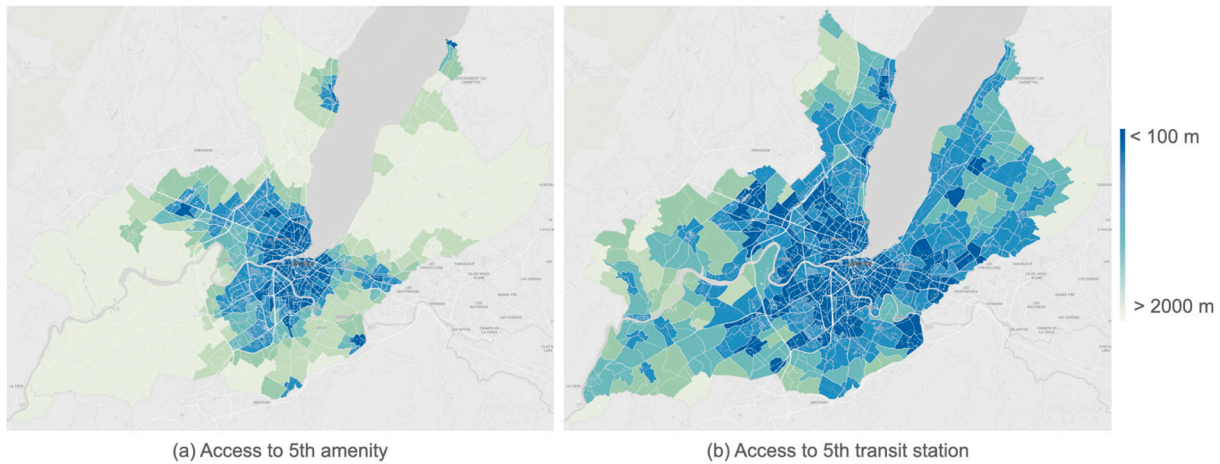
(b) Access to 5th transit station

Fig. 2. Dependent variables retrieved from OpenStreetMap: network distance to reach (a) the 5th amenity and (b) the 5th transit station (aggregated at the sub-sector level).

$$SD_{\omega}^k = \sqrt{\frac{\sum_{i=1}^n \omega_i^k (x_i - x_{center})^2}{\sum_{i=1}^n \omega_i^k} + \frac{\sum_{i=1}^n \omega_i^k (y_i - y_{center})^2}{\sum_{i=1}^n \omega_i^k}} \qquad (3)$$

with $\omega_{i,k}$ the *ij*-th Queen-based weight, $\{x_i, y_i\}$ the geolocation of respondent *i*, $\{x_{center}, y_{center}\}$ the geolocation of the center of reference, here the Geneva train station.

3.5. Hierarchical clustering

The last methodological point concerns the archetypal residential ways of living. The objective is to identify groups of respondents who share similar residential preferences (yielded from the PCA described in Section 3.2 as shown on Fig. 1) using hierarchical clustering based on Ward's linkage criterion. Ward's prioritizes the preservation of cluster homogeneity by minimizing within-cluster variance – an aspect where other linkage criteria diverge. In the context of latent residential preferences (scaled features), Ward's criterion offers the advantage of not

just evaluating the similarity between data points but also comprehensively assessing the overall structure and coherence of the clusters while limiting the effects of outliers and noise in comparison to single (nearest neighbor) or complete (farthest neighbor) linkage criteria. Lastly, the determination of the number of clusters hinges on the homogeneity of cluster sizes and the vertical distances on the dendrogram, ensuring that the resulting clusters are both meaningful and interpretable.

4. Results

4.1. Residential preferences

The PCA of 16 residential attributes revealed five components that explain 57 % of the variance. This rate is satisfactory, considering the complexity of residential preferences and unobserved arbitrations. The axes can be interpreted as salient residential preferences that help us better understand the main drivers of residential choices, what people value in a potential residential location, and how to characterize people's residential preferences. The loadings of the principal component

Table 2
Loadings of the 2021 residential criteria principal component analysis.

	2021	Factor 1 Tranquility 14 %	Factor 2 Spatial proximity 12 %	Factor 3 Elitism 11 %	Factor 4 Social proximity 10 %	Factor 5 Conviviality 10 %
FUNCTIONAL	Proximity to train station	−0.026	0.408	0.043	0.033	0.463
	Accessibility by public transport	0.134	**0.747**	0.040	0.099	0.119
	Proximity to shops	0.149	**0.739**	0.199	0.114	0.021
	Proximity to city center	−0.031	**0.692**	−0.009	0.059	0.239
	Accessibility by car	0.337	−0.105	**0.530**	0.222	−0.158
	Taxation	0.173	0.010	**0.708**	0.071	0.196
	Optical fiber	−0.027	0.281	**0.737**	0.015	0.114
	Proximity to work	−0.009	0.148	0.000	**0.781**	0.079
SOCIAL	School proximity or reputation	0.138	0.038	0.179	**0.718**	0.012
	Proximity to friends/family	0.221	0.094	0.049	**0.431**	0.294
	Cultural life	0.108	0.178	0.017	0.081	**0.767**
	Social diversity and associative life	0.118	0.078	0.134	0.103	**0.735**
	Neighborhood reputation	**0.631**	0.177	0.388	0.094	−0.049
SENSITIVE	Calm and Nature	**0.769**	−0.020	−0.012	0.074	0.101
	Charm	**0.779**	0.069	0.015	0.018	0.233
	Feeling of safety	**0.641**	0.149	0.330	0.208	−0.004
	Moran's I (Queen contiguity weights)	0.15***	0.23***	0.02°	0.07*	0.09*
	Centrality	0.52	0.77	0.72	0.73	0.84
	***: p < 0.001; *: p < 0.05; °: p < 0.1.	*n = 2159*				
		p-value: 0.00 < 0.05				
		KMO test: 0.86 > 0.60				
		Rotation: varimax				
		Method: principal factor				
		Explained variance: 57 %				

analysis are presented in Table 2. These preferences include: tranquility, proximity, elitism, social proximity, and conviviality.

Tranquility reflects a preference for sensitive characteristics, such as green spaces and a tranquil atmosphere. It shows how much families appreciate the sensitive qualities of their surroundings, regardless of its social or functional properties. The *Spatial Proximity* axis indicates a preference for a dense and connected urban fabric, where people have easy access to shops and urban centers. This spatial proximity is mainly related to functional dimensions that can be associated with a pedestrian metric, distinguishing families that wish to build their daily life around pedestrian activities (walking and public transportation). *Elitism* is the pursuit of social distinction (Bourdieu, 1984). The four variables that make up this axis – accessibility by car, income tax rates, optical fiber, and neighborhood reputation – all favor an upscale lifestyle and environment. The preference for a district with a good reputation can be seen as a sign of social distinction. *Social proximity* refers to those who prioritize traditional values such as work, family, friends, and children's education. This concept encompasses the ideals of social success. Lastly, the concept of *conviviality* refers to a preference for an environment with a vibrant and diverse social life, where public life is valued. It can also be associated with a desire for entertainment, with a rich cultural life, as well as the convenience of being close to a train station and therefore easy access to other cities and territories in a non-individual mean of transport.

These five preferences demonstrate a wide range of residential preferences, particularly with respect to the social quality of the environment (reputation, security, involvement in the local community, and the importance of the family network).

They also indicate the main levers of user-centric urban planning projects. For instance, the emphasis on *proximity* relates to land-use and urban development paradigms, such as urban compactness, distribution of amenities and urban functions, the role of individual mobility, etc.

