

# Dilemmas around Urban Growth and Density A Focus on Vienna's Aspern Seestadt

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This essay discusses some interesting aspects of the debates around the compact city as planning principle. Based on examples from European cities innovative examples are shown about the re-densification of the existing urban fabric, the reuse of abandoned places. It deals with the topic of density in relation to growing urban areas, where the task of planning policies is to find where to place the additional population arriving to the city. The problem of shrinking cities raises very different issues that are not discussed in this paper.

## Some Aspects of Urban Population Density

Population density is a physical category, usually measured in the number of people living in a given area. Without going into the details and applying precise categories, in European cities densities between fifty to one hundred people per hectare can be described as "normal"; the areas below that density level can be considered sparsely populated (like villages or the American suburban settlements), while the areas above that level are viewed as densely populated (e.g., Tokyo or Hong Kong).

Physical conditions obviously influence the behavior of people. Very low densities lead to the problem of isolation, compared to which the increase of density means more intense interactions between people. The latter is usually positive, up to a given level; too high densities are considered problematic, leading to conflicts and quarrels between the people living in overcrowded conditions. There are, however, no strict benchmarks for what should be considered "too sparse" or "too dense" in populated areas. Furthermore, it can't be stated in either case that population densities that are too low or too high are the main causes of societal outcomes and certain social problems. Herbert J. Gans, in his seminal work *People and Plans: Essays on Urban Problems and Solutions*,<sup>1</sup> gave a critical overview about "physical determinism," a concept with a long history dating back to the nineteenth century, when reformers and master planners "assume[d] that people's lives [were] shaped by their physical surroundings and that the ideal city should be realized by the provision of an ideal physical environment. As architects and engineers, the planners believed that the city was a system of buildings and land uses which could be arranged and rearranged through planning, without taking account of the social, economic, and political structures and processes that determine people's behavior, including their use of land."<sup>2</sup>

<sup>1</sup> Herbert J. Gans, *People and Plans: Essays on Urban Problems and Solutions* (New York: Basic Books, 1968).

<sup>2</sup> *Ibid.*, 127.

Thus Gans and other academics have written critically about what he called the fallacy of “architectural determinism,” the belief that urban planning and architecture could solve the problems of poverty and low civic engagement. There is a link between urban form/density and people’s behavior, but this link is neither direct nor causal. Apart from social behavior, as well as other aspects, the influence of urban form can be considered more direct. For example, from an environmental perspective it is a generally accepted view that dense urban areas are more sustainable than areas with sprawling population. This can be illustrated by the following graph, which shows the relationship between overall urban density and transport energy use.

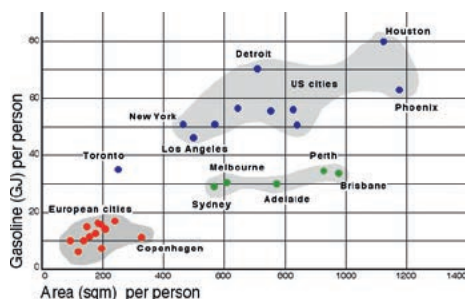


Fig. 17  
Peter W. C. Newman and Jeffrey R. Kenworthy,  
*The relationship between overall urban density  
and transport energy use, 1989*

The figure shows convincingly the difference between European, Australian, and American cities, highlighting the advantages of more compact European cities as a combined effect of lower rates of car ownership and lower usage of cars (due to lower distances within urban areas).

The seemingly straightforward link between density (urban form) and transport costs hides important social aspects. The super-dense cities of the mid-nineteenth century, where the workers had to live in close distances to their factories, have gradually changed into less-dense forms with the emerging transport solution, from horse-powered tools through different versions of collective means of transport to the dominance of the individual car-based mobility since the 1950s. Although technological development leads to a relative decrease of transport costs for the poorer strata of society, it is still advantageous to live closer to urban centers where the biggest choice of job offers is available. In this regard, the environmental and social aspects of densification of urban areas might easily get into contradiction with each other: the densification of inner-city areas (positive for the environment) might lead to the ousting of lower-income households from these areas into areas further out meaning they have less chance to access inner-city jobs (negative social externality). Another link between densification and mobility is the emergence of traffic jams, congestion in more dense central areas

of cities. This issue is often addressed by public-transport-oriented planning policies, involving such concepts as intermodality (initiate the use of two or more modes of transport for a journey by offering convenient exchange points), and road pricing (introducing payment for the use of inner city areas, regulating demand in this way).

