Vienna

City Portrait
June 2018

La Fabrique de la Cité

June 2018

Vienna

City Portrait

Table of Contents

Intro duction

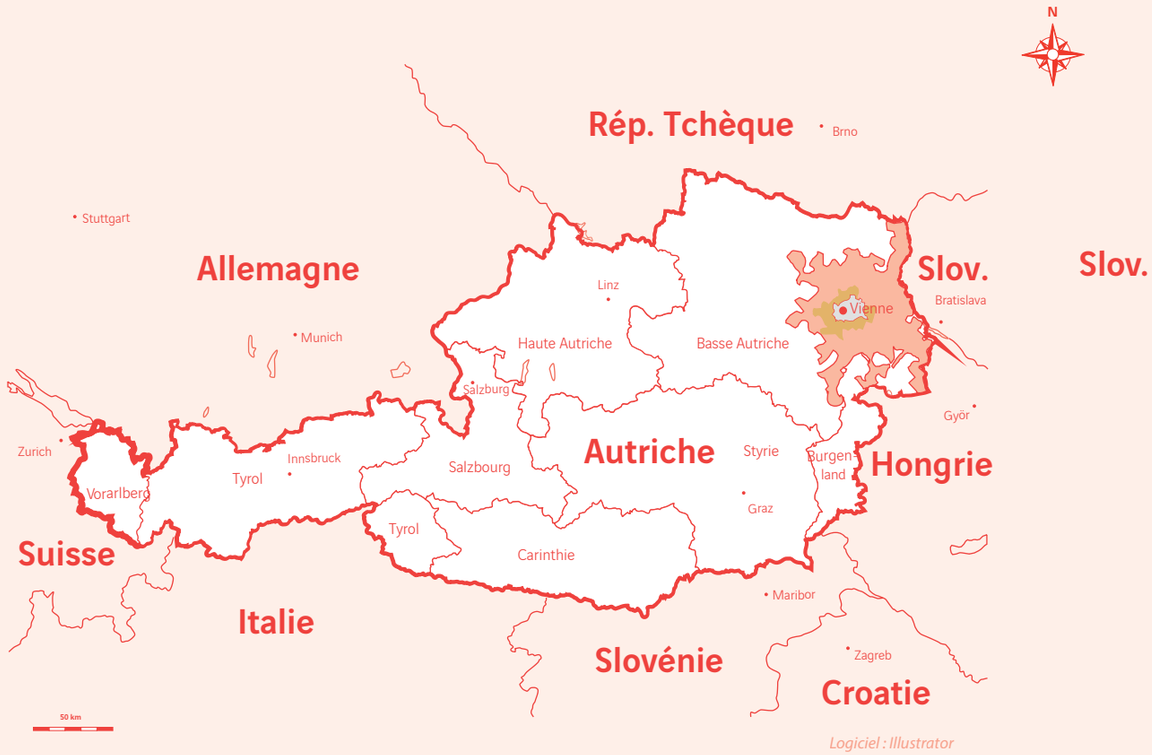
“Smart” city, “sustainable” city, “green” city:

new certifications emerge every day and almost every city has embarked on a campaign to earn one of these labels. Among these, labels pertaining to quality of life have taken on a special degree of importance. In fact, within a context of heightened international competition among major cities, quality of life is fast becoming one of the most significant and attractive characteristics for cities.

The quest to obtain these labels initially grew out of an effort to attract and retain companies and their most creative and mobile officers, by offering an extra “bonus” consisting in a blend of amenities and local charm. Though the main purpose of these labels is to market cities and regions, they have recently begun to tackle a secondary yet more fundamental challenge: how can cities continue to guarantee a livable environment for *all* residents? Because at a time when cities are undergoing major transformations in terms of mobility, housing, transitioning to clean energies and crafting new ways of living together, luring highly-skilled workers into the city and ensuring a cohesive community life for all the city’s diverse residents are two challenges that involve the same approach.

In 2018, Vienna, the capital of Austria, topped the ranking of the world’s best cities for quality of life for the ninth consecutive year. Organizing *La Fabrique de la Cité*’s International Seminar in Vienna this year affords an opportunity to understand how policies focused on quality of life can shape an entire region and to observe their results on the ground. Vienna is indeed one of the most innovative and advanced cities in terms of quality of life, although it has never joined the race for “smart city” certification or any other label.

The urban area of Vienna



Running counter to the typical tech-centric notions of the smart city, Vienna has stayed true to its long-standing identity by placing its people and their needs at the core of its concerns. It champions social inclusion and quality of life as the guiding principles of its urban development strategy, which has paved the way for new policy choices with regard to housing, mobility, energy and public space. Moreover, in light of the gap that can exist between the objectives pursued by policy and their subsequent application on the ground, Vienna has made a conscious choice to emphasize feedback and evaluation by making these processes a required step in building the smart city.

Understanding the reality behind the labels, analyzing the key components of quality of life and examining the metrics of quality of life measurements: it is with these three objectives in mind that *La Fabrique de la Cité*, during this latest edition of its international seminar, will review the premier urban policies on the topics of mobility, housing, the ecological transition and public space.

Key dates

fig. 1
University of Vienna

800 B.C. first settlement

100 construction of the first Roman military camp Vindobona

881 first mention of "Wenia" as the name of Vienna

1221 acquisition of city status

1282-1918 rule of the House of Habsburg-Lorraine (later Habsburg)

1365 Duke Rudolf IV establishes Vienna's first university (fig. 1)

1438 Vienna becomes the capital of the Holy Roman Empire

1529 siege of Vienna by the Turkish army led by Suleiman the Magnificent

1547 first maps of Vienna drafted by Augustin Hirschvogel (fig.3)

1667 Vienna becomes the capital of the Austro-Hungarian Empire

1679 plague epidemic wipes out a third of Vienna's population

1688 first public lighting system using oil lamps

1695 construction of Schönbrunn Palace begins (fig. 2)

fig. 2
Schönbrunn Palace

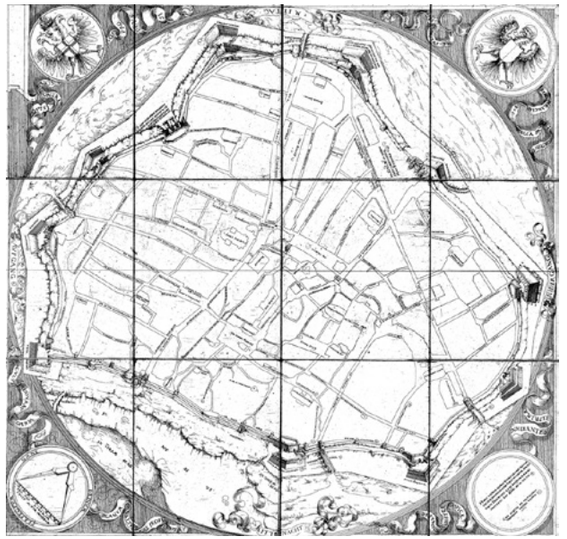


fig. 3
First map of Vienna (1547)

1795 Vienna's Albertina palace and museum is established

1805/1809 occupation of Vienna by Napoleon's army

1814 Congress of Vienna following Napoleon's defeat

1848-1916 reign of Franz Joseph I

1850 expansion of the city including the incorporation of its first suburbs (8 districts)

1858 construction of the Ring Road and major works commissioned by Franz Joseph I (fig. 4)

1870 construction of the First Vienna Spring Water Pipeline

1873 Vienna World's Fair

1877 first Vienna Opera Ball, with Johann Strauss conducting the orchestra

1890 new wave of urban expansion (19 districts)

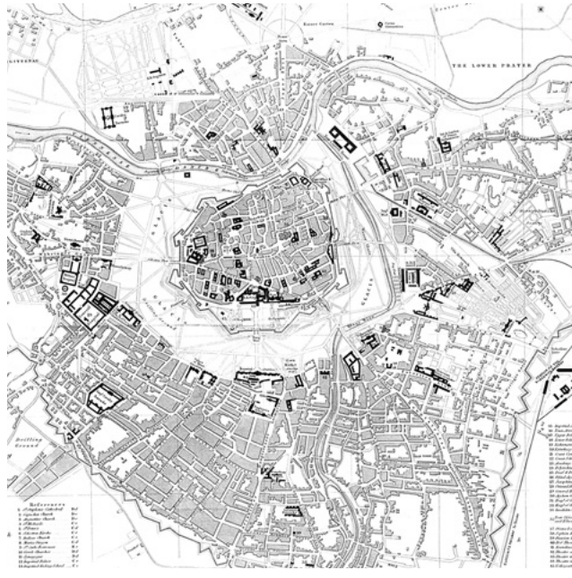


fig. 4
Map of Vienna (1858) and its Ring Road

1897 construction of the Prater and major development projects creating public spaces (fig. 5)

1900 construction of the Second Vienna Spring Water Pipeline

1919 Vienna becomes the capital of the First Austrian Republic

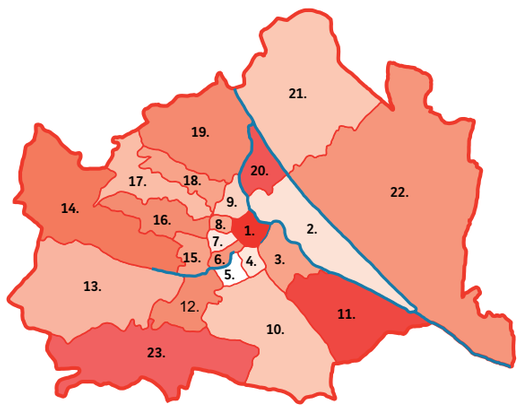
1920-1934 "Red Vienna" period with a government led by Social Democrats