4.2. Stability of residential preferences over time

As described in the methods, the principal component analysis was replicated on a similar dataset from 2010 with 19 residential criteria. The resulting residential preferences obtained in 2010 are presented in Table 3. Interestingly, the residential preferences in 2010 are found to be very similar to those from 2021. The elitism, the proximity, the tranquility, and the conviviality are driven by the same residential attributes that slightly evolve in their attribute composition. In particular, *Elitism* used to include the school reputation and the feeling of safety in 2010, which constituted a strong social dimension. People would not only seek for a functionally upscaled environment, but also elite social characteristics. In 2021, only the functional elitism remains, since school reputation was transferred to the *Social Proximity*, and the feeling of safety to the *Tranquility*. Similarly, while the access to culture and associative life would go along functional proximity features in 2010,

they were transferred to *Conviviality* in 2021.

The preference for *Work* proximity has changed significantly over the past decade. In 2010, it was a standalone preference, while in 2021 it became a composite preference, including *Social Proximity* with family, friends, and child education. This shift reflects a desire to prioritize family and work proximity, which allows for complex activity-travel patterns. Thus, preferences appear to remain stable over time, yet flexible enough to adjust to the current social, political, ecological, epidemiological, economic, and technological situation. This validates the conceptual premise that social structures and aspirations are mutually influential.

4.3. Spatial distribution of the residential preferences

The residential preferences are spatially-dependent, based on the respondent's address. It is therefore relevant to characterize their spatial distributions. Fig. 3 maps the average scores given to each of the 2021 residential preferences per subsector.

The Moran's Index and Centrality Index are also indicated on the figure to assess the autocorrelation, compactness and inwardness of the features. As a result, the preference for Spatial Proximity and Conviviality are univocally oriented inwards with Centrality Indices equal to 77 % and 84 %, respectively. Conversely, Tranquility is oriented outwards with a Centrality Index of 53 %. These three preferences have significant autocorrelations, meaning that the spatial randomness hypothesis can be rejected with high confidence. In other words, there exist spatial patterns underlying Tranquility, Spatial Proximity and Conviviality. This is not the case for Elitism and Social Proximity, which are randomly distributed across the territory.

The inwardness of Spatial Proximity and Conviviality calls for further analysis, as it seems strongly correlated with the density of the urban fabric. As introduced in the Method section, this unveils an opportunity to explore the self-selection effect between the actual residential context and the aspirational residential preferences.

4.4. Discrepancy in preferences, practices, and morphologies

Are people living in the city centers aspiring for dense and convivial neighborhoods? Conversely, are people living in peripheral areas aspiring for calm and remoteness? Table 4 displays the estimation results of three spatial regressions that take the actual residential preferences and the lagged residential preferences as explanatory features (spatially lagged exogenous regressors).

The three dependent variables are the distance to the fifth amenity (Y1), the distance to the fifth transit station or bus stop (Y2), and the annual rental price of a square meter (Y3). All three are continuous variables, and the explanatory features are normalized. The primary interest of this analysis is to assess which preferences, and to what extent, effectively influence the dependent variables (F-statistic and t-

Table 3
Evolution in the residential aspirations between 2010 and 2021.

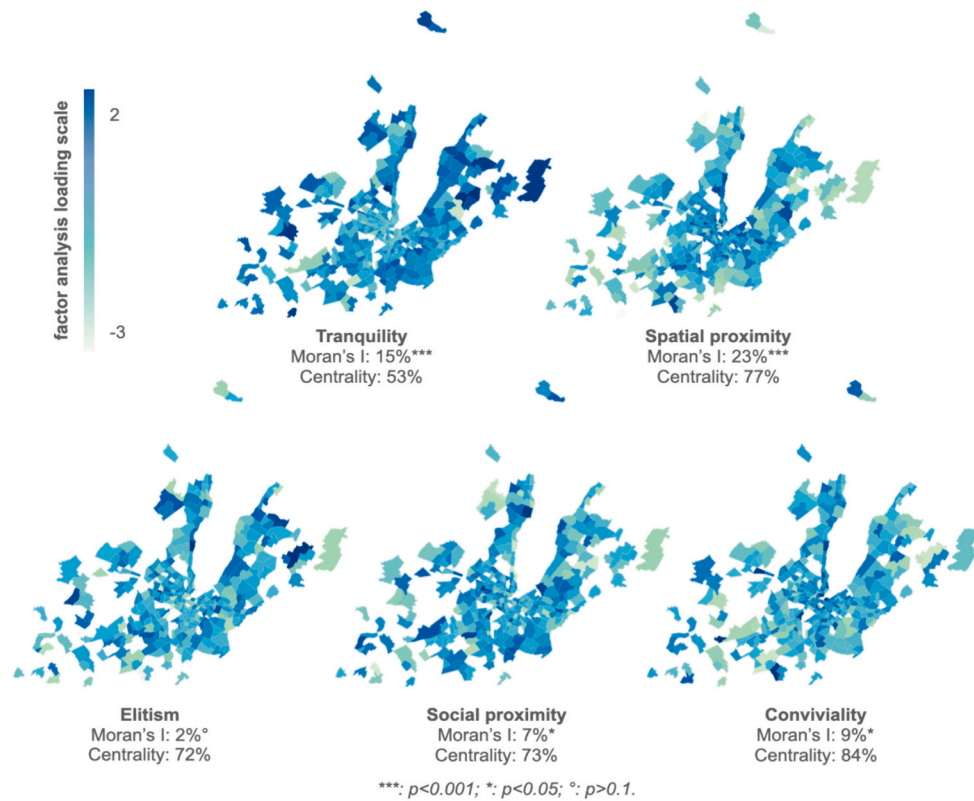| *Rotation: varimax* *Method: principal factor* *Explained variance: 50 %*			*n = 1266* *p-value: 0.00 < 0.05* *KMO test: 0.83 > 0.60*	Functional	Social	Sensitive
Preferences (in 2010)	Explained variance	Significant residential criteria in 2010 (loadings > 0.50)	Transfers in attributes between 2010/2021			
Elitism	13 %	Car accessibility, taxation, neighborhood and **school reputation, safety**		x	x	
Spatial proximity	12 %	Proximity to train station, transit, shops, city center, **cultural and associative life**		x	x	
Tranquility	10 %	Calm, nature and charm	(+) Feeling of safety			x
Conviviality	9 %	Cultural, associative life, social diversity and **proximity to friends and family**	(+) Train station, cultural and associative life		x	
Work	6 %	Work	(+) School reputation and proximity to family	x		

Fig. 3. Mapping of the principal components i.e., residential aspirations per subsector.

Table 4
Summary of three spatial regressions of the residential preferences.