Population density is often discussed and debated by the representatives of different disciplines because it is one of the aspects of urban life that can be directly influenced by planning policies. In the case of newly built areas, the usually applied zoning regulations might quite precisely determine the population density of the area to be built up. An example of how to influence/steer density is provided in the case of Montpellier. As a compulsory settlement association, in 2005 the Montpellier Agglomeration (Communauté d’agglomération Montpellier Agglomération) adopted the Schéma de Cohérence Territoriale, SCoT planning system, for a period of fifteen years. The SCoT, which is the most important tool to handle peri-urban issues, defines growth areas and determines three categories of minimum levels of density, depending on local environmental aspects and public transport accessibility. The public sector has preemptive land-acquisition rights and is able to intervene to achieve higher densities where necessary. The SCoT is also innovative in protecting open space. Estimates for the effect of the SCoT suggest that over the fifteen years, the amount of urban sprawl will be half that which would have occurred if SCoT had not existed.<sup>3</sup>



Fig. 18  
Montpellier Agglomeration, the 1:2500  
sector plan for Montpellier, 2004

The Montpellier sector plan shows one of the schemes of the Montpellier SCoT, depicting the planned expansions of the built-up area, defining three categories of the minimum density according to the available level of public transport (RED: extension with more than fifty units/hectare density; ORANGE: extension

<sup>3</sup> Iván Tosics, “Sustainable Land Use in Peri-Urban Areas: Government, Planning and Financial Instruments,” in *Peri-Urban*

*Futures: Scenarios and Models for Land Use Change in Europe*, ed. Kjell Nilsson et al. (Berlin: Springer, 2013) 373–404.

with more than thirty units/hectare density; YELLOW: extension with more than twenty units/hectare density). Density measures are quite often in the focus also of policies for the regeneration of existing built-up areas, aiming to densify areas that are considered to have too low density, or vice versa, aiming to decrease the density of areas considered as being too overcrowded.

### City Case Studies: Interventions to Achieve High Density in Urban Areas

As already mentioned, this paper deals with growing cities. Population growth contributes in many cases to an increase in financial resources. How can growing cities, where population and economic growth go hand in hand, be expanded in sustainable way?

The examples discussed here focus on cities that plan to put newcomers into large new residential areas within the city's borders. The main example will be the city of Vienna, but Stockholm and Munich will also be considered. All three cities belong to the category of cities that grow both in terms of the population and economy. Under these circumstances, all three cities decided to create a large new residential area within their city borders: Aspern Seestadt in Vienna, Hammarby Sjöstad in Stockholm, and Freiham in Munich (at the time of writing, the first is under construction, the second close to be finished, while the third just about to start). The figures are similar and very impressive: in Aspern over twenty thousand people will live in 10,500 housing units within twenty years from now; Hammarby Sjöstad will soon have twenty-five thousand residents in 11,000 flats; while Freiham is planned to be the home to twenty thousand people in ca. 8,000 flats.



Figs. 19–20

Iván Tosics, *Extreme cases of newly built urban areas: large housing estates versus sprawling suburbs. New residential areas in Budapest and Madrid, 2007 and 2009.*

If a decision is taken to build a completely new residential district, this seems not to be a very difficult task—what could limit the fantasy of the planners ...? However, the large number of mistakes committed in the past should make the city officials and planners cautious. There are many dangers to avoid when building completely new residential areas in cities. Some of these dangers are quite obvious, as seen in the examples of large new areas developed exclusively by the public sector or solely by the private sector (figs. 19–20).