1922 Vienna is designated as a federal province in its own right

1927 the July Revolt leads to conflict between Social Democrat and Conservative forces, leaving 89 dead and 1,057 wounded

1938 Vienna becomes a province of the Third Reich under "*Anschluss*"; massive destruction ensues

1954 Vienna reaches its current size with 23 incorporated districts



1. Innere Stadt
2. Leopoldstadt
3. Landstrasse
4. Wieden
5. Margareten
6. Mariahilf
7. Neubau
8. Josefstadt
9. Alsergrund
10. Favoriten
11. Simmering
12. Meidling
13. Hietzing
14. Penzing
15. Rudolfsheim-Fünfhaus
16. Ottakring
17. Hernals
18. Währing
19. Döbling
20; Brigittenau
21. Florisdorf
22. Donaustadt
23. Liesing

fig. 5

The Riesenrad Gian Ferris Wheel

1955 end of the Allied occupation of Austria and signing of the Austrian State Treaty at Belvedere Palace re-establishing Austria as a sovereign state

1957 establishment of the International Atomic Energy Agency headquarters (IAEA)

1965 establishment of the Organization of the Petroleum Exporting Countries (OPEC) headquarters

1966 establishment of the United Nations (UN) headquarters

1978 opening of the first underground public transportation line, the U1 metro line

fig. 6

Districts of Vienna

1981 opening of Danube Island as a new local recreation area

1990 start of major urban projects: revitalizing gasometers, development of the Gürtel beltway, new library

1995 Austria joins the European Union

1999 parliamentary elections make Jörg Haider's far-right FPÖ the second-largest political party in the country

2001 inauguration of the Museumsquartier, the 8th largest cultural area in the world

fig. 8

Danube Island

fig. 7

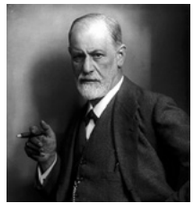
Museumsquartier

2004 the European Union expands to 25 members, including Slovenia, Slovakia, Hungary, and the Czech Republic, further solidifying Vienna's position as a crossroads between East and West

Vienna, between a rich heritage...

Café Central
Interior view

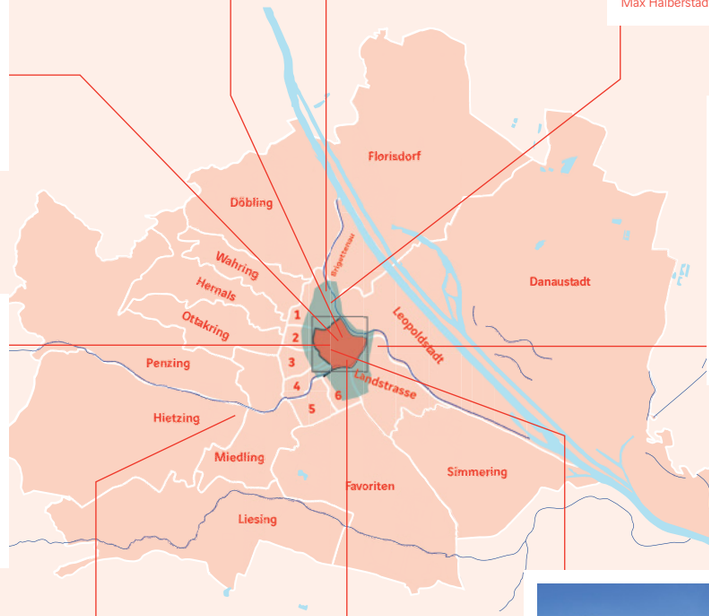
Liechtenstein Garden Palace
Garden facade



Sigmund Freund Museum
Photo: Sigmund Freund by Max Halberstadt in 1922

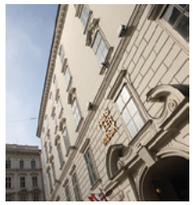
Burgtheater

View of the *Hundertwasserhaus*



***Kunstorisches Museum* of Vienna**

Schönbrunn Palace
seen from the gardens

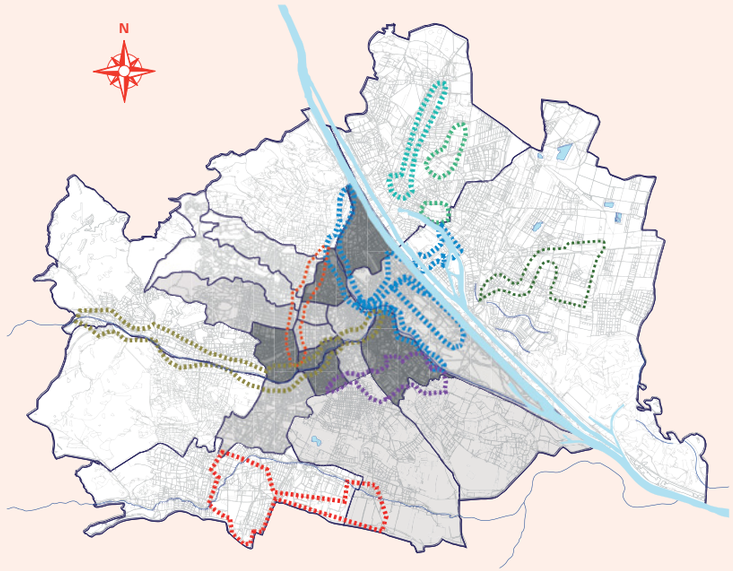


House of Music

Hofburg Imperial Palace

Vienna's Cultural Heritage
- Unesco-protected zone
- Buffer zone

... and cultural assets under development



Urban density and major urban projects
- Up to 200 pph
- Between 201 and 400 pph
- Above 400 pph
- Areas in transformation
- Project zones

3km

Danube canal
- redevelopment of the banks to improve the water and city landscape
- development of water mobility
- ecological protection
- construction of new office and residential development projects along the canal
- renovating the Prater and its cultural and recreational offer through landscape management

Liesing, Vienna
- exemplary housing projects
- restoration of village centers
- integration of industry into the dense urban fabric:
  - goal of networking businesses
  - landscape integration through the development of new types of landscape and the redevelopment of public space

Bahnhof - Europa Mitte - Erdberger Mais
- new project for a central rail station and local business district
- urban network between the new rail station district and existing neighborhoods
- creation of a modern multifunctional neighborhood in Erdberger Mais near the Prater
- enhanced accessibility: extension of metro lines and airport link

Airfield, Line U2 Donaustadt, Aspern
- new urban development zone tied to the extension of Line U2
- implementation of smart city objectives
- neighborhood seen as a preview of Vienna in 2050
- trio of transport – housing – services
- mixed-use and multifunctional

Siemens Allisen - Donaufield
- implementation of smart city objectives
- test neighborhoods
- expansion of public transit accessibility
- development of mixed-use, multifunctional and dense urban space connected to public transit
- experiments in energy control and consumption
- work on landscaped passages and green infrastructure as a recreation area

Westgürtel project
- urban development compatible with social diversity objectives
- increasing social and cultural diversity
- redevelopment of public spaces
- revitalization and retention of small retail
- landscaped passages

Vienna Valley Corridor
- landscape restoration between the Schönbrunn Palace and the vast landscape beyond the borders of Vienna
- development of sustainable mobility solutions
- recreation and relaxation area

Florisdorf
- restoration of the neighborhood's centrality
- redevelopment of public space
- development of large-scale public transit in partnership with Lower Austria

Vienna as Janus

Vienna in the imagination...

fig. 9 Statue of Janus and Bellona at Schönbrunn Palace

"There is not the slightest similarity between the plan of a city and our mental image of it as we consult the unfolded map, or between the sediment deposited in memory by our daily wanderings and the sound of its name. [...] The particular aptitude of a city to endlessly and effortlessly provide landmarks, paths and models for an imagination seeking poetic inspiration."

Julien Gracq[1],
The Shape of a City

In the above passage, Julien Gracq reminds us that cities also exist largely in our minds: in the form of our personal representations, as these are shaped by our individual tastes, lifestyles and modes of moving throughout the city, as well as our collective representations, which form a local imagination shared by all people, whether or not they have ever lived in or even visited the city. These representations are nourished by history, by centuries of artistic depictions and by regional marketing campaigns, which have always formed an integral part of the city, its openness to the outside world and its need to (re)present itself to assert its existence, by creating powerful mental images that capture the attention of the masses. Cities derive an enormous symbolic power from these images, which in turn influence our emotional connection to the city. As suggested by Michael Rautenberg, the best path to understanding the city and the way people experience it every day may very well be "*the one that ties these imaginations of the city to the objective knowledge of the social sciences*[2]". The city of Vienna lends itself especially well to this exercise, as it represents an inexhaustible resource for the imagination. Like Janus, Vienna presents two distinct faces, juggles opposing elements and manipulates the sense of time – proving wrong the old proverb that "*perception is reality*".