Variable	Y_1: Dist. to 5th amenity				Y_2: Dist. to 5th station				Y_3: Annual rental m^2			
			F-stat	40.27			F-stat	17.28			F-stat	11.12
	N	340	p(Fstat)	0.000	N	340	p(Fstat)	0.000	N	340	p(Fstat)	0.000
	meanY	965	R^2:	0.55	meanY	484	R^2	0.34	meanY	390	R^2	0.25
	SD Y	672	Adj-R^2	0.54	SD Y	264	Adj-R^2	0.32	SD Y	53	Adj-R^2	0.23
	Coef.		t-stat	p-val	Coef.		t-stat	p-val	Coef.		t-stat	p-val
Constant	850.17	***	32.42	0.000	445.71	***	35.88	0.000	395.24	***	147.63	0.000
Tranquility	164.96	***	3.92	0.000	90.53	***	4.54	0.000	−8.59	*	−2.00	0.046
Lagged Tranquility	341.63	***	4.55	0.000	18.12	–	0.51	0.611	2.40	–	0.31	0.754
Spatial proximity	−201.11	***	−5.27	0.000	−76.43	***	−4.22	0.000	15.92	***	4.08	0.000
Lagged Spatial proximity	−516.95	***	−8.00	0.000	−151.53	***	−4.95	0.000	31.37	***	4.76	0.000
Elitism	−7.01	–	−0.17	0.865	−48.11	*	−2.46	0.014	2.44	–	0.58	0.562
Lagged Elitism	−203.43	**	−2.77	0.006	−88.43	*	−2.55	0.011	13.69	°	1.83	0.068
Social proximity	−48.12	–	−1.18	0.238	−21.89	–	−1.13	0.258	−0.20	–	−0.05	0.961
Lagged Social proximity	−150.07	*	−2.02	0.045	−16.46	–	−0.47	0.641	−0.27	–	−0.04	0.972
Conviviality	−103.12	*	−2.41	0.017	−28.81	–	−1.42	0.157	6.56	–	1.50	0.135
Lagged Conviviality	−258.00	***	−3.42	0.001	−81.25	*	−2.27	0.024	15.59	*	2.02	0.044

Significance thresholds: ***: p < 0.001; **: p < 0.01; *: p < 0.05; °: p < 0.1. t-stat: −2; 2.

statistic). The goodness-of-fit of the model is of secondary importance (R-squared) as it doesn't make sense to model accessibility or real estate market prices solely with residential preferences. Additionally, the dataset is not large enough for a test-train set split, and therefore to assess overfitting, which is likely to occur here (adding the lagged variables increases the R-squared by approximately 20 %). Nevertheless, the relative comparison of R-squared between regressions remains relevant.

In the "distance to fifth amenity" (Y1) model, most variables are

significant. Estimates show that the more importance given to Spatial proximity and Conviviality, the shorter the distance to the fifth amenity. Spatial proximity and lagged Spatial proximity have the highest marginal effect and are the most significant features. Conversely, preferring Tranquility significantly keeps people away from easy access to amenities. This suggests that people who prefer dense and convivial neighborhoods already live in neighborhoods with easy access to services. People who desire tranquility live in more remote areas. This model suggests a strong self-selection effect and some form of preferences

segregation. This could explain the high levels of residential satisfaction observed in the survey, and shows a small gap between preferences and practice.

The results also imply that with amenity accessibility comes conviviality, which is an important vector in the urban proximity evaluation pillar of "inclusivity".

Lastly, elitism and Social proximity do not have much effect on the dependent variable, as seen in the randomness of the features and distance to fifth amenity (Fig. 3). But the lagged Elitism and Social proximity show differently, with t-stats above significance thresholds (−2.77 and − 2.02). Both preferences appear to be more valued near amenities.

The "distance to the fifth transit station" model (Y2) yields similar trends among the significant variables: tranquility is negatively correlated with the dependent variable, while spatial proximity, lagged conviviality, and lagged elitism are positively correlated. Overall, the interpretation of Y2 suggests that residential preferences are weakly linked to access to the transit network, indicating that the self-selection effect is much lower than that of Y1, and that the gap between preferences and practice is larger.

Lastly, the "square meter annual rental price" model (Y3) mostly shows non-significant estimates and only two results seem to be relevant here. First, people who value Spatial proximity tend to pay more than others. If it is coherent with the demand-supply logic in the real estate market, it also means that dense and vibrant neighborhoods are more accessible to wealthier people. This poses a fundamental issue of inclusivity. Second, the fact that Y3 estimate is mainly inconsistent

confirms that the willingness-to-pay and residential preferences are not significantly correlated, in particular with the preferences that are more sensitive or social in nature.

4.5. Residential ways of living

The results presented above highlighted three intrinsic characteristics. First, there is a stability in the composition of residential preferences over time. Second, residential preferences show different degrees of spatial centrality or distribution randomness. Third, some preferences seem to work together, or against one another, when contextualized. In this last portion of the results, we consider the combination of residential preferences to yield residential ways of living. As introduced previously (see Sections 2.3 and 3.5), this is achieved by means of a hierarchical clustering approach. The results are presented in Table 5 that displays the five clusters with respect to the residential preferences they are based upon as well as descriptive statistics of sociodemographic information about the respondents.

These five clusters are assimilated as five residential ways of living that describe how people value and arbitrate the set of residential preferences: the Quiet, the Demanding, the Individualist, the Proxitarian and the Communitarian.

The rest of this section describes the ways of living in demographic terms, but foremost in terms of residential preferences and aspirations.

The Quiet cluster (25 %) attaches little importance to the social or functional aspects of quality of life. All dimensions have a negative

Table 5
Descriptive statistics of the residential ways of living yielded from residential preferences.

	Quiet (25 %)	Demanding (25 %)	Individualist (20 %)	Proxitarian (18 %)	Communitarian (12 %)
Preferences*					
Tranquility	**0.5**	0.1	−1.2	**0.6**	−0.1
Spatial proximity	−0.1	−0.3	**0.4**	0.0	0.2
Elitism	−0.2	**0.7**	0.1	−0.1	−1.3
Social proximity	−1.0	0.3	0.0	**0.8**	0.5
Conviviality	−0.1	**0.6**	−0.4	−0.6	**0.7**
Town*					
Geneva	0.08	**0.09**	**0.09**	0.05	0.05
Other	0.92	0.91	0.91	0.95	0.95
Gender*					
Female	0.53	0.50	0.49	**0.59**	**0.60**
Male	0.47	0.50	0.51	**0.41**	**0.40**
Other	0.00	0.00	0.00	0.00	0.00
Education*					
Higher education	**0.38**	0.33	0.38	0.36	**0.60**
High school or below	**0.62**	0.67	0.61	0.64	**0.40**
Professional status*					
Active	**0.51**	0.61	0.61	0.73	**0.79**
Retired	**0.34**	0.17	0.17	0.11	**0.08**
Other	0.15	0.22	0.22	0.16	0.14
Familial status*					
Couple	**0.28**	0.20	0.19	**0.16**	**0.14**
Couple+kids	**0.18**	0.28	0.24	**0.45**	**0.42**
Single parent	0.06	0.08	0.06	0.07	0.07
Single	**0.32**	0.19	0.26	**0.14**	**0.19**
Other	0.16	0.25	0.26	0.18	0.18
Financial status*					
Very wealthy	0.11	0.08	**0.13**	0.08	0.11
Wealthy	0.48	0.42	0.40	0.51	**0.52**
Just enough	0.30	**0.34**	0.33	0.29	0.27
In need	0.10	**0.15**	0.11	0.11	0.09
No reply	0.01	0.01	0.03	0.01	N/A
Stress symptom°*					
At least one	0.87	0.88	0.92	0.93	**0.96**
None	**0.13**	0.12	0.08	0.07	0.04
Age					
Median year of birth	1964	1974	1975	1976	1979
Standard deviation	17	16	18	14	14

Expressed as percentages
** coefficients yielded from the clustering algorithm*
°*Declared pathology at home: overworked, fatigue, frustrations, oppression, guilt and/or insecurity*
In bold: we show the important and standing out numbers that we focus on in the analysis

score, except for tranquility. This lifestyle implies a passive attitude towards residential location, and thus, low expectations. Demographic analysis of this group reveals that their exclusive preference for quietness is likely linked to life course, as retired people are overrepresented. This also implies less educated people, older age, and a majority of one- to two-head households. This lack of strong requirements for residential location is associated with fewer symptoms of stress.