These dead-end pathways of urbanism, the large prefabricated housing estates and the monotonous suburbs are well known and there are no cities (at least in Europe) that would like to make the same mistakes again. So it is clear what is not to be done. The main question, however, still has to be answered: How to achieve an integrated new development with a healthy combination of economic, environmental, and social aspects?<sup>4</sup> The difficulties are well illustrated in the figure of Scott Campbell on the triangle of conflicting goals for planning,<sup>5</sup> illustrating the three conflicting interests: to grow the economy, distribute this growth fairly, and in the process not degrade the ecosystem.

City planners and politicians in the three cities from the case study are all aware of these conflicts and try to handle them carefully in lengthy planning processes, including all types of present and future stakeholders.

### The Example of Vienna's Aspern Seestadt

As an example to illustrate the planning process, some milestones from the long history of planning of the Aspern area are listed below. Aspern airport was opened in 1912 and it served until 1977 before it closed down. In 2003 the planning process for a new residential area was started. The winner of the competition, the Swedish architect Johannes Tovatt presented the idea of creating a lake in the middle of the future residential area. The construction of underground line access (as extension of the U2 line) started in 2009 and the new line opened at the end of 2013. At the beginning of 2014, the neighborhood management office has been opened, growing to an office with fifteen staff members. The period from 2009 to 2016 marks the first phase of development with an area of 415,000 square meters for 6,500 people. The pace of further development is also impressive: from 2017 to 2023, the

4 See European Commission, "Cities of Tomorrow: European Commission" (DG Regional Policy, January 2011).

5 Scott Campbell, "Green Cities, Growing Cities, Just Cities? Urban Planning and the

Contradictions of Sustainable Development," *Journal of the American Planning Association* (Summer 1996) <http://www-personal.umich.edu/~sdcamp/Ecoeco/Greencities.html>.

net development area will be 470,000 square meters; from 2024 to 2029 net development area will be 197,000 square meters. For the Aspern Seestadt project, a specific development agency has been established to oversee the technical infrastructure (roads, sewage network, etc.), construct the central lake, lay out the green spaces, and deal with the developers of the residential and other functions in the area.



Fig. 21  
Vienna Municipality MA18 and Christian Fürthner, aerial photograph of Aspern Seestadt, Vienna, 2016



Fig. 22  
Iván Tosics, Aspern Seestadt, Vienna, 2017

With the commissioning of the Aspern/Essling geothermal plant and the connection of Aspern Seestadt to the district heating grid of Vienna, a far-reaching self-supply with renewable energy is achieved. The link to the district heating

grid also allows to feed in heat that would otherwise get lost. Currently fourteen developers (and one cohousing organization) are active in residential development in Aspern. From the 2,500 flats in the first phase, one-third of them are subsidized, while two-thirds follow the rules of subsidized housing with no subsidy (allowing for some public control). The size of the new flats ranges between 35 and 110 square meters. The ground-floor level of the new buildings is built with a higher ceiling to allow for office, shop, artist studio/gallery functions, and the renting out of these places follows a specific process through a dedicated company. Instead of building a shopping center, local amenities will be within walking distance, with an appropriate variety of shops. In connection with the high level of public transport, the supply of car parking is seriously limited to 0.7 car/flat norm (much lower than the 1–3 car/flat ratio in the surrounding areas). Developers do not have to build many parking spaces but have to contribute one thousand euros per flat to a mobility fund from which biking (rental bike system, e-bikes, and cargo bikes) and car-sharing systems are supported.

This short summary shows a series of new, innovative methods in Vienna urban planning: dedicated development company, high importance devoted to public space and mobility, ground-floor planning, cohousing, strong emphasis on neighborhood management, and so on. In fact, in Vienna the Aspern area is considered to be a “living lab” within the “smart city” agenda.

### Dilemmas and Trade-Offs to Achieve Balance between Environmental, Economic, and Social Goals of Development in Expanding Urban Areas

From all that it seems that the planning process of Aspern Seestadt has applied all principles of sustainable urban development. More or less, it is a similar case with Hammarby Sjöstad and Freiham. We can say that the three rich and environmentally conscious cities build new housing areas along the best-known principles of sustainable and integrated development. But is this enough to avoid future problems? Is it completely certain that none of these brave new urban developments will prove to be dead-end pathways of urbanism in a few decades?