The first face of the city that comes to mind: Imperial Vienna. As the capital of one of the founding monarchies of the Holy Alliance and the seat of Metternich's reactionary absolutism, Vienna formed the heart of an empire whose political decisions would influence the destiny of the entire continent. Constant reference to this history, of which Vienna's architecture bears a strong imprint, paints the portrait of an antiquated capital frozen in time; the persistence of opera balls dating back to the imperial era and the vision of the famous *Ringstrasse*, the circular boulevard symbolizing Habsburg architecture, further reinforce this perception. Vienna: the conservative capital? This assessment is too simplistic, because against this traditional Vienna there stands another, eccentric Vienna, whose symbols encompass the architecture of Hundertwasser and the artistic avant-garde represented by Egon Schiele. Vienna is also the city where artistic circles fought to break free from the fetters of Austrian conservatism. It is at once the cold imperial capital and the home of art nouveau, the city of stripped-down façades designed by architect Adolf Loos, where Arnold Schönberg invented twelve-tone music and Gustav Mahler reinvented the symphony. This image of a modern, inventive Vienna, with an ebullient intellectual and cultural life, sheds light on another facet of its political history: that of the revolutionary capital which rose up in 1848 against the reactionary regime and would later earn the nickname of "Red Vienna", when it was governed between 1918 and 1934 by a coalition of Social Democrats and the Christian Social Party under Austro-Marxist influence, eventually becoming the birthplace of the International Working Union of Socialist Parties, better known as the future Socialist International.

That is but the first of many contrasts in which Vienna's complex identity took root: the duality of the Austrian capital also comes across in the coexistence of "monumental Vienna", inaugurated by the urban development carried out under the reign of Franz Joseph I, and "village Vienna", whose 700-hectare vineyard embodies the interpenetration of urban and agricultural landscapes. Vienna the imperial capital is also Vienna and its neighborhoods, where life bustles around the *Heurigen*, taverns and dance halls lying on the edge of vineyards, and *Kaffeehauses*, a staple of the Viennese way of life and an artifact of the vibrant cultural life of the dawn of the 20th century.

Another prominent tension on display in Vienna: the apparent opposition between two urban ambitions, one aiming to promote and recover an unrivaled architectural heritage, the other yearning for innovation and urban renewal. Already in the 19th century, the city took measures to preserve its architectural heritage by founding the Imperial and Royal Central Commission for Research and Preservation of Monuments; today, the historic center of Vienna, which covers 10% of the city's area, is classed as a UNESCO World Heritage Site. From the Sisi Museum to the Sigmund Freud Museum, the *Wiener Philharmoniker* to the *Wiener Konzerthaus*, the Johann Strauss apartment to the Haydn house, has Vienna become a city-museum? Once again, reality wriggles away from such oversimplified descriptions, because even as Vienna endeavors to anchor its urban policy in an imperative to respect the authenticity and integrity of its historic fabric and preserve its original density, while developing its new districts with this same respect for the city's cultural heritage, it is also the living heart of an underground movement symbolized by street art. At the same time, Vienna's new urban development projects (see map p. 11) remove any suspicion of historicism from the city by transforming it into a European capital with its feet planted firmly in the 21st century, as evidenced by Seestadt Aspern, an ambitious urban development and innovation project which, by 2028, will create a new district and site for experimentation in terms of affordable housing and sustainable mobility.

Another example of Vienna's complex identity: the tension between a strong local connection and a cosmopolitanism nourished by myriad foreign influences. Even under the Roman Empire, the area already served as a site of passage and exchange before it was known as Vienna, taking advantage of its location on the banks of the Danube, which served as the Empire's natural border. It provided a buffer against Ottoman incursions, while falling to the advancing troops on several occasions: the Ottoman siege of 1529 and, to an even greater extent, the siege of 1683 left the first Eastern influences on the city's culture. Over the centuries, Vienna established itself as a hub of economic and logistical exchange between the continent's eastern and western halves, becoming one of Europe's leading trade cities whose influence extended all the way to Venice. Its status as the capital of the Habsburg Empire made it the top destination for countless waves of migrants from the empire's various territories: Slavs, Hungarians, Spaniards, Italians, Flemish and Prussians came together here. By 1914, Vienna had become the capital of an empire comprising 12 nations and 19 nationalities; today, more than 50% of its population comes from a background of immigration. Born out of the imperial era, its reputation as the city where east meets west is well earned: the greater metropolitan area arising from the proximity between Vienna and Bratislava, its Slovakian neighbor, continues to ensconce the Austrian capital a bridge between Western and Eastern Europe.

All these observations prove that any attempt to reduce Vienna to a single defining characteristic is doomed to fail: between conservatism and the avant-garde, between a national capital and a cosmopolitan city with eastern influences, Vienna thrives within this complexity as an elusive city that continually resists our expectations by inviting us on a journey of constant rediscovery.

fig. 10 Hofburg Palace, Habsburg residence

fig. 11 St. Stephen's Cathedral, facing the DO&CO Hotel

Vienna: capital for quality of life?

Vienna: capital for quality of life?

fig. 12 Volksgarten park

Within the current context of increased competition among global cities to lure investors and highly skilled workers, quality of life has steadily emerged as one of the main factors contributing to a region's appeal. Examples of this trend include the growing number of city rankings based on quality of life or reputation, such as those compiled and published by Mercer, newspapers like The Economist and Monocle, as well as Reputation Institute, a U.S. consulting firm specializing in image management. These rankings offer considerable benefits in terms of regional marketing for top-ranked cities and a springboard for action - whose efficiency requires some nuance - for all other cities. However, differences between the rankings invite us to examine the various indicators upon which each ranking is based. How can we accurately measure quality of life? This attribute was first measured by the economic sciences, which tackled the question from a quantitative angle by considering GDP, GNP and unemployment. When this approach proved too narrow, due to its failure to account for individuals and their subjective assessments of their places of residence, this calculation gradually gave way to a multifaceted conception of quality of life. According to this notion, a region should:

"be able to offer both 'a capability of existing' (freedom to find housing with ease, maintain good health and enjoy a safe and pleasant living environment) and 'a capability of acting' (the freedom to travel and access education, jobs and recreations)"[3]

– an assessment that requires more composite indicators. The broad spectrum of this approach should not overshadow the fact that results will depend on the scale, availability of data and weighting system used in each study, which means that the notion of quality of life is not exempt from normative processes: it always bears a trace of its designer's purpose and intention, which explains why the same city can receive different scores from different rankings.

For that reason, in order to move beyond the surface level of these rankings, it is essential to consider the intention behind the ranking and unpack the conflicting dynamics underlying every attempt to offer a comprehensive definition of quality of life: both to understand how various stakeholders approach, interpret and convey this objective through tangible projects and to observe the reality on the ground and behind the labels.

Vienna tops the Mercer ranking for the 9th consecutive year

For 20 years, the consulting firm Mercer, a subsidiary of Marsh &McLennan Companies, has compiled a ranking of several hundred of global cities based on the quality of life they offer. Intended primarily to help the human resources divisions of multinational corporations determine the appropriate salary to offer expatriated employees, the ranking is also aimed at municipalities, which Mercer can help to identify potential levers for improving their ranking. The ranking studies 39 factors within 450 cities worldwide and ranks them in 10 categories: political and social environment, economic environment, socio-cultural environment, medical and health considerations, schools and education, public services & transport, recreation, consumer goods, housing and natural environment.

The purpose of Mercer's ranking is not to serve as a handbook of best practices that would favor the cross-pollination of various policy models (since the precise data used to generate each ranking is not publicly shared), but instead to evaluate a two-fold risk: for companies, the risk of offering employees expatriation contracts that provide a lower standard of living than they enjoy in their current city, and, for municipalities, the risk of losing highly-skilled workers to global competition by failing to offer adequate amenities. The ranking thus establishes quality of life as a powerful lever of appeal and regional marketing by opening up an avenue for boosting competitiveness.

Vienna has maintained its place at the head of the Mercer ranking for the ninth consecutive year primarily for "*providing residents and expatriates with high security, well-structured public transportation and a variety of cultural and recreation facilities*[4]".

Smart City

What is the reality behind the promise of digital in terms of quality of life?

The smart city concept promises to make cities more efficient, more eco-friendly – and thus more sustainable – and more inclusive, all by employing new technologies. These technologies make it possible to capture previously unthinkable volumes of data to expand knowledge of the city, to share this information easily and almost instantaneously, to analyze – and even predict – certain practices in the city in real time so as to manage these practices on demand, to mobilize users as new stakeholders of the city and, lastly, to offer new services enabling users to pay only for what they use. By promoting the concept of use value, will the smart city manage to respond to the actual needs of residents (traffic congestion, housing shortages, resource strain, security, etc.), in all their diversity and volatility? Can the smart city succeed in delivering a sense of well-being to all while transforming the city into an area defined by high quality?

fig. 13 Visualization of Masdar by Norman Foster

The reality on the ground paints a much more nuanced picture. In addition to the fact that the first generation of smart cities focused entirely on technology to the detriment of actual people, as was the case in Masdar in the United Arab Emirates and Songdo in South Korea, people do not necessarily lead better and happier lives in cities that claim this label, which each city adapts through its so-called "smart" strategy. Is this fact caused by the immaturity of these strategies, which in most cities amount to a vast array of projects with no overarching vision? Or is it an absence of the right governance at the right level that keeps these services from becoming truly effective or even operational? The right answer is likely a blend of both reasons. But let's pursue this point even further: neither technology, nor simplifying daily life, nor saving time with efficient services are sufficient on their own to improve quality of life. Because a city's sense of well-being or lack thereof is intimately bound up with a host of other more complex factors.