In contrast, the Demanding cluster (25 %) scores positively on most of the residential preferences. They desire elitism and conviviality in particular, while also valuing tranquility and devaluing proximity. This makes them even more demanding, as such a configuration is hard to find. People living in close proximity to cultural or associative life tend to live in densely populated areas and are often more financially precarious than others. Half of the population reported having "just enough to live" or less, and 25 % reported having a familial status other than the mainstream ones.

For the Individualist cluster (20 %), the main contextual aspect of quality of life is a dense, well-connected environment. The scores indicate a preference for an urban environment, along with an individualistic lifestyle with no particularly strong social ties (social characteristics such as community life or proximity of the family do not factor into their choices). They are characterized by average demographics, except for their financial status, as very wealthy people are overrepresented.

Almost half of the Proxitarians (18 %) are couples with kids, and very few are single. This cluster is also overrepresented with women. The most important contextual aspect of quality of life for them is a calm, green environment, together with traditional values such as work, family, and education. These families seem to be more individualistic and structuralist, seeking above all a place where they will not be disturbed, with comfortable living conditions from which they can pursue their activities mainly by car.

The Communitarian cluster, the "petite bourgeoisie", is the smallest (12 %). It is the most characteristic group in terms of demographics, composed mainly of young, wealthy, highly educated people, and active women with kids. In terms of residential preferences, they value tradition and conviviality, giving prime importance to work, kid's education, proximity to transit, to family and friends, as well as to cultural and associative life. This comes along with stress symptoms, as 96 % of the group declare having at least one of the pathologies (overworked, fatigue, frustration, oppression, guilt, and/or insecurity). A way to designate this cluster could be people who try to find forms of local support that make their high-paced lives bearable.

The analysis revealed five distinct clusters of residential preferences. The Quiet and Communitarian clusters show distinct demographics, with retirees on one side and young, educated families on the other. The results showed that 43 % of the population preferred tranquility over functional proximity (Quiet and Proxitarian). When functional proximity was desired (Individualist and Communitarian, by 32 % of the population), it was often accompanied by a desire for a social quality of life. This population segment was mainly young and wealthy.

5. Discussion

5.1. What are the salient residential preferences?

Departing from 16 ideal residential attributes, we revealed a set of five latent preferences: tranquility, spatial proximity, elitism, social proximity, and conviviality. Coolen (2008), Meesters (2017), and Jansen (2020) refer to similar "residential motivations", or "residential meaning". The advantage of using a latent-based approach is to leverage objective attributes to yield partly unobservable preferences that are more complex (Authier et al., 2010). We specifically surveyed the "ideal" residential attributes to focus on the preferences and take distance from other components of the residential arbitration process, such as the contextual constraints or the economic capital.

Conceptually, addressing residential preferences remains

exploratory and debatable as residential choices are considered a social construction (ibid.; Fijalkow, 2011). Vasanen (2012) shows that there is a clear congruence between stated and revealed preferences and questions whether people choose their residence according to their residential preference or adjust their preference according to their residential environment.

5.2. How did residential preferences evolve in the last decade?

The longitudinal analysis revealed that the residential preferences remain mostly stable between 2010 and 2021. These results rely on two different samples of the population. Using tracking or panel data might bring even more accurate results in future two-stage principal component analyses. As discussed in Section 3.3, relying on different samples remains convincing for the following interpretations. Preferences for elitism and spatial proximity are particularly stable. The preference for "work proximity" revealed in 2010 evolved into a preference for "social proximity" in 2021, that values working together with family, friends and education. This evolution clearly demonstrates the adaptation of preferences to the conjecture, from a financial crisis (subprimes) to an epidemiological crisis (covid). In 2010 the financial crisis created precarious situations and pushed people refocusing their logics of value on the economical capital. Authier et al. (2010) argue that being uncertain about one's professional situation leads to not really having a residential project; and that a professional change often implies a change in residential aspirations (Authier et al., 2010). In 2021, the epidemiological crisis pushed people refocusing on the relevant others, the support network, and the youngest generations.

Thus, the slight evolution in preferences shows that they are malleable and influenced by the social context, yet they remain consistent. Change in preferences over the life-course is a phenomenon clearly identified in the literature (e.g. de Groot, 2011). Some works propose forecasts of future residential demand (Myers & Gearin, 2001). However, we did not find other works assessing the evolution of residential preference from a sociological perspective, on a meso-social scale. In this direction, future works could leverage the surveys on housing demand. For example, the Housing Research Netherlands survey has taken place every four or three years since 1977 (Boumeester, 2011).

5.3. Where are these preferences spatially distributed?

Spatial Proximity and Conviviality are oriented inward, and Tranquility is oriented outward, displaying distinct spatial patterns. Elitism and Social Proximity, however, are spread across the territory. We demonstrated that this method is effective for identifying residential pockets or specific neighborhoods where preferences differ from the actual morphologies. It brings new readings of spatial differentiation, dominated by urban relegation, suburbanisation, gentrification (Donzelot, 2004). In addition, the observed dispersion of elitism and social proximity confirms that periurbanisation entails complex and plural residential aspirations (Bacqué et al., 2016).

One of the main risks of urban proximity planning is reinforcing the urban-rural divide (Davoudi & Stead, 2002) by focusing interventions on central areas. We argue that our method can be used to guide policies adapting morphologies to people's expectations; or help the population adjust their practices. Alternative planning approaches, such as the "coherent city" (Korsu et al., 2012) or "concentrated decentralization" (Winkler, 1967), should be considered. This planning principle involves urbanization spread over localities of 5000 to 10,000 inhabitants, aiming to avoid urban sprawl while providing a critical mass of inhabitants to support the profitability of commercial activities and services related to daily life. Care must be taken to avoid an excessive multiplication of amenities and infrastructures, but such planning principles could accommodate a variety of residential preferences. While a larger population would be needed to zoom in on the territory, this constitutes a

promising direction for applied research and user-centric planning.

5.4. How large is the gap between preferences, location-choice, and morphological attributes?

The discrepancy between preferences, practices, and morphologies is spatially dependent and subject to self-selection effects. Amenities attract people aspiring for spatial proximity and conviviality. In the vicinity of amenity-rich neighborhoods, elitism and social proximity are valued, as well as the tranquility found in more remote areas. Other works show that the "neighborhood effect" (Durlauf, 2004) plays a primary role in overall residency satisfaction. The "sense of place" and "sense of living" are not only found inside the home, but also outside it, alongside other spheres of life (Hashemnezhad et al., 2013). This validates the use of lagged explanatory variables in spatial regression models. The self-selection effect is critical from an operational perspective (Guan et al., 2020; Litman & Steele, 2017; Lovejoy et al., 2010), as offering new urban proximities should not only be about transforming the built environment for those already living in proximity, but also about accommodating and bringing proximity to others.

Conceptually, we consider residential practices a trade-off of preferences, meaning that preferences conflict with one another (Myers & Gearin, 2001). Thus, we argue that we cannot identify a complete mismatch between preferences and practices. Some research has attempted to quantify the mismatch – or "residential dissonance" (Jansen, 2020) – by narrowing down the set of preferences to a single one, such as density and land-use pattern (De Vos et al., 2012; Schwanen & Mokhtarian, 2004; Vasanen, 2012). Research also points to the "rural idyll" (Heins, 2004) as a source of dissonance. The overly positive picture of rurality can result in a desire for tranquility, even if this is not realistic given other constraints (Jansen, 2020).