Integrated urban development is a complex process with many dilemmas and trade-offs. Despite the best efforts of planners and local politicians, we cannot be sure about the long-term outcomes of these large-scale projects. Although it is not easy to make neutral judgments and evaluations, the case of Stockholm is already criticized and the first signs of concern can also be seen in Vienna.

## The Non- (or Only Part-) Fulfillment of the Original Ecological Aims

According to Poldermans,<sup>6</sup> the original parking norm (i.e., the amount of car-park spaces that have to be built per new housing unit) in Hammarby Sjöstad was between 0.4 and 0.55 car/apartment, which has been increased to 0.7 when the political leadership of the city changed. This might have contributed to the fact that the aim for 80 to 90 percent of people to use public transport in work-related travel was never achieved—the maximum was 70 percent (which is also relatively high). Similar problems might arise in Vienna/Aspern, where considerable debates about the lack of parking spaces have already taken place. There are also arguments about speeding up the development of access roads—despite the excellent public transport connection to the city center.

The originally planned goal of carbon-neutrality has been given up in Aspern (some of the planned power plants were not built). Thus instead of carbon-neutral it will only be low-energy area, well behind the best examples in this field. The ambitious plans in Aspern for mixed shops and also more culture-oriented use of the ground-floor structures seem to be only partly realized: the market price of the ground-floor zone is unaffordable to artists and there is also a discussion going on about turning some of the ground-floor areas into flats.

## The Trade-Off between Environmental and Social Goals

As Rutherford points out in his critical evaluation,<sup>7</sup> in Hammarby Sjöstad originally a 50 percent share was aimed for social rental flats but this was not achieved as building costs increased and social subsidies were gradually removed since the 1980s, resulting in a push toward privately owned properties. In that way the new housing area could not compete with—as originally expected—the existing socio-spatial segregation of Stockholm; it adapted to it instead.<sup>8</sup>

The sharpest criticism has been formulated by Rutherford in the following way: “The Hammarby project constitutes a clear case of (at least partial) gentrification with the selling off of public land to developers and then to relatively wealthy households. The City imposed environmental measures on developers who pushed their prices up so that only wealthier households can now afford to buy an apartment in the district, resembling a form of ‘bourgeois environmentalism.’”<sup>9</sup>

Regarding Aspern, it is too early to talk about the social outcomes. The first signs are quite different from the case of gentrifying Hammarby: the real-estate value in Aspern is relatively low, even compared to some working-class inner-

city areas of Vienna, as Aspern is considered to be too far out from the city. Thus there is a danger that instead of the aimed social mix, an unbalanced social structure might develop with the dominance of lower-income families. This would not be a unique case: in the Munich Riem area (a similar new residential development), there were many planning efforts to create a mixed area for both offices and residential housing and for different income groups. Recent analysis, however, shows the dominance of low-income people.

## Trade-Off between Building Extraordinary New Areas and Regenerating the Existing Deteriorating Housing Stock of the City

The big question has always been how to concentrate public efforts to improve the sustainability of the city in an integrated way. Not even the richest cities can afford to create new eco-friendly areas and regenerate their existing outdated and/or deprived neighborhoods at once.

There are a number of interesting examples in Europe with sustainable regeneration efforts concentrating on existing urban areas. The case of Wilhelmsburg in Hamburg is one such example, where a seven-year-long IBA (Internationale Bauausstellung) process has been established with the explicit aim of energy-led improvement of the existing low-income and low-prestige neighborhood.<sup>10</sup> Also the earlier URBACT<sup>11</sup> publication on building energy efficiency includes interesting information about interventions into old neighborhoods of cities.<sup>12</sup> In the URBACT Use Act First Thematic Paper, the cases of Rome, Dublin, and Trieste are discussed as examples on the re-densification of existing urbanized areas with the help of integrated “re-use” interventions.<sup>13</sup>

6 Cas Poldermans, *Sustainable Urban Development: The Case of Hammarby Sjöstad*. Paper for Advanced Course in Human Geography (Stockholm University, 2005).