But does that mean we should give up on the promise of the smart city? By no means: the digital revolution is transforming the city by ushering in all sorts of change and progress, starting with the enormous amount of information it provides and the increased level of complexity it allows cities to manage. Nonetheless, the main challenge consists in tweaking the model in the right ways so that smart cities are no longer gauged solely by the number of technologies they roll out, but instead by their ability to place people and personal development at the heart of their strategy, in order to build cities that ensure a sense of well-being for all residents, even those who do not use municipal services – whether or not they require new technologies. Along with this challenge, we may ask the following question: how can organizations successfully "put themselves in the shoes of users" to ensure that people can use innovations not just in theory but in the real world? The second challenge consists in setting up a strong evaluation and monitoring policy for smart cities, without which these adjustments will only amount to a new hit marketing concept, without offering any real benefits to residents and their quality of life.

The smart city is dead…
Long live the smart city!

Vienna

Vienna as a smart city: what is the reality behind the label?

Today, each city has its own vision of the "smart city" based on its own priorities. For example, Barcelona's smart city strategy, as is also the case in London and Tel Aviv, aims to make technology as accessible to its residents as possible and to invest almost exclusively in startups. For its part, Rio de Janeiro, much like Johannesburg, aspires to become "smarter" by focusing on security. As for Vienna, it has adopted a different approach by taking as its starting point the increased pressure that the city's growth has placed on natural and financial resources. In these conditions, the objective of Vienna's strategy boils down to this question: how can the city continue to guarantee the same quality of life that has established its current appeal and reputation, while preserving its resources as far as possible? Building a "Stadt für's Leben" (City for Life): that is the challenge Vienna plans to tackle with its smart city approach. This approach is unique in that it places citizens and people at its heart from the outset, by rejecting the showiness of large-scale technology demonstrations. Its end goals are to favor social inclusion, maintain a harmonious society and reduce socio-economic inequalities. At best, innovative technologies in this approach represent no more than a means to an end – and certainly not the only means, since the strategy focuses just as strongly on social innovations. Vienna's biggest advantage lies in its comprehensive and interdisciplinary approach that brings together stakeholders from various public administrations and affiliated organizations. In 2012, the Smart City Wien agency was created to support the Viennese conception of the smart city, with its mission based on the radical protection of resources (1), the development and productive use of innovations and new technologies (2) and ensuring high quality of life in a socially equitable way (3).

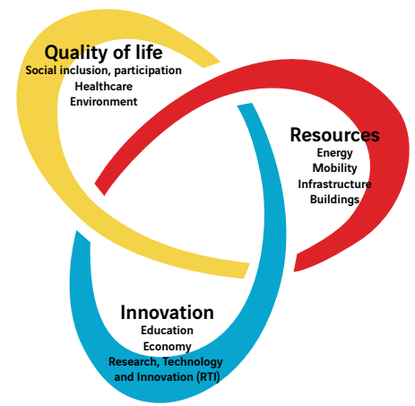


fig. 14 The pillars of Vienna's Smart City strategy

The pillars of Vienna's Smart City strategy:

1. In terms of resources, the objective is to cut greenhouse gas emissions by at least 35% by 2030 and by 80% by 2050 (compared to 1990).

2. In terms of innovation, Vienna intends to become a recognized leader through extensive investments in education, research and economic development.

3. Finally, through its objectives in terms of quality of life the city aims to continue offering all citizens the highest quality of living while making social inclusion a linchpin of its strategy.

fig. 15 Seestadt

In order to support Vienna's efforts to achieve its objectives and ensure a successful transformation, the agency, with the active participation of citizens, provides expertise, analyzes, coordinates, collects, informs, plans and carries out projects. Moreover, in 2014, the Vienna City Council adopted the Smart City Wien framework strategy, a long-term plan aiming to buttress Vienna's efforts through 2050 in the key areas of social housing, public transit, waste management and green spaces, combined with innovative energy efficiency programs. The smart city project is led by the city itself as it rallies all involved stakeholders around its vision, from companies to citizens (objectives must be shared and pursued by one and all in order to guarantee success, as the project emphasizes the principle of shared responsibility), but above all within the administration which has adopted new interdisciplinary ways of working in the context of this project.

One of the strategy's noteworthy aspects pertains to the connection it builds between Vienna and the surrounding region. Since the challenges posed by resources and quality of life extend beyond Vienna's boundaries, the project pays close attention to the need for cooperation with neighboring regions and on the federal level.

Vienna's strategy presents one final unique feature: alongside its smart city strategy, it also develops a monitoring tool to ensure that selected goals become tangible realities on the ground, while also creating a discussion platform to facilitate dialogue between the various stakeholders involved at every stage in the project and provide continuous reporting. 120 people from fifty city services and companies will take part in this aspect of the strategy. Project leaders have assembled several indicators, based on quantitative and qualitative data alike, to track progress made on the various objectives defined for this framework strategy. The results of the first monitoring phase showed that two-thirds of objectives are on track or have already been met and highlighted the areas in which the city must take more proactive measures. These areas notably include electric mobility and improving traffic logistics (resources), raising GDP per capita and cross-border cooperation (innovation), promoting health in the city, developing recreation and social cohesion (quality of life).

Examples

Lyon, Munich, Vienna: SMARTER TOGETHER

fig. 16 Solar panels

The SMARTER TOGETHER project aims to improve quality of life for citizens in our world's continuously evolving cities by striking the right balance between new technologies, citizen engagement and institutional governance to deliver smart and inclusive solutions. In this way, it aims to offer "*smart and inclusive solutions for ensuring high quality of life in urban neighborhoods*", while promoting civic engagement and participation.

Six neighborhoods in three European cities - Munich, Lyon and Vienna - will have the opportunity to test smart and innovative new processes, notably in terms of energy and mobility. In Vienna, the project's demonstration area is located in the southeast corner of the city. A total of 21,000 residents will benefit from the smart new solutions in the areas of eco-renovation, energy, mobility and communication and information technologies. The project emphasizes dialogue, in line with Vienna's smart city framework strategy, which places the human dimension at the center of its concerns. This dialogue aims to contribute to the dynamic of integration in society by including people of all generations and backgrounds. The partnership encompasses all stakeholders, including government entities, citizens and economic players; each group is invested with a specific responsibility in the effort to achieve shared objectives.

Examples

WAALTeR, smart ageing

The WAALTeR project aims to deliver smart technology support to help seniors manage their daily lives and enable them to maintain their autonomy within a familiar environment and with a high quality of life. It uses tablets and mobile applications to facilitate communication and help seniors plan and complete their daily activities, either on their own or with others. WAALTeR is equipped with an emergency call service, a fall detector, a fall prevention system and a remote medicine system (all in test phase), to improve seniors' health and safety in their daily routines.

The program is currently testing many of the integrated technologies among 80 households in Vienna, while a round of empirical evaluation testing is underway to study how these technologies and services influence subjects' quality of life, with the aim of integrating results into future care processes. The project lasts from December 2016 to November 2019.

fig. 17 WAALTeR Project

fig. 18 Former branch of the Danube (*alte Donau*), now home to Vienna's most popular beaches, with a view on the Vienna International Centre, the UN headquarters, and the Donau-City business district

Housing

Affording city life: the primary condition for quality of life?

fig. 19 View of Vienna

Through the combined effects of unprecedented urbanization and the lure of their amenities, many European cities are now experiencing sharp demographic growth. This growth has placed additional stress on residential property markets, as local authorities struggle to maintain an adequate rate of new construction to keep pace with increased demand. As a result of this stress: a general rise in home prices, which continues to outpace household income at an alarming rate. Intensifying this problem is the scarcity of available land as prices have often doubled or even quadrupled in recent decades; the gradual depletion of affordable housing stock, fueled notably by policies favoring the sale of social housing; growing speculation, driven by the dual nature of the housing product, and its inflationary impact on home prices; and strict regulations governing home construction.

All these factors threaten to place homeownership out of the reach of many families, while diminishing quality of life for those already living in the city. That is because housing and quality of life are closely entangled with one another. We may even go so far as to say that housing is the primary condition for quality of life. First, it responds to the need to house all residents, a challenge that cannot be reduced to quantitative targets for building new housing, even though this is a crucial element in the equation. Next, the goal is to enable residents to thrive in a healthy environment, which also fulfils an objective of quality. Housing quality (access to water and electricity, plumbing, kitchen equipment, quality materials and construction processes, etc.), its environment (noise and air pollution, sense of safety and security, etc.), as well as the surrounding neighborhood (accessibility, amenities, services, quality of public space, etc.) bear a direct impact on the ability of residents to feel (good) at home and, therefore, on quality of life. That means the quantitative and qualitative are inextricably linked.

In addition, housing affordability also plays a central role in this issue: the share of monthly revenue each household must devote to their rent or mortgage payment is a critical measure in this regard. If it is too high, it lessens household purchasing power and limits the means at their disposal for other needs, such as food, health or education, thus posing a threat to their economic and material security. With these challenges in mind, how can European cities succeed in producing an adequate amount of quality affordable housing in the current context of demographic growth?