5.5. What are the archetypical residential ways of living?

Jansen and Coolen (2011):196–199) provides a review of the lifestyle typologies related to housing that exist in the literature, such as villager, yuppie, anarchist, traditional, idealist, culturelover, altruist, nest-builder, superurban households, economically urban households, and more (Bagley & Mokhtarian, 2002; van Diepen & Musterd, 2009). This shows that ways of living are context-dependent and that there is no consensus in the literature to characterize them. However, our clustering analysis is consistent with previous results by providing five meta-categories of residential ways of living in addition to structural axes: the Quiet, the Demanding, the Individualist, the Proxitarian, and the Communitarian that are described in the results.

5.6. How important is proximity for the population?

We find that 43 % of the population prefers tranquility over functional proximity (Quiet and Proxitarian). When functional proximity is desired (Individualist and Communitarian, by 32 % of the population), it is often accompanied by a desire for a social quality of life. These aspirational segments were also identified by Walker and Li (2007), who used a similar approach to yield suburban dwellers, urban dwellers, and transit-riders. In the Netherlands, the city-edge and smaller municipalities' residential environment is also most frequently preferred (Jansen, 2020). Similar results were reported in North America (e.g. Luckey et al., 2018; Myers & Gearin, 2001). Therefore, we can confidently confirm that proximity seeking is not dominant in residential aspirations.

5.7. Who aspires to what?

While the ways of living are exclusively based on residential preference arbitration patterns, the analysis shows clear segmentations in socio-demographics. Generally, our results are consistent with other works, such as McDowell (1997), Bagley and Mokhtarian (2002), and

Jansen (2020). The retirees, on the one hand, and young, educated families, on the other hand, tend to fall into two very distinctive residential ways of living: the Quiet and the Communitarian. The population aspiring for quietness and tranquility is older, less stressed, and overly represented by single, retired household members. This share of "Quiet" ways of living is expected to grow due to the aging population. These results contrast with those of Jansen, who showed that respondents with a preference to live in the city centre are generally older. This indicates again that ways of living are context-dependent. The Communitarian cluster is composed mainly of young, wealthy, highly educated, stressed, and active women with kids. A way to designate this cluster could be people who try to find forms of local support that make their high-paced lives bearable, mainly in secondary centers, outside the city of Geneva. This actuates the results of McDowell (1997), whose work on the increased participation of women in the labor market show that dual-income households prefer to live in centers to make their life more convenient. Lastly, the cluster that is the most compatible with urban proximities is the individualist one, in which very wealthy people are overrepresented.

These results show that according to residential preferences and ways of living, the planning of urban proximities are likely to reinforce the generational divide, and make the quality of life of the wealthiest even better. This goes in the direction of recent work by Escolano-Utrilla et al. (2024) showing that individuals with higher average incomes reside closer to their destinations and are in capacity of developing strategies to reduce their commuting distance to work, study, leisure and other activities. It could also attract ways of living such as the Communitarian if social proximity and conviviality are well integrated; and new ways of living could emerge.

6. Conclusion

Starting from residential scores, a latent-based approach was used to identify five residential preferences. These preferences were analyzed both longitudinally and spatially to show how they have evolved over the past decade. Additionally, the analysis discussed neighborhood effects, the gap between preferences and practices, and the territorial distributions of the different preferences. Finally, a clustering analysis yielded five archetypical residential ways of living.

This paper reveals and analyzes residential preferences and brings empirical evidence that a non-marginal portion of the population aspires to remoteness and tranquility; and that residential preferences induce socio-territorial polarizations. This adds to the existing knowledge of issues related to urban proximities, such as gentrification, pauperization, and social polarization (Fijalkow, 2011; Veltz, 2022). Functional proximity is mainly desirable for the youngest and the wealthiest, who represent only a third of the population. Thus, results suggest that urban proximity planning principles barely meet individual residential preferences. There must be accompanying measures to limit the resistances to adopt new (and more sustainable) ways of living; as individuals may resist when coerced (Foucault, 1983). In addition, the statistics and literature about residential preferences and practices show that suburbs remain attractive. Our results go in this direction too. This phenomenon is expected to be amplified, as information and technologies are making it easier to work and consume remotely. In parallel, from a planning perspective, the peri-urban area and sprawling city are now commonly associated with negative assumptions such as car dependence, pollution, and excessive resource consumption (Munafò, 2016). Replicating similar research to other countries or metropolitan areas could help in further generalizing these results, or assessing how much the cultural beliefs interfere with the desires of proximity, tranquility or conviviality.

Generalizing our results, we found that residential practices and ways of living vary depending on the context. The Canton of Geneva is an especially interesting case study, due to its diverse landscape, ranging from densely populated urban areas to more rural, remote areas. Despite

Geneva having a higher average standard of living than other European cities, economic capital is not the only factor influencing residential choices. For instance, the low vacancy rate leads to pressure and precarity in Geneva's residential practices. Moreover, as Authier et al. (2010) point out, even the poorest individuals have some freedom to choose, while the wealthiest may be limited in their choices to maintain their social status.

As a concluding remark, there remains ample scope for policy development to make housing affordable and ensure it is a "right of the city". Housing has become a commodity (Fijalkow, 2011). Yet, it still carries important values that must be considered when planning sustainable cities.

CRediT authorship contribution statement

Marc-Edouard Schultheiss: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Luca Pattaroni:** Writing – review & editing, Writing – original draft, Validation, Supervision, Funding acquisition, Conceptualization. **Vincent Kaufmann:** Writing – review & editing, Writing – original draft, Validation, Supervision, Funding acquisition, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

References

Åberg, H. E., & Tondelli, S. (2021). Escape to the country: A reaction-driven rural renaissance on a Swedish Island post COVID-19. *Sustainability, 13*(22), 12895. https://doi.org/10.3390/su132212895

Aereo, T. (2006). Residential choice from a lifestyle perspective. *Housing, Theory and Society, 23*(2), 109–130.

Allam, Z., Chabaud, D., Gall, C., Pratlong, F., & Moreno, C. (2023). Chapter 7 - on proximity-based dimensions and urban planning: Historical precepts to the 15-minute city. In Z. Allam, D. Chabaud, C. Gall, F. Pratlong, & C. Moreno (Eds.), *Resilient and sustainable cities* (pp. 107–119). Elsevier. https://doi.org/10.1016/B978-0-323-91718-6.00005-0.

Arribas-Bel, D. (2019). A course on geographic data science. *Journal of Open Source Education, 2*(14), 42. https://doi.org/10.21105/jose.00042

Ascher, F. (1997). Du vivre en juste à temps au chrono-urbanisme. *Les Annales de la Recherche Urbaine, 77*(1), 112–122. https://doi.org/10.3406/aru.1997.2145

Authier, J.-Y., Bonvalet, C., & Lévy, J.-P. (2010). Élire domicile: La construction sociale des choix résidentiels. In *Élire domicile: La construction sociale des choix résidentiels.* Presses universitaires de Lyon. http://books.openedition.org/pul/4821.

Bacqué, M.-H., Charmes, É., Launay, L., Vermeersch, S., & Hamilton, P. (2016). Territories caught between rise and decline. *Revue francaise de sociologie, 57*(4), 681–710.