7 Jonathan Rutherford, “Hammarby Sjöstad and the Rebundling of Infrastructure Systems in Stockholm” (lecture, Chaire Ville seminar, Paris, December 12, 2013).

8 Andrea Gaffney et al., *Hammarby Sjöstad: Stockholm, Sweden; A Case Study* (CP 249 Urban Design in Planning, 2007).

9 Rutherford, “Hammarby Sjöstad.” 2013.

10 See Darinka Czischke et al., “Sustainable Regeneration in Urban Areas” (URBACT II Capitalisation, Paris, May 2015).

11 URBACT is one of the EU urban knowledge exchange programmes, similar to Interreg, Interact, and ESPON.

12 Antonio Borghi, Sadhbh Ní Hógáin, and Owen Lewis, “Building Energy Efficiency in European Cities: Cities of Tomorrow—Action Today” (URBACT II Capitalisation, Paris, May 2013). [http://urbact.eu/sites/default/files/import/general\\_library/19765\\_Urbact\\_WS6\\_ENERGY\\_low\\_FINAL.pdf](http://urbact.eu/sites/default/files/import/general_library/19765_Urbact_WS6_ENERGY_low_FINAL.pdf).

13 Vittorio Torbianelli, ed., *Planning Tools and Planning Governance for Urban Growth Management and Reusing Urban Areas* (URBACT USEAct First Thematic Paper, 2014).

The importance of the sustainable regeneration of existing urban areas has also been shown by the Bloomberg Philanthropies' 2014 Mayors Challenge. In the competition of European cities, one of the leading topics was to find innovative approaches to tackle the growing problems of outdated multifamily building areas. Very different technological innovations were suggested (e.g., to use drones to discover heat losses of buildings, or to introduce user-friendly IT systems with detailed data) to boost the interest of the population toward energy-efficient renovation.

### Conclusion: Achievements and Problems of Densifying Urban Areas in a Sustainable Way

Vienna is one of the most livable and sustainable cities of the world, with strong traditions also for social equality. The case of Aspern Seestadt illustrates well how much effort the city puts in to develop the new residential area for the expanding population in sustainable and integrated way.

Yet, there are serious dangers in such projects—it is not at all easy to plan future-housing areas of such a big size, and to achieve environmental, economic, and social goals at once. There are already examples on modifications of the originally aimed targets. The financial crisis has reached even the richest cities, which also have to decrease subsidies and give up some of their most ambitious plans.

When the economic and financial circumstances deteriorate, changes and adaptations to the new circumstances are unavoidable. Such changes do not create huge problems if they only mean modifications of priorities within the same principle—for example, the less ambitious carbon standards are partly compensated by the priority given to public transport. Larger problems emerge, however, if the changes lead to a rearrangement of priorities between the basic principles. This is the lesson that can be learned from Hammarby Sjöstad: insisting on the high environmental qualities leads to irreversible losses in social targets, as with the decrease of public subsidies only the richer families are able to pay for the increasingly expensive (environmentally high quality) apartments.

Vienna (and also Munich with the Freiham area) can learn from this lesson. The balance between the economic-environmental-inclusive principles has to be checked from time to time during the whole period of the development of a new neighborhood. It is not enough to determine the balance at the beginning—this balance also has to be kept when unavoidable financial restrictions have to be applied, public contributions have to be decreased. The well-established

neighborhood-management team might be a good basis to discover early signs of emerging unbalances and to call the attention of politicians and planners to intervene.

New, large-scale residential areas may contribute to achieve a better balance between the different aspects of sustainable and integrated urban development. But this is not easy at all because it needs continuous monitoring of development and flexibility in setting the targets to avoid disruption of the balance between the economic, environmental, and social aspects.

Planning for higher urban density is a critical issue in the future of European cities. The case studies have shown the importance of proper governance systems, management forms, and decision-making models. Densification can contribute considerably to integrated urban development if implemented via proper and interconnected housing, environmental, and social policies. High-density areas can function without problems if public help is provided for their development and functioning. However, if the public help/control is not balanced (concentrating only on environmental issues or, one-sidedly only on the poor in these areas) or it disappears due to privatization and take-over by market processes, the high-density areas might become hugely problematic.