Vienna

Housing for all: a Viennese tradition

Within the battered landscape represented by European capitals in the grip of housing crises, Vienna stands as a notable exception: though the Austrian capital and its population of 1.8 million welcomed 30,000 new arrivals in 2016[8], housing remains plentiful and surprisingly affordable in the city. This situation has undoubtedly contributed to Vienna's current reputation and the high quality of life perceived by its residents. For example, a survey conducted in 2013 among Vienna residents[9] revealed that 34% said they were satisfied and 47% very satisfied with their home. Has Vienna found the miracle cure for solving housing woes? Its success is rooted in two sources: first, the city is now reaping the fruits of its long-standing tradition of building high-quality social housing, which grew out of an ambitious project to build working-class homes led by the Social Democrat government under the First Austrian Republic (1919-1934). The program erected 348 housing complexes between 1923 and 1934[10], as well as 42 townhouse lots[11]. Among them, the widely-known Karl-Marx-Hof (see below) or the "*Werkbundsiedlungen*" bear witness to the era's innovative thinking about new ways of living. In subsequent decades, this initial effort was backed by a strong political commitment in favor of affordable housing: at a time when other capitals rushed headlong to sell off a portion of their social housing stock, Vienna not only maintained but also expanded its own social housing. Today, the city has set a goal of building some 9,000 social housing units every year, while 60% of its population currently lives in these subsidized units. This impressive achievement was made possible by Vienna's compact size, housing density (only 9% of residences are private homes) and excellent public transit system. At the same time, rent control measures applying to this social housing, determined based on each building's construction period and location to ensure that each household's rent burden does not exceed 20-25% of their income[12], offers a level of security that explains why 80% of Vienna residents are now renters. The city also operates a stock of 220,000 municipally-owned housing units[13] (25% of residential housing stock). Together, municipally-owned and social housing represent a full 42% of Vienna's residential housing stock[14].

fig. 20 Housing in Vienna

Even though Vienna is a city of builders, endowed with a vast stock of social housing and plenty of available land, its success in terms of housing is not simply a matter of numerical targets; it is also supported by a constant focus on innovation and the pursuit of quality. In this way, while large-scale prefabricated housing complexes[15] have met with endless criticism in other cities, Vienna has tackled the problem by conducting experimental projects, such as the Alterlaa building complex, which devotes extra attention to quality of life by means of recreational common spaces (green spaces, swimming pools, saunas, playgrounds). This focus on quality also led to the municipal authority's decision in the 1980s to complement its public housing

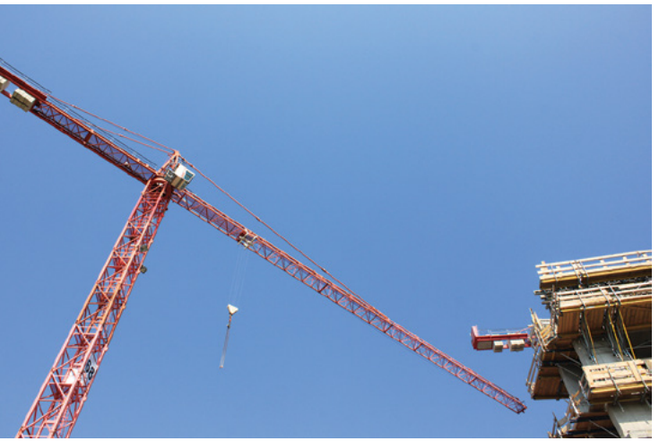


fig. 21 Ongoing construction in the Seestadt area

development operations with periodic alliances with the private sector for operations of 300 units or more. That led the city to create a mechanism by which municipal land is sold to private developers at discounted rates, following a call for bids evaluated based on four "pillars" (architectural strength of the project, environmental performance, social sustainability, costs). In return, the winning developer agrees to let the city rent 50% of housing units to low-income families. This system currently applies to 200,000 residences, which are owned by private developers but controlled indirectly by the city[16].

Another example of this innovative spirit: the decision to reflect on the future of the Viennese model by organizing an "*Internationale Bauaustellung*" (the international architecture exhibition, *IBA_Wien 2022*, see below) dedicated to affordable housing and social cohesion, to ensure that Vienna's social housing system adapts to the issues and challenges of our era. This is yet another initiative that demonstrates the important role housing plays in maintaining quality of life, together with the city's decision to put this complex topic on the agenda of Austria's presidency of the Council of the European Union, which begins on July 1, 2018.

These actions should not obscure the recent and troubling rise in Vienna's free-market rental prices (42% between 2008 and 2016[17]) or the sharp dip in the vacancy rate to around 2%, as well as the Viennese model's dependence on the commitment of the Austrian government for its continued existence. As a case in point, while Vienna invests 577 million euros every year to maintain and expand its public housing stock[18], 50% of this funding comes from the federal government. Although more innovative approaches to housing are emerging today (notably evidenced by the numerous projects presented at IBA), Vienna must undertake a broader and more systemic reflection if it hopes to maintain its model and prevent an excessive spike in rent prices, as well as an increase in inequality within a context of demographic growth. At stake in this effort is the city's ability to preserve the unique qualities that have made it the European capital of affordable housing.

Examples

Karl-Marx-Hof

fig. 22 Karl-Marx-Hof

A monument of "Red Vienna", designed by architect Karl Ehn and built between 1927 and 1930, Karl-Marx-Hof is perhaps the most well-known social housing project in Vienna's history. Located in the heart of the popular 19th district, it was hailed as revolutionary upon its inauguration; at the time, it was indeed the first municipally-owned housing project to include a private toilet and bathroom in each apartment, as well as a balcony, then seen as the height of luxury[19].

At a length of nearly 1.2 km, Karl-Marx-Hof remains the world's longest residential building. And yet, the building's surface area covers just 20% of the site's total area of 156,000 m^2: designed as a "garden city", the complex includes several vast green spaces, squares and alleys. Born out of a need to build dense, elevated housing within the city limits, the project initially comprised 1,382 units designed to house nearly 5,000 residents. For that reason, it aimed to foster a feeling of belonging among its residents and offer a response to the era's critical view of bedroom communities. Upon its delivery, the complex offered a mix of innovative amenities (daycare, library, retail, cafes, meeting rooms, etc.), with the primary aim of promoting community life[20].

Examples

The SMART Flats program

The “SMART Flats” initiative put in place by the city of Vienna is a program to build compact rental apartments (of areas between 40 and 70 m^2), at low cost (maximum rent of €7.5/m^2) and with modular walls enabling occupants to change the layout with ease[21]. The reduced area of these units delivers significant energy savings, while the complex also focuses on the quality of common areas, seen as the compensation for the compact size of each unit[22]. Intended mainly for young professionals, single-parent families and seniors, the “SMART Flats” now account for a third of all new homes built in Vienna[23], with 3,976 units as of October 2017[24]. With the aim of promoting social diversity, “SMART Flats” can also integrate into larger social housing projects[25].

Examples

Kabelwerk

fig. 23 Kabelwerk

Designed as a “*city within the city*” and presented as “*an international example for a new generation of city planning*”[26], Kabelwerk is an ambitious housing project built inside a former industrial site. The stated goal of the complex, which was built between 2004 and 2010, is to offer a wide variety of housing types, from studios to five-room apartments and industrial lofts. In all, Kabelwerk comprises 614 social housing units for rent with an option to buy, 177 housing units for owner-occupiers and 213 furnished social housing units. In addition, the building is also home to a hotel, conference center, retail and a school. The project is also committed to offering quality outdoor spaces to residents, which is on display in its promenades, squares and recreation and sports grounds. Care was also taken to ensure the site’s connection to surrounding infrastructure and public transit. Finally, the project aims to offer flexible living spaces, notably by rethinking the connection between home and work, reflecting on the diversity and evolution of practices and accounting for changing lifestyles[27]. Resulting from a call for projects issued by the city in 1998 through its so-called “four pillars” system (see above), Kabelwerk stands as a testament to Vienna’s emphasis on innovative housing.

Examples

IBA Vienna 2022: rethinking social housing for the 21st century

Demographic growth, land speculation and stagnating household incomes: numerous challenges have emerged in Vienna, forcing the city to plan and carry out large-scale efforts to ensure the continuity of its social housing model. With the aim of reflecting on the future of this model, Vienna decided to organize, between 2016 and 2020, its first *Internationale Bauausstellung* (international architecture exhibition). Originating in Germany, the concept of the *Internationale Bauausstellung* (IBA) refers to much more than a simple exhibition, it designates an urban project aiming to solve a region's specific urban, social or economic problems in innovative and exemplary fashion. An IBA thus constitutes a laboratory for ideas, as well as a platform for thought and exchange that brings together a wide array of stakeholders, from construction professionals to civil society, as well as experts, researchers and elected officials.

With IBA_Vienna 2022, dedicated to "new social housing", the Austrian capital intends to test "*new models and procedures related to the issue of social housing* [...] *in selected development areas as well as in existing urban structures*" to improve the city's ability to face "*the challenges of the future: affordability, mobility, good neighborhoods and healthy housing*"[28]. This ambition reflects the Viennese model of social housing and the social district "*as a future-oriented and sustainable socio-political instrument*", as outlined by this statement from Vienna's Executive City Councilor for Housing, Michael Ludwig:

"waves of privatization caused immense damage to the population of other major cities, notably in the area of housing. Vienna, on the contrary, is committed to a strong policy of social housing, which benefits vast swathes of its population. At IBA Vienna, we will capitalize on our expertise in a targeted way to offer examples and suggestions to other European cities. With this IBA, Vienna will continue to build its exemplary model in Europe".