Bagley, M. N., & Mokhtarian, P. L. (2002). The impact of residential neighborhood type on travel behavior: A structural equations modeling approach. *The Annals of Regional Science, 36*(2), 279–297. https://doi.org/10.1007/s001680200083

Barcelona City Council. (2022). Barcelona Superblock. https://www.barcelona.cat/pla-superilla-barcelona/en.

Ben-Akiva, M. E., & Lerman, S. R. (1985). *Discrete choice analysis: Theory and application to travel demand.* MIT Press.

Bibri, S. E. (2020). Advances in the leading paradigms of urbanism and their amalgamation: Compact cities, eco–cities, and data–driven smart cities. In *Advances in Science, Technology & Innovation.* Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-41746-8.

Bille, M., Bjerregaard, P., & Sørensen, T. F. (2015). Staging atmospheres: Materiality, culture, and the texture of the in-between. *Emotion, Space and Society, 15*, 31–38. https://doi.org/10.1016/j.emospa.2014.11.002

Böhme, G. (1993). Atmosphere as the fundamental concept of a new aesthetics. *Thesis Eleven, 36*(1), 113–126. https://doi.org/10.1177/072551369303600107

Bonvalet, C., & Gotman, A. (1999). *La famille et ses proches: L'aménagement des territoires.* INED.

Booi, H., & Boterman, W. R. (2020). Changing patterns in residential preferences for urban or suburban living of city dwellers. *Journal of Housing and the Built Environment, 35*(1), 93–123. https://doi.org/10.1007/s10901-019-09678-8

Boudon, R. (1985). *L'inégalité des chances.* Hachette Littérature.

Boumeester, H. J. (2011). Traditional housing demand research. *The Measurement and Analysis of Housing Preference and Choice,* 27–55.

Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste.* Harvard University Press.

Breheny, M. (1997). Urban compaction: Feasible and acceptable? *Cities, Sustainable Urban Development, 14*(4), 209–217. https://doi.org/10.1016/S0264-2751(97)00005-X

Burton, E., Jenks, M., & Williams, K. (1996). *The compact city: A sustainable urban form?* Routledge.

Calthorpe, P. (1997). *The Next American Metropolis: Ecology, Community, and the American Dream* (3rd edition). New York: Princeton Architectural Press.

CEC. (1990). *Green paper on the urban environment (EUR 12902) for the Commission of the European Communities.* Brussels: CEC.

Cervero, R., & TRB members. (2004). *Transit-oriented development in the United States: Experiences, challenges, and prospects.* Washington, D.C.: Transportation Research Board. https://doi.org/10.17226/23360

Chamboredon, J.-C., & Lemaire, M. (1970). Proximité spatiale et distance sociale. Les grands ensembles et leur peuplement. *Revue Française de Sociologie, 11*(1), 3–33. https://doi.org/10.2307/3320131

Clark, W., Deurloo, M., & Dieleman, F. (2006). Residential mobility and neighbourhood outcomes. *Housing Studies, 21*(3), 323–342. https://doi.org/10.1080/02673030600585946

Clark, W., & Dieleman, F. M. (1996). *Households and housing: Choice and outcomes in the housing market.* Transaction Publishers.

Clément, G., & Gumy, A. (October 2021). More than a border effect: Ordinary politicization and struggles of belonging in a Swiss border municipality. *Politix, 136* (4), 55–81. https://doi.org/10.3917/pox.136.0055

Collectif.. (2013). *Rehabiliter le périurbain: Comment vivre et bouger durablement dans ces territoires ? (1er édition).* Loco Éditions.

Colville-Andersen, M. (2018). *Copenhagenize: The definitive guide to global bicycle urbanism.* Island Press.

Coolen, H. (2008). *The meaning of dwelling features conceptual and methodological issues / Hendrikus Christianus Catharina Helena Coolen.* Delft University Press.

Davoudi, S., & Stead, D. (2002). Urban-rural relationships: An introduction and brief history. *Built Environment, 1978*(28), 268–277. https://doi.org/10.2307/23287748

de Groot, C. (2011). *Intentions to move, residential preferences and mobility behaviour: A longitudinal perspective.* Universiteit van Amsterdam [Host].

De Vos, J., Derudder, B., Van Acker, V., & Witlox, F. (2012). Reducing car use: Changing attitudes or relocating? The influence of residential dissonance on travel behavior. *Journal of Transport Geography, 22*, 1–9. https://doi.org/10.1016/j.jtrangeo.2011.11.005

Donzelot, J. (2004). La ville à trois vitesses: Relégation, périurbanisation, gentrification. *Esprit (1940), 303*(3/4), 14–39.

Dupuy, G. (1999). La dépendance automobile. *Economica, 166.*

Durlauf, S. N. (2004). Chapter 50—Neighborhood effects. In J. V. Henderson, & J.-F. Thisse (Eds.), *vol. 4. Handbook of regional and urban economics* (pp. 2173–2242). Elsevier. https://doi.org/10.1016/S1574-0080(04)80007-5.

Eagle, N., Macy, M., & Claxton, R. (2010). Network diversity and economic development. *Science, 328*(5981), 1029–1031. https://doi.org/10.1126/science.1186605

Elldér, E. (2024). Built environment and the evolution of the "15-Minute City": A 25-year longitudinal study of 200 Swedish cities. *Cities, 149*, Article 104942. https://doi.org/10.1016/j.cities.2024.104942

Escolano-Utrilla, S., López-Escolano, C., & Salvador-Oliván, J. A. (2024). Size and spatial and functional structure of aggregate daily mobility networks in functional urban areas: Integrating adjacent spaces at several scales. *Cities, 145*, Article 104731. https://doi.org/10.1016/j.cities.2023.104731

Felder, M. (2021). Familiarity as a practical sense of place. *Sociological Theory.* https://doi.org/10.1177/07352751211037724

Fijalkow, Y. (2011). *Sociologie du logement.* La Découverte.

Fiorello, D., Martino, A., Zani, L., Christidis, P., & Navajas-Cawood, E. (2016). Mobility data across the EU 28 member states: Results from an extensive CAWI survey. *Transportation Research Procedia, 14*, 1104–1113. https://doi.org/10.1016/j.trpro.2016.05.181

Foucault, M. (1983). The subject and power. In *Beyond structuralism and hermeneutics* (pp. 208–226). University of Chicago Press. https://foucault.info/documents/foucault.power/.

FSO. (2023). Statistical Atlas of Switzerland. https://www.bfs.admin.ch/bfs/en/home/statistiken/regionalstatistik/atlanten/statistischer-atlas-schweiz.html.

Gandy, M. (2020). Urban atmospheres. In *Being urban.* Routledge.

Gaudin, O. (2018). Pragmatist views of urban experience: Sensorial perception in urban studies. *Pragmatism Today, 9*(1), 173–188.