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**Arakawa Gardens****A Photographic Exploration of Tokyo**

Agnes Prammer

Figs. 1 (p. 21), 10 (p. 79), 23–24 (p. 135), 35, 40 (p. 191)

Agnes Prammer, *Arakawa Gardens*, Tokyo, 2016.

Series of photographs. Courtesy of the artist.

**Planning for Dense Containers? Challenging Amsterdam's and Vienna's Strategic Urban Planning from a Relational Perspective**

Johannes Suitner

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Johannes Suitner, relational density planning in the development plans of Amsterdam and Vienna, 2016. Table. Courtesy of the author.

**Unframing Urban Density: The Somaesthetic Cartography of Intensities**

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OMA/Rem Koolhaas, *Boompjes Study*, Rotterdam, 1980. Graphic arts. Courtesy of OMA/Rem Koolhaas/Bildrecht, Vienna, 2017.**Density of Sound, Sounds of Density An Experimental Approach**

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Improvisos, *Flexibility strategies*, 2015. Hand drawing. Courtesy of the authors.

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Improvisos, *Shared spaces*, 2015. Hand drawing. Courtesy of the authors.

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Improvisos, *Interventions*, 2014. Hand drawing. Courtesy of the authors.**Dilemmas around Urban Growth and Density A Focus on Vienna's Aspern Seestadt**

Iván Tosics

Fig. 17

Peter W. C. Newman and Jeffrey R. Kenworthy, *The relationship between overall urban density and transport energy use*, 1989. Illustration. [Public domain], via Wikipedia Commons.

Fig. 18

Montpellier Agglomeration, the 1:2500 sector plan for Montpellier (urban core of the conurbation), 2004. Map. Courtesy of Montpellier Agglomeration. <http://webarchive.nationalarchives.gov.uk/20110118095356/http://www.cabe.org.uk/files/client-guides/lusd-examples-design.pdf>.

Figs. 19–20

Iván Tosics, *Extreme cases of newly built urban areas: large housing estates vs sprawling suburbs. New residential areas in Budapest and Madrid*, 2007 and 2009. Photographs. Courtesy of the author.

Fig. 21

Vienna Municipality MA18 and Christian Fürthner, Aspern Seestadt, Vienna, 2016. Aerial photograph. Courtesy of the Vienna Municipality MA18 and Christian Fürthner.



Fig. 22  
Iván Tosics, Aspern Seestadt, Vienna, 2017.  
Photograph. Courtesy of the author.

**Everyday Densities in Public Space: Lived Practices of the Spatial Present**

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Fig. 45  
Marco Grey, *Hackney Shapes*, 2015. Photograph. Courtesy of Wot Do U Call It. <http://wotdoyoucall.it/post/127389749946/bonkaz-jammer-hackney-shapes-photo-by-marco>.

**Le Chiffonnier, la Glaneuse, and the Rest of Us Collecting, Gleaning, and Filming Future Memories**

**Nicolai Gütermann, Carina Lesky**  
Fig. 46  
Anonymous, *Le Chiffonnier, engraving from Mémoires de Monsieur Claude: Chef de la police de sûreté sous le Second Empire*, vol. 2 (Paris: J. Rouff & Cie, 1884).  
Fig. 47  
Johannes Holzhausen, *Das große Museum*, 2014. Film poster. Courtesy of Navigator Film Produktion.  
Fig. 48  
Félix Bonfils, *Street vendor selling mummies in Egypt*, 1865. Photograph. [Public domain], via Wikipedia Commons.  
Fig. 49  
Ole Worm, title page from *Musei Wormiani Historia*, 1655. Engraving. [Public domain], via Wikipedia Commons.  
Figs. 50–52  
Alain Resnais, *Toute la Mémoire du Monde*, 1956. Film stills. Courtesy of Les Films de la Pléiade.  
Fig. 53  
Banksy, *Agency Job*, 2009. Appropriation of Millet's *Des glaneuses* (1857). Mixed media. From the exhibition "Banksy vs. Bristol Museum," Bristol Museum, 2009. Courtesy of Jon Rogers.