

Urban Compactness Models

Subjects: [Urban Studies](#)

Contributor: Diogo Vidal , Nadine Lobner

Urban Compactness encompasses a whole range of new trends, concepts, and development models that seek to scale up sustainable and even post-sustainable transition solutions (see the e.g., of the regenerative paradigm). Therefore, this evolution and proliferation of terms associated with the conceptual universe of urban connectivity can perhaps translate a progressive permeability of mainstream urban planning to the incorporation of transitional solutions that emerge more or less spontaneously from society. For exploring the dimensions of this domain, and its relevance for future organizations of city spaces, the following models remain on the forefront of the literature, aiming at practically answering to global environmental issues through a sustainable transformation of cities: The compact city is a model that dates back to the 1980s, with its main objective to actively and efficiently work towards global sustainability in order to drastically decrease climatic changes caused by the irresponsible human interaction with our planet.

urban compactness models

environmental and social sustainability

1. Introduction

We examine the framework of Urban Compactness Models, hypothesize that certain ones are trending, and finally provide relevant input with respect to governance, policymaking, and societal transformations within the urban space. Next, we will give a detailed description of our concrete methodological procedure.

Methodologically, this paper is based on a literature review of the most recurrent compactness trends within the paradigm of both neotraditional neighborhood design development and new urbanism [\[1\]](#)[\[2\]](#). The analysis of these trends is based on the gap in literature regarding solutions to governance of urban spaces through constructing a platform of interaction, inclusion, participation, and an active sustainable approach towards the future.

Hence, our four preliminary categories allowed us to tackle a specific research line within the realm of urban compactness trends in the 21st century. Nevertheless, the articles retrieved from Web of Science merely serve for the opening of our analysis, which is deepened through the universe of articles gathered thereafter in Jstor.

Thus, the two main sections of this work cope with (1) the five trending compactness models as applied to urban spaces in the 21st century; and (2) a screening undertaken through the light of social (dis)advantages and eventual inequalities for community building within cities, and the need for transformational plans. Finally, further remarks will be drawn with a new set of questions for research to be continued.

2. Urban Transformation Trends towards Sustainability

Such a multifunctional arena built for all strives economic, political, socio-cultural, and ecological benefits deriving from concentrating urban functions. This means that the compact city model encourages sustainable urban development through several dimensions: the increasing of built area and residential population densities, the intensification of urban economic, socio-cultural patterns and engagement, and the manipulation of urban size, form, structure, and settlements in order to enforce global sustainability benefits ^{[3][4]}.

Whilst focusing on land-use and resourceful forms of living, the urban village copes with the quest of spatial organization suitable for implementing localism with the promotion of long-term sustainability. This model is based upon the idea of a degrowth society, promoting a fundamental change in the systems at large that 'can liberate humanity from economism in order to achieve social justice, quality of life, democracy and ecological sustainability' ^[5], bearing in mind that the planning context of the urban area is addressed through a (re-)negotiation of space in order to establish a re-localization of the economy from the macro to the micro. The urban village is aimed to fulfill 'multi-objectives of a degrowth society by scrutinizing the impacts in the planning context' ^[6] (p. 130). As the urban village has a transition mode on its core, a set of indicators are to be found: reevaluation, reconceptualization, restructuring, redistribution, relocalization, reduction, reuse, and recycle ^{[6][7][8]}.

As public transport plays a relevant role in urban compactness models, we may take one more sight to another relevant compactness contribution: transit corridor livability (TCL). First expressed has the model been by the Transit Cooperative Research Program ^[9] in a handbook devoted to the design planning of urban neighborhoods based upon the ideals of walking, bicycling, and high-quality transit in mixed-income areas and promoting community building and sociocultural engagement through easy and fast access to leisure, commerce, employment and home. TCL, after the TCRP ^[9] enables the mobilization of the implication of compact and sustainable urban models through the following criteria: (i) a new city design where sustainable forms of mobility is increased, with a drastic reduction of individual car-use; (ii) the implementation and promotion of clean transport systems with putting the pedestrian and bike lanes into the foreground; (iii) the planning of simplified connecting points in the urban area that are reachable through a reasonable, amenable walking distance with visual stimulus.

Based upon this comparison table, we will continue to analyze their purposes for governing urban spaces and to shift the focus of decision-makers to social inclusion and the balancing of economic wealth, environmental sustainability and citizen engagement.

3. Governing Urban Spaces for the Articulation of Solutions at Large

In the previous sections, we have undertaken a 'screening' of current urban compactness trends that promote sustainable forms of city transformations. We have presented our findings as five strongly interweaving models: (i) compact cities; (ii) the 15-minute city; (iii) eco-villages/urban villages; (iv) transit oriented development; and (v) transit-corridor-livability.