Gil Solá, A., & Vilhelmson, B. (2019). Negotiating proximity in sustainable urban planning: A Swedish case. *Sustainability, 11*(1), 31. https://doi.org/10.3390/su11010031

Gordon, P., & Richardson, H. W. (1997). Are compact cities a desirable planning goal? *Journal of the American Planning Association, 63*(1), 95–106. https://doi.org/10.1080/01944369708975727

Graells-Garrido, E., Serra-Burriel, F., Rowe, F., Cucchietti, F. M., & Reyes, P. (2021). A city of cities: Measuring how 15-minutes urban accessibility shapes human mobility in Barcelona. *PLoS One, 16*(5), Article e0250080. https://doi.org/10.1371/journal.pone.0250080

Grêt-Regamey, A., Huber, S. H., & Huber, R. (2019). Actors' diversity and the resilience of social-ecological systems to global change. *Nature Sustainability, 2*(4), 4. https://doi.org/10.1038/s41893-019-0236-z

Guan, X., Wang, D., & Jason Cao, X. (2020). The role of residential self-selection in land use-travel research: A review of recent findings. *Transport Reviews, 40*(3), 267–287. https://doi.org/10.1080/01441647.2019.1692965

Guzman, L. A., Oviedo, D., & Cantillo-Garcia, V. A. (2024). Is proximity enough? A critical analysis of a 15-Minute City considering individual perceptions. *Cities, 148*, Article 104882. https://doi.org/10.1016/j.cities.2024.104882

Haarstad, H., Kjærås, K., Gunnar, R. P., & Tveiten, K. (2023). Diversifying the Compact City: A renewed agenda for geographical research. *Dialogues in Human Geography, 13* (1), 5–24. https://doi.org/10.1177/20438206221102949

Hanushek, E. A., & Quigley, J. M. (1978). An explicit model of intra-metropolitan mobility. *Land Economics, 54*(4), 411–429. https://doi.org/10.2307/3146168

Hashemnezhad, H., Heidari, A. A., & Mohammad Hoseini, P. (2013). Sense of place and place attachment. *International Journal of Architecture and Urban Development, 3*(1), 5–12.

Häussermann, H., & Haila, A. (2008). The European city: A conceptual framework and normative project. In *Cities of Europe: Changing contexts, local arrangement and the challenge to urban cohesion*. John Wiley & Sons.

Heins, S. (2004). Rural living in city and countryside: Demand and supply in the Netherlands. *Journal of Housing and the Built Environment, 19*(4), 391–408. https://doi.org/10.1007/s10901-004-3042-4

Hilbrandt, H. (2019). Everyday urbanism and the everyday state: Negotiating habitat in allotment gardens in Berlin. *Urban Studies, 56*(2), 352–367. https://doi.org/10.1177/0042098017740304

Hipp, J. R., Faris, R. W., & Boessen, A. (2012). Measuring 'neighborhood': Constructing network neighborhoods. *Social Networks, 34*(1), 128–140. https://doi.org/10.1016/j.socnet.2011.05.002

Summary for policymakers. In IPCC (Ed.), *Global warming of 1.5°C: IPCC special report on impacts of global warming of 1.5°C above pre-industrial levels in context of strengthening response to climate change, sustainable development, and efforts to eradicate poverty*, (pp. 1–24). (2022) (pp. 1–24). Cambridge: Cambridge University Press. https://doi.org/10.1017/9781009157940.001.

Jacobs, J. (1961). *Death and life of great American cities* (p. 474).

Jansen, S. J. T. (2020). Urban, suburban or rural? Understanding preferences for the residential environment. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 13*(2), 213–235. https://doi.org/10.1080/17549175.2020.1726797

Jansen, S. J. T., & Coolen, H. C. C. H. (2011). &. In R. W. Goetgeluk (Ed.), *The measurement and analysis of housing preference and choice*. Netherlands: Springer. https://doi.org/10.1007/978-90-481-8894-9.

Korsu, E., Massot, M.-H., & Orfeuil, J.-P. (2012). *La ville cohérente—Penser autrement la proximité. La documentation française*.

Lee, Y., Circella, G., Mokhtarian, P. L., & Guhathakurta, S. (2019). Heterogeneous residential preferences among millennials and members of generation X in California: A latent-class approach. *Transportation Research Part D: Transport and Environment, 76*, 289–304. https://doi.org/10.1016/j.trd.2019.08.001

Lewin, K., Dembo, T., Festinger, L., & Sears, P. S. (1944). Level of aspiration. In *Personality and the behavior disorders* (pp. 333–378). Ronald Press.

Litman, T., & Steele, R. (2017). *Land use impacts on transport*. Victoria Transport Policy Institute Canada.

Lodovici, M. S., Ferrari, E., Paladino, E., Pesce, F., Frecassetti, P., Aram, E., Hadjivassiliou, K., et al. (2022). *Demographic outlook for the European Union 2022 - for the European Parliament*. LU: Directorate General for Parliamentary Research Services. https://doi.org/10.2861/497764

Lovejoy, K., Handy, S., & Mokhtarian, P. (2010). Neighborhood satisfaction in suburban versus traditional environments: An evaluation of contributing characteristics in eight California neighborhoods. *Landscape and Urban Planning - LANDSCAPE URBAN PLAN, 97*, 37–48. https://doi.org/10.1016/j.landurbplan.2010.04.010

Luckey, K. S., Marshall, W. E., Durso, C., & Atkinson-Palombo, C. (2018). Residential preferences, transit accessibility and social equity: Insights from the Denver region. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 11*(2), 149–174. https://doi.org/10.1080/17549175.2017.1422531

Lucy, W. (2019). Tomorrow's cities. In *Tomorrow's suburbs*. Routledge. https://doi.org/10.4324/9781351179553.

McDowell, L. M. (1997). The new service class: Housing, consumption, and lifestyle among London bankers in the 1990s. *Environment and Planning A, 29*(11), 2061–2078.

Meesters, J. (2017). The meaning of activities in the dwelling and residential environment: A structural approach in people-environment relations. https://books.bk.tudelft.nl/press/catalog/book/isbn.9781607500124.

Moreno, C., Allam, Z., Chabaud, D., Gall, C., & Pratlong, F. (2021). Introducing the '15-Minute City': Sustainability, resilience and place identity in future post-pandemic cities. *Smart Cities, 4*(1), 93–111. https://doi.org/10.3390/smartcities4010006

Munafò, S. (2016). *La ville compacte remise en cause?* Formes urbaines et mobilités de loisirs: Editions Alphil Presses universitaires suisses. https://doi.org/10.26530/OAPEN_624512

Myers, D., & Gearin, E. (2001). Current preferences and future demand for denser residential environments. *Housing Policy Debate, 12*(4), 633–659. https://doi.org/10.1080/10511482.2001.9521422

Neuman, M. (2005). The Compact City fallacy. *Journal of Planning Education and Research, 25*(1), 11–26. https://doi.org/10.1177/0739456X04270466

Newby, P. K., Weismayer, C., Åkesson, A., Tucker, K. L., & Wolk, A. (2006). Longitudinal changes in food patterns predict changes in weight and body mass index and the effects are greatest in obese women. *The Journal of Nutrition, 136*(10), 2580–2587. https://doi.org/10.1093/jn/136.10.2580

Nieuwenhuijsen, M. J. (2021). New urban models for more sustainable, liveable and healthier cities post Covid19; reducing air pollution, noise and heat island effects and increasing green space and physical activity. *Environment International, 157* (December), Article 106850. https://doi.org/10.1016/j.envint.2021.106850

Northstone, K., & Emmett, P. M. (2008). A comparison of methods to assess changes in dietary patterns from pregnancy to 4 years post-partum obtained using principal components analysis. *The British Journal of Nutrition, 99*(5), 1099–1106. https://doi.org/10.1017/S0007114507842802

OECD. (2012). Compact city policies. https://www.oecd-ilibrary.org/content/publication/9789264167865-en.

Pagani, A., & Binder, C. R. (2023). A systems perspective for residential preferences and dwellings: Housing functions and their role in Swiss residential mobility. *Housing Studies, 38*(4), 682–706. https://doi.org/10.1080/02673037.2021.1900793

Pareto, V. (1968). Traité de sociologie générale. Œuvres complètes: Tome XII (Vol. 65). Librairie Droz; Cairn.info. https://www.cairn.info/traite-de-sociologie-generale–9782600040457.htm.