Centering on four specific neighborhoods, including the new Seestadt Aspern district, the IBA will support several housing projects from design to development, including the construction of new residences and the renovation of existing buildings; in this regard, the IBA notes that "*the demands of the IBA_Vienna must be integrated in urban planning processes, property developer competitions and other IBA competitions and in the planning of restoration work*"[29]. The exhibition gives Vienna a chance to reflect on new forms of community living, potential improvements to housing construction processes and innovative financial models for social housing.

fig. 24 Social housing in Vienna

fig. 25 The *Hundertwasserhaus*

Post-carbon city

Energy transition: will the post-carbon city be inclusive?

If the Paris Agreement succeeded in rallying countries around a commitment to fight climate change, it was largely because it mobilized subnational stakeholders (companies and cities) to take part in negotiation processes that are typically reserved for national governments alone. From part of the problem – cities account for nearly three quarters of greenhouse gas emissions – cities are now taking a more proactive role and becoming part of the solution. The objectives they have set in terms of reducing greenhouse gas emissions – Vienna is targeting a 35% drop by 2030 and 80% by 2050 (compared with 1990) – bear witness to this new role.

Also in this field, it is now time to take stock of the variance among regional marketing, policy objectives and the reality on the ground, since the laws of physics remain difficult to translate into policy ambitions.

In addition, the hierarchy between each scale raises one important question: to what extent can a city pursue an energy transition strategy independently of the surrounding region? For this reason, decisions regarding energy independence can leave many skeptical, just as all national policies enacted since the 1990s in Europe have consisted in reinforcing the energy supply by developing planned systems of interdependence between countries with diverse energy mixes. Pursuing local energy independence seems paradoxical at a time when European countries, who are in the process of forming an energy union, have finally understood that energy nationalism has only weakened countries, not strengthened them, not only in terms of physical supply but also when it comes to securing competitive energy rates. At a time when growing European cities are fighting to contain rising home prices, it seems contradictory to enact fragmented energy policies in an uncoordinated way that will certainly increase energy costs. In this regard, Vienna has a keen understanding of what energy independence means, with the Baumgarten gas terminal, a hub of natural gas pipelines arriving from Russia and Norway via Slovakia and Germany, before continuing across Europe, located at just 40 kilometers from the Austrian capital.

The answer to this first question may lie in part in the digital revolution which is also transforming the energy sector: big data and artificial intelligence, by enabling a much more complex management of the energy system, will make it possible to integrate renewable energies, meaning a system that is no longer centralized and top-down, but distributed and two-directional. As a consequence, renewable energies, far from degrading the security of the system, will make it stronger, by providing local production from the bottom up, with transnational electric and gas networks ultimately relegated to an insurance role. This is the direction that cities and local communities wish to take, by relying on technological progress and the steady decline in the cost of renewable energy infrastructure and production.

But to what extent is energy localism, or the emergence of energy communities, inclusive? Examples from California and Germany – recall the evocative title of *Der Spiegel* from September 2013, "*Luxus Strom*", paired with a cover image of a golden electric cable – depict a two-tier energy system, in which the energy transition becomes a luxury that remains out of reach for many, but paid for by all, without necessarily leading to massive CO_2 reductions. In this context, only strategies that successfully leverage joint efforts between regions and new approaches to energy governance, bringing together local communities, companies and residents, can offset the imbalances generated by this energy transition.

Vienna

Developing a holistic vision of the energy system

Vienna has witnessed both the need to initiate the energy transition and a favorable context offering several promises: global, with the Paris Agreement; European, with the successive packages proposed by the Commission which outline a clear path for the Union to follow, though this path is not without its contradictions; and finally, to a much lesser extent, federal, after Austria's failure to adopt a bill that would set targets to reach by 2030 in terms of energy efficiency and the energy mix. For several years, the city has carried out a proactive policy to reduce its energy consumption and increase its production of renewable energies through a series of ambitious plans, such as the *Städtisches Energieeffizienz Programm* (2006), the climate protection program (2009) and the smart city strategy (2014). These efforts have met with a certain level of success. While energy consumption rose by 15% between 1995 and 2005 (climbing from 25,000 kWh to 28,500 kWh), it decreased by 20% between 2005 and 2015 (23,000 kWh). This drop was certainly due to the brutal economic crisis that hit Europe, as well as a more efficient use of energy – absolute consumption fell from about 47,000 GWh in 2005 to about 41,000 GWh – within a context of strong demographic growth (+10% between 2005 and 2015). Moreover, since 1995, the share of renewable energies in gross domestic energy consumption jumped from 2% to 12%, or from about 900 GWh to about 4,900 GWh. Despite these positive results, Vienna intends to ramp up its efforts and succeed in developing a holistic vision of the energy system by combining all its objectives and measures into a single framework strategy for energy.

This strategy has outlined five objectives of equal importance:

— ensuring supply security,
— developing the use of residual heat and renewable energies,
— increasing energy efficiency,
— guaranteeing economic viability,
— monitoring social impact.

The target energy supply system must be sustainable, fair and innovative.

The city has identified two main areas of focus:

1. mobility, with a strong incentive to opt for sustainable, or "soft", mobility and electric mobility;

2. heating, which remains highly dependent on fossil energies, in particular natural gas. The objective is to advance towards greater energy efficiency and move into other sources of energy, renewable gas, new technologies and cogeneration.

However, a new question has emerged from the development of renewable energies, self-consumption and the hybrid consumer as an energy market actor – that improbable figure promoted largely by energy companies of the individual producer who consumes their own energy and sells the surplus to their neighbor. Today's grid is characterized by a high level of supply security. What dangers might arise from connecting countless mini electric power plants to the grid? In this respect, the city of Vienna argues for the need to develop a legal framework to govern the emergence of these innovations (notably with research and development on energy storage) and maintain a secure energy supply for all. Vienna sees it as its responsibility to ensure robust and high-quality electric supply infrastructure for the benefit of all, just as it does for any other type of infrastructure. With this aim in mind, it has pursued a high level of investment in the maintenance of its grid. Compared to other European cities, Vienna possesses a well-maintained grid that can support an increased load relative to population growth. New investments should therefore focus less on increasing grid capacity, and instead on innovating to develop "smart grid" features. The high quality of its grids also contributes to Vienna's ranking among the top cities in the world for quality of life.

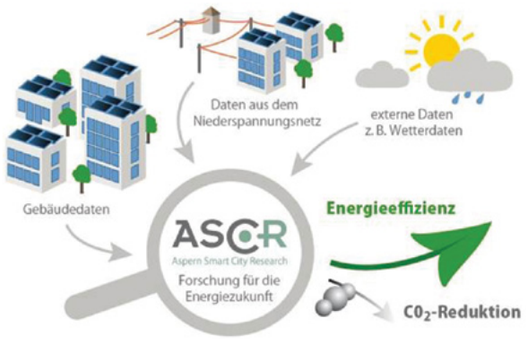


fig. 26 The ASCR's research topics – analysis of building data, low-voltage network, exterior data such as weather data in order to achieve greater energy efficiency and decrease CO_2 levels.

In order to roll out its strategy on the local level, Vienna has also developed a concept for combining regional development and energy planning. This concept calls for:

— preliminary collection and analysis of spatial and energy data;
— defining areas based on their energy profile;
— developing an energy concept suited to the neighborhood scale;
— planning new infrastructure based on an energy concept defined in advance and potentially in partnership with neighboring regions.

Lastly, Vienna champions the idea that working on infrastructure is not enough, because cities also need to work with residents to convince them to change their energy consumption habits. It has initiated several efforts in this direction: educating people about energy challenges at schools; providing information by publishing brochures explaining energy issues and measures, an annual energy report and brochures about distributed energy systems on a neighborhood scale; installing a smart meter in 2018 so that each resident can monitor their total energy use, see where they use energy and, if applicable, produce energy, in application of the principle that more detailed knowledge will help reduce energy use.

Examples

"Power-2-heat": for clean heat and a stable electric grid

fig. 27 Wind turbine

How can cities successfully generate heat without burning fossil fuels? Vienna is investing heavily in the development of renewable energies. However, this type of energy production (solar or wind) is difficult to manage and subject to weather conditions; high winds notably produce much more energy than needed, leaving a substantial amount of surplus energy. What is needed to solve the problem of renewable energy storage? The new "Power-2-heat" plant, operating in the Leopoldau district since 2017, sets out to meet these two challenges. It was commissioned and is now operated solely by Wien Energie, which supplies 380,000 households and 6,800 large accounts with district heating. The plant delivers an unconventional pairing of electricity and heat. It functions by using the surplus energy produced by up to ten wind turbines in the municipal district heating system to supply up to 20,000 households. Activated in case of surplus, it helps ensure the electricity grid's stability and also makes it possible to support the district heating grid throughout winter.

Examples

Seestadt Aspern: integrating regional development and energy planning

The Seestadt Aspern district has set exceptionally high standards for energy efficiency.

Buildings

all buildings are low-energy at minimum; some are zero-energy or positive-energy. Most are connected to the district heating grid and all must either install solar panels or take the necessary structural measures allowing for their later installation.

Geothermal

an ambitious geothermal project that is projected to power 40,000 households in Vienna, including 15,000 in the Seestadt district.