When considering the implementation of multifunctional urban spaces/neighborhoods as represented through each compactness model, several opportunities and constraints rise simultaneously. The literature has shown that current urban trends can provide significant advantages for environmental change towards apparent sustainability outputs of cities [10][3][11][8][12], considering the multiplicity of indicators that foster ecological recovery and community engagement (mixed-use housing, pedestrian friendly zones, drastic car use reduction, easy access to services and facilities, expansion and implementation of green areas, high density, etc.). However, what seems to be a gap in previous studies is how the trending urban transformations do actually create balances and imbalances in terms of constructive implementation, economic (dis)advantages (such as the issue of gentrification and profit for the wealthiest), and environmental deterioration. What needs to be strongly considered is the emerging role of governance and authority to ensure most efficient performance of sustainable urban forms of (co)living. As explored in the model of ecovillage/urban villages, a strong shift towards local economic activity has been promoted. Nevertheless, participatory and shared decision-making processes seem to be an absent realm in most of the debates. If the focus is set on the modification of a specific neighborhood only (in relation to the larger area), the sustainability and ecologic recovery of a region cannot be advanced, as these are dynamics which are interdependent with the system at large [10][3][4][8]. Even though we agree to the fact that change also has to be strongly approached from the local scale, it needs to be urged that the micro cannot function without the macro (and vice versa).

Compactness models, as much as they raise promising benefits and opportunities, equally involve certain disadvantages such as gentrification. Through these disadvantages, imbalances are produced in terms of wealth and leisure/employment/qualitative public service access. The restructuring of neighborhoods into a multifunctional area is often implemented in economically attractive areas, surrounded by high education standards and facilities advanced by high income classes [10]. This is being reinforced specifically through transformations which focus largely on transit-oriented development without engaging with other compactness models with stronger social inclusion dimensions, what leads to negative side effects of an important model: environmental destruction, a lack of local community and (as mentioned earlier) gentrification through attracting an influx of wealthy businesses and residents in concrete locations, which shows the other side of the transformation coin [13]. The focus needs to be shifted from improving one particular area only. A polycentric approach for coping with a metropolitan area should strongly be taken into account, understanding that transformation merely of the economic or most profitable area of a region leads to a number of rising issues in terms of social imbalances (vivid, wealthy neighborhoods attracting high income actors opposed to disadvantaged neighborhoods and lower income groups) or ecological disadvantages (arbitrary construction of expanded transit options between economic post profitable areas; e.g., noise pollution). This is to be understood as a common result of the absence of a proper governance between authorities (as is here the case, municipalities) for approaching regional modification through a common strategy; social, ecological, and economic disadvantages need to be avoided through the equal distribution of everyday necessities in the wider metropolitan area (schools, employment, health, etc.): "Therefore, to think globally and act locally implies a certain well thought transition, which goes from the 'all-encompassing Politics' to the 'environmental Politics'" [8].

If we consider a metropolitan area for the transformation of its municipalities and their local communities under the umbrella of the actual state, then the following is suggested: transformational plans are needed for a continuous top-down/bottom-up interaction and engagement for enabling both the local communities and the actual decision-makers to articulate (and translate) the needs for future transformations and to sensitize each parties for their proper dimensions [3][14][8][15][16]. “The new political organization could, for instance, take the form of a confederation of autonomous groups (at regional, national, continental and world levels) aiming at the democratic transformation of their respective communities” [8].

4. Conclusions and Further Remarks

Recognizing an interdependence between bottom-up and top-down dynamics for enhancing active and fruitful change, science becomes of crucial importance. Environmental public anthropology has pathed a way to approach such matters, as research aims to cope with inequalities within the socio-environmental context. Investigators must engage with change and open up to a diversity of partners for establishing a bridge to the governance of common goods. As environmental anthropology is understood as a political-scientific area, it is most suitable for envisioning a future of change, as it is committed to the recognition of participation from bottom-up for establishing a strong engagement with top-down dynamics. Research and transformational plans for safeguarding our future have to centralize the focus on the basic needs of people, embedded within the all-encompassing capabilities of the larger realm at stake (decision-makers within the framework of the state, and beyond). Local necessities have to be translated to policy- and decision-makers, deeply considering the rich diversity of ecologies of knowledge, of individual story-telling, and of diatopical hermeneutics [16][17].

Transformational plans are urged to be incorporated everywhere, and a negotiation of new (transformational) methodologies has to be implemented, as all communities and stake holders are responsible to engage with active learning entities for establishing transformation at large [14]. We propose that the framework of the SDGs should be localized, meaning that a shift has to be carried out within territorial politics so that a new roadmap can be advanced (e.g., a monitoring of the SDGs at a subnational level, guided through appropriate counselors and bottom-up actors).

Hence, what has to be strongly acknowledged and incorporated by policy makers is the needs of different social contexts, as much as the relocation of economic priorities within political decision-making processes. If we do not urgently start to actively think about, and engage with, the future, we will fail to safeguard our planet. Stakeholders and politicians have to continuously be urged for drastic change, pinpointing the need of large participation in active change. Adjustments must be made, and bottom-up engagement is needed: transformational plans have to be implemented everywhere.

Excessive consumption, irreparable waste production, and global socio-economic imbalances have to be approached through concerted solutions, understanding the importance of cooperation between local communities, multifunctional neighborhoods, municipalities, metropolitan areas, the state, and beyond. With this work, we plead for the pressing need of governing authorities and communities for the implementation of transformation on a

'longue-durée', enabling spatial equity, environmental sustainability and responsible leadership of decision-makers. We need to continue raising critical questions on how to trigger drastic transformation at large. Who is the clientele of urban planners and policy makers? Are social actors included in decision-making processes? Where are spatial boundaries drawn, can a polycentric vision be realized? Alternatively, is gentrification the goal of state actors, to push their own economic interests forward? Can compactness models contribute to strive for transformation, or is it just another profit-making strategy by the wealthiest of the world? These and more need to be grasped in further studies, critically reflecting upon how to most responsibly approach our future yet to come.

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