Pattaroni, L. (2013). Lifestyle. https://forumviesmobiles.org/en/dictionary/1754/lifestyle.

Pattaroni, L., & Kaufmann, V. (2010). *Questionnaire de l'enquête choix résidentiels et modes de vie dans l'agglomération franco-valdo genevoise*.

Pattaroni, L., Del Puppo, F., Schultheiss, M-E., Clément, G., Drevon, G., & Kaufmann, K. (2021). Preliminary metadata paper. In *Data Domotopia: A Web-Based Survey about Home-Making in a Moving World*. https://infoscience.epfl.ch/record/297928?ln=fr&v=pdf.

Paul, & Taylor, B. D. (2021). Who lives in transit-friendly neighborhoods? An analysis of California neighborhoods over time. *Transportation Research Interdisciplinary Perspectives, 10*, Article 100341. https://doi.org/10.1016/j.trip.2021.100341

Plan of Melbourne 2050. (2017). Plan Melbourne 2050: 20 minute neighbourhoods (Victoria) [Text]. https://www.planmelbourne.vic.gov.au/current-projects/20-minute-neighbourhoods.

Pozoukidou, G., & Chatziyiannaki, Z. (2021). 15-Minute City: Decomposing the new urban planning Eutopia. *Sustainability, 13*(2), 2. https://doi.org/10.3390/su13020928

Preece, J., Crawford, J., McKee, K., Flint, J., & Robinson, D. (2020). Understanding changing housing aspirations: A review of the evidence. *Housing Studies, 35*(1), 87–106.

Ravetz, J. (2000). *City-region 2020: Integrated planning for a sustainable environment. 1st edition. 2022*. London: Routledge. RealAdvisor. https://realadvisor.ch/.

RealAdvisor. https://realadvisor.ch/.

Rosa, H. (2010). *Accélération, Une critique sociale du temps*. La Découverte.

Saqalli, A., Schultheiss, M.-E., & Kaufmann, V. (2022). *Exploring "urban vitality" with open data* (no. 297164; p. 30). EPFL. https://infoscience.epfl.ch/record/297164.

Schelling, T. C. (1971). Dynamic models of segregation. *The Journal of Mathematical Sociology, 1*(2), 143–186. https://doi.org/10.1080/0022250X.1971.9989794

Schivelbusch, W., Pressman, N., Thompson, E., Zardini, M., Classen, C., & Howes, D. (2005). *Sense of the city: An alternate approach to urbanism* (1st ed.). Lars Müller Publishers.

Schultheiss, M-E., del Puppo, F., Clément, G., Drevon, G., Kaufmann, V., & Pattaroni, L. (2023). Data domotopia: Introduction to the quantitative survey. *Transportation*. https://doi.org/10.1007/s11116-023-10388-y

Schwanen, T., & Mokhtarian, P. L. (2004). The extent and determinants of dissonance between actual and preferred residential neighborhood type. *Environment and Planning B: Planning and Design, 31*(5), 759–784. https://doi.org/10.1068/b3039

Schwanen, T., & Mokhtarian, P. L. (2007). Attitudes toward travel and land use and choice of residential neighborhood type: Evidence from the San Francisco bay area. *Housing Policy Debate, 18*(1), 171–207.

Scoffham, E., & Vale, B. (1996). *"How compact is sustainable - how sustainable is compact?" in the compact city: A sustainable urban form?, 56–62*. London: Taylor & Francis Group.

Stevenson, M., Thompson, J., Hérick de Sá, T., Ewing, R., Mohan, D., McClure, R., Roberts, I., et al. (2016). Land use, transport, and population health: Estimating the health benefits of compact cities. *The Lancet, 388*(10062), 2925–2935. https://doi.org/10.1016/S0140-6736(16)30067-8

Sun, S., & Manson, S. M. (2012). Intraurban migration, neighborhoods, and city structure. *Urban Geography, 33, no. 7*, 1008–1029. https://doi.org/10.2747/0272-3638.33.7.1008

Thévenot, L. (2006). *L'action au pluriel*. La Découverte: Sociologie des régimes d'engagement. https://www.cairn.info/l-action-au-pluriel–9782707146403.htm.

Thomas, M.-P., & Pattaroni, L. (2012). Choix résidentiels et différenciation des modes de vie des familles de classes moyennes en Suisse. *Espaces et Sociétés, 148–149*(1), 111. https://doi.org/10.3917/esp.148.0111

Tosi, M. (2017). Leaving-home transition and later parent–child relationships: Proximity and contact in Italy. *European Societies, 19, no. 1*, 69–90. https://doi.org/10.1080/14616696.2016.1226374

Urry, J. (2004). The 'system' of automobility. *Theory, Culture & Society, 21*(4–5), 25–39. https://doi.org/10.1177/0263276404046059

van Diepen, A. M. L., & Musterd, S. (2009). Lifestyles and the city: Connecting daily life to urbanity. *Journal of Housing and the Built Environment, 24*(3), 331–345.

van Ham, M., & Feijten, P. (2008). Who wants to leave the neighbourhood? The effect of being different from the neighbourhood population on wishes to move. *Environment and Planning A, 40*(5), 1151–1170.

Vasanen, A. (2012). Beyond stated and revealed preferences: The relationship between residential preferences and housing choices in the urban region of Turku, Finland.

Journal of Housing and the Built Environment, 27(3), 301–315. https://doi.org/10.1007/s10901-012-9267-8

Veltz, P. (2022). La ville du quart d'heure: Un projet accessible à tous, vraiment? Préparer la transition mobilitaire. *Forum Vies Mobiles*. https://forumviesmobiles.org/controverses/15541/la-ville-du-quart-dheure-voie-suivre-ou-mirage-ideologique.

Ville de Paris. (2022). Paris ville du quart d'heure, ou le pari de la proximité. https://www.paris.fr/dossiers/paris-ville-du-quart-de-heure-ou-le-pari-de-la-proximite-37.

Walker, J. L., & Li, J. (2007). Latent lifestyle preferences and household location decisions. *Journal of Geographical Systems, 9*(1), 77–101. https://doi.org/10.1007/s10109-006-0030-0

Weber, M. (1922). Economy and society. In G. Roth, & C. Wittich (Eds.), *Two volume set, with a new foreword by Guenther Roth* (1st ed.). University of California Press.

Westerink, J., Haase, D., Bauer, A., Ravetz, J., Jarrige, F., & Aalbers, C. B. E. M. (2013). Dealing with sustainability trade-offs of the Compact City in peri-urban planning across European City regions. *European Planning Studies, 21*(4), 473–497. https://doi.org/10.1080/09654313.2012.722927

Wiel, M. (1999). *La transition urbaine, le passage de la ville pédestre à la ville motorisée. Mardaga Pierre*.

Williams, K. (1999). Urban intensification policies in England: Problems and contradictions. *Land Use Policy, 16*(3), 167–178. https://doi.org/10.1016/S0264-8377(99)00010-1

Winkler, E. (1967). L'aménagement du territoire Suisse. *Le Globe. Revue genevoise de géographie, 107*(1), 58–94. https://doi.org/10.3406/globe.1967.1012

Wolpert, J. (1965). Behavioral aspects of the decision to migrate. *Papers of the Regional Science Association, 15*(1), 159–169. https://doi.org/10.1007/BF01947871