R&D

the Aspern Smart City Research (ASCR) laboratory has undertaken a Europe-wide project since 2013 aiming to develop innovative energy efficiency solutions that are powerful enough to pass the market test. To do this, Seestadt serves as a testing ground for experiments under actual operating conditions, representing the largest European energy research project based on actual data. ASCR collects data from residential buildings, mixed-use buildings (offices, residences) and campuses equipped with smart meters in order to learn more about actual energy use in an office, apartment or classroom. To that end, building users are invited to take part in the research program and equip their homes or offices with additional sensors to gather even more detailed data. The goal of this system is to optimize building energy needs and reduce energy costs. The project is the result of a partnership between Siemens, Wien Energie, Wiener Netze, Wien Beteiligungen GmbH and the development company Wien 3420 Aspern Development AG.

fig. 28 New construction in Seestadt

fig. 29 Innovation lab project based in Seestadt

Mobility

Does efficient mobility also mean quality mobility?

Can mobility help to improve quality of life? The answer to this question is full of contradictions. On one hand, mobility, in the sense of freedom of movement, is seen as a component of personal freedom, a means to discover the world and interact with other people, a tool for physical and social movement, and for all these reasons it has been the focus of relentless conquest throughout history, with many still waiting to access its benefits. On the other hand, mobility is also seen as a constraint, with each daily trip experienced as a chore, leading to increased stress and wasted time; as a challenge to city planners seeking to stop the rise in traffic congestion; as an environmental nuisance through the pollution it generates; as a public health risk (accidents and sedentary lifestyles caused by motorized mobility); as a financial challenge for individuals and municipalities; as well as a profoundly unequal status symbol. Taken together, do those perceptions add up to an irresolvable contradiction? How can cities counter the negative externalities of mobility, while preserving all its positive externalities? Since many of these negative externalities are linked to individual motorized traffic, considerable resources have gone into expanding the public transit network to encourage a modal shift and promoting sustainable, or "soft", mobility solutions. Such efforts have met with mixed results, because even though the modal share of public transit and sustainable mobility has increased within dense urban centers, notably in large cities, on the other hand, the use of cars has not only persisted for intermediate distances, in many cases it has even expanded. Digital now seems susceptible to opening up promising new avenues: by leveraging the detailed, real-time data collected from daily trips and the reliable traffic prediction enabled by new technologies, it will finally become possible to solve the problem of traffic congestion and, as a result, the challenges posed by mobility's other negative externalities. End users can now make informed decisions concerning their fastest mode of transport or itinerary; it also becomes possible to connect various modes of transport to optimize vehicle occupancy and create shared mobility services; installing the proper infrastructure can also enable dynamic traffic regulation; and finally, self-driving vehicles promise to deliver comfortable travel and unprecedented safety, while also freeing up public space for cities. Of course, the battle is not yet won, notably when it comes to people giving up their personal cars, but we have reason to believe that digital will keep its promise of optimizing mobility.

fig. 30 Bus line connecting the city to the Seestadt area

Have we found the perfect formula for ensuring that mobility goes hand-in-hand with quality of life? The answer is not so simple. Does optimized mobility mean quality mobility? Optimization in this sense pertains mainly to time and speed; even if digital accounts for the collective aspect of how space is used (reducing the dominance of cars), saving time remains the ultimate goal (less time wasted and more control over travel time). For that reason, let's make an effort to define our terms. To borrow the definition given by Jean-Marc Offner, mobility corresponds to our daily travel practices and the way we carry out a schedule of activities, with reference to our lifestyle. Quality mobility, then, should allow everyone to complete their daily schedule of activities. For that reason, we can reiterate the question asked by Vincent Kaufmann: "*does compressing space-time necessarily grant people more room for maneuver in how they manage their lives?* [30]" The answer is not so certain. Because in spite of efforts to optimize the technical systems involved in transportation, individual mobility remains profoundly determined by social constraints. The challenge remains to develop mobility for all that will allow for both physical and social movement.

Vienna

"Being mobile together"

Such is the objective pursued by Vienna's mobility policy. "Together" conveys three main meanings:

1. First, the development of inclusive mobility.

Everyone should be able to reach their destination, regardless of their income, place of residence or physical ability. This statement, which serves as the cornerstone of Vienna's mobility strategy, underlines the principle of equal opportunity. Mobility is clearly equated with an important right that everyone should enjoy in order to lead their life as they choose and benefit from all the opportunities offered by the city. Mobility is also seen as an important tool for breaking down social barriers and fighting against socio-spatial segregation. The ability to move about should not be reduced to a status symbol. A major effort is now underway to identify and overcome obstacles to this goal. That includes replacing bus fleets with low-floor buses to improve accessibility for people with reduced mobility, implementing standard fares within a transit zone and a single transit ticket, densifying the public transit network, expanding access to information using digital and in-person meetings for people without access to digital tools, improving the quality of public space around schools and more. But the most ambitious initiative is certainly the effort to connect new urban development projects through accessible multimodal transport. Vienna thus backs a policy of investing heavily in building new public transit infrastructure and expanding its network. Prior to developing the Aspern district, the city first expanded the metro line serving this neighborhood. However, upgrading infrastructure is not enough: it only offers the potential, which does not guarantee that residents will have the ability, knowledge or desire to take advantage of these services. In order to actuate this potential, the city developed a policy of supporting users (information, advice, etc.) with these new mobility solutions, so as to lay the groundwork for the proper and universal adoption of this new infrastructure.

2. Next, the coexistence of various modes of transport.

fig. 31 Seestadt bike-sharing

Vienna is projected to continue its growth, increasing the number of cars in the city by 12% by 2025. Vienna intends to take a proactive policy to avoid this rise in car traffic and continue reducing the modal share of cars in the city. Its objective: to decrease the modal share of cars from 28% today to 20% by 2025. Contrary to other cities that have taken measures to ban cars from the city, Vienna promotes a policy of coexistence between various modes of transport and sees cars as a legitimate part of this mix. However, the numbers are clear: 2/3 of traffic lanes are currently devoted to cars, which spend 95% of their time in a parking spot. The city is now undertaking a proactive policy to promote carsharing, with the goal of ensuring that 50% of Vienna residents have a carsharing station within 500 meters of their home by 2025. The city aims to reduce the modal share of cars primarily through a policy

of offering quality transport alternatives through simplified multimodal solutions adapted to each trip length. In this sense, infrastructure is considered to form the backbone of a new mobility system: whether that means expanding the public transit network, adapting infrastructure to new priorities (priority given to pedestrians and bikes; dedicated ridesharing lanes; permanent or temporary reallocation of spaces dedicated to cars for other purposes) or redeveloping public space to make it more amenable to sustainable mobility solutions like walking.

3. Finally, cooperation between regions.

25% of people who work in Vienna do not live in the city. Vienna is not a closed circuit and its mobility system should not be organized in such a way. Vienna's mobility policy accounts for regional interconnection at various scales and thereby seeks to align its network and objectives first with its neighboring regions (Burgenland and Niederösterreich), and next on the federal level. In this regard, Austria undertakes an innovative policy led by Austriatech, a company created by the Ministry for Transport, Innovation and Technology to deliver advising and support in partnership with stakeholders to adapt the mobility system to the challenges of digitization, decarbonization, the pivot to services and security. Finally, Vienna carries out a proactive policy of leveraging its renewed position at the heart of Europe since the opening of Eastern Europe. It invested one billion euros to build a new central train station across from the prestigious Belvedere Palace. It has designed the station to serve as a hub of local, regional and European exchange, enabling trains to proceed without changing tracks from the Baltic to Italy and from France to Hungary.

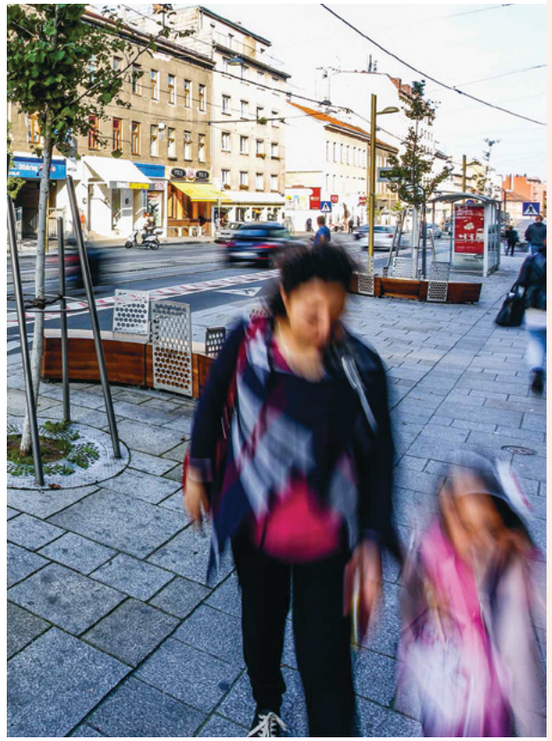


fig. 32 STEP 2025 - *Fachkonzept Mobilität:* resizing the public space to encourage walking

Vienna's mobility strategy pursues the clear target of optimizing trips. However, it pursues that goal more so in terms of improving quality, satisfaction and comfort of travel and urban life, rather than speed and new technology. Rather than depending on norms, it focuses on the needs of residents, while relying on individual responsibility and emphasizing shared effort. Its primary ambition is to succeed in turning mobility into a means of driving social inclusion and reducing greenhouse gas emissions, without losing sight of the necessary economic balance it needs to remain sustainable.

Examples

SUMP: Sustainable Urban Mobility Plan

The city of Vienna made the decision to submit its urban mobility plan for independent evaluation based on the principles outlined in the SUMP (Sustainable Urban Mobility Plan) elaborated by the European Commission in its Urban mobility package aiming to improve quality of life by balancing various modes of transport. Vienna's plan obtained a score of 82/100; it fulfills all SUMP criteria by at least 50%.

These correspond to six major fields of action:

1. adopting a clear vision and a realistic action plan (61%)
2. participatory approach (87%)
3. balanced development of all modes of transport (94%)
4. vertical and spatial integration of markets (100%)
5. "cost of use" analysis and efficiency (62%)
6. monitoring and adapting the plan on the fly (100%)

Examples

Seestadt Aspern, a laboratory for sustainable mobility

The Seestadt Aspern district, Vienna's new large urban development project, is expected to house 20,000 residents and as many jobs across 240 hectares located 14 kilometers from downtown.

The neighborhood offers a noteworthy example of how a city can plan and execute a strategy for combining regional development and mobility management. The masterplan adopted in 2006 set ambitious targets for the modal share (25% car, 40% public transit, 10-15% bike, 20-25% walking). To achieve these targets, the city **planned to take mobility management measures during the neighborhood's development in order to establish selected mobility principles before any other mobility habits could take root.** These measures were developed by a team of consultants who organized a series of five workshops based on the MAX method of mobility management integration. All stakeholders involved in planning the neighborhood and its mobility solutions were consulted to secure their cooperation and ensure the proper integration of different targets. Its concept of mobility is based on the following ideas:

Ensuring the neighborhood's access to downtown and other neighborhoods via public transit.

- Vienna extended its U2 metro line to provide service to the neighborhood even before development had concluded, thus connecting it to downtown in twenty minutes. A train station allows residents to reach Bratislava in a similar amount of time.

Facilitating the use of sustainable, or "soft", mobility solutions within the neighborhood:

- Walking: public spaces with pedestrian zones or wide sidewalks; removable bike trailers to help residents do their groceries; city of short distances.
- Biking: a self-service rental system for classic bikes, electric motor bikes, kids' bikes and cargo bikes used to transport children; a bike trailer rental system; bike repair service.

Guaranteeing car access while limiting car use within the neighborhood, except for unavoidable trips:

- Creation of shared parking garages and paid street parking managed by a time limit or reserved for specific needs (transporting people with disabilities).
- Several carsharing stations to cover the neighborhood.

fig. 33 U2 metro station before the Seestadt Aspern lake

fig. 34 New construction in Seestadt

Facilitating use of this mobility offer:

- Provision of a single map showing all mobility options in the neighborhood.
- New resident assistance with a guide explaining the neighborhood's mobility offer.

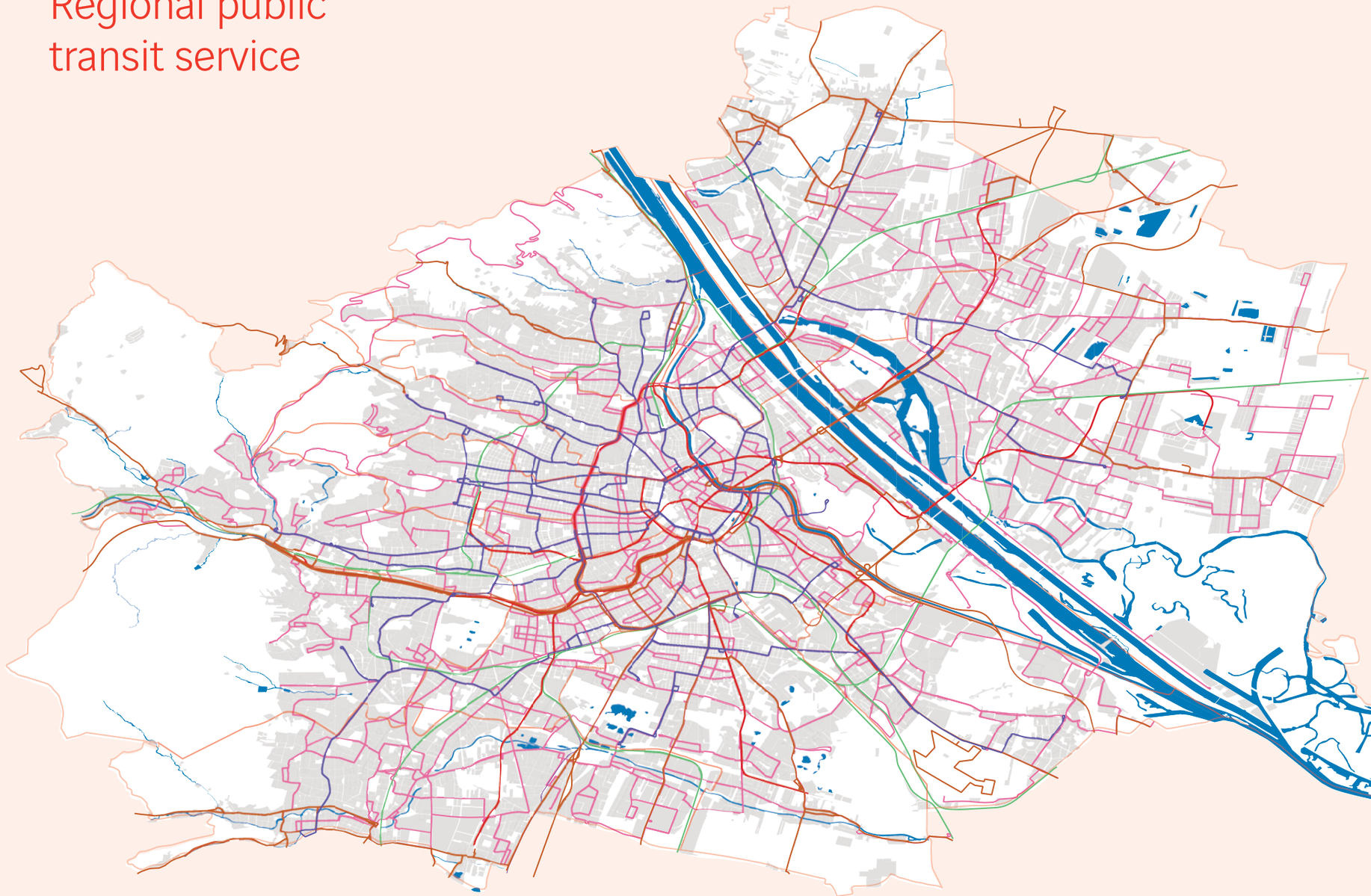
Limiting motor traffic tied to last-kilometer logistics by creating an urban logistics hub

- with DPD, enabling bike deliveries within the neighborhood and centralized package drop-off.

Developing innovation through testing:

- the Seestadt Aspern district was chosen by Austriatech to develop one of its mobility laboratories (Aspern.mobil LAB). It aims to expand cooperation between stakeholders in research and mobility and to test new mobility solutions in the field.
- The Seestadt Aspern district implements the objectives Vienna set for 2050. It aims to demonstrate the possibility of creating an urban environment that is fairer, more economical, more eco-friendly and less sprawling by combining regional development and mobility management, thereby demonstrating this method as a powerful way to boost quality of life.

Regional public transit service



N

0 5 10 15 20km

Legend

- Bus lines
- Badner Bahn tram-train
- Regional bus lines
- Regional trains
- Tramway
- Metro

Data: open.wien.gv.at
Processing: Qgis - Illustrator

fig. 35 Viennese metro

fig. 36 Bus and tramways in Vienna

fig. 37 Passers-by in Vienna

Public spaces

Public space: the key to a strong community life?

"The city is a work of art that affects formatively every day and every hour the great mass of the population, whereas the theater and concerts are available only to the wealthier classes [...]. Major plazas and thoroughfares should wear their "Sunday best" in order to be a pride and joy to the inhabitants, to awake civic spirit, and forever to nurture great and noble sentiment within our growing youth[31] ".

Camillo Sitte[31],
City Planning According to Artistic Principles

Public space has mounted a comeback in recent years. Not that it ever disappeared, but its development was long dominated by the demands of traffic, specifically car traffic and the speed made possible by the democratization of the automobile. A realization of the negative externalities tied to motorized traffic (congestion, pollution, stress, obesity, etc.) led to a rediscovery of public space and its virtues. Urban public space is the premier site for discovering the city, a place of movement and rest, the realm of pedestrians, a site of gathering and exchange enabling a healthy social life and a chance to connect with others. As a space open to everyone, it constitutes a large share of a city's DNA. As the background for all the city's functions and uses, it reveals the broad spectrum of dynamics and identities at play in the city.

In this sense, does public space represent a driver, if not the condition, for a city's quality of life?

1. One response may be: of course, as long as it is adequately planned. Because public space planning can serve to include rather than exclude a wide diversity of users, including the most marginalized. Because public space, as a social space produced by a particular society, is a normative space that defines a specific notion of community life.

2. A second response may be: of course, as long as we define what we mean by quality of life. Too often quality of life is reduced to feel-good stereotypes of facile consensus, with postcard images of Paris providing the archetype: from romantic strolls along the banks of the Seine, to cafe terraces in Montmartre and the tidy storefronts along the city's wide boulevards, always depicted with people strolling in a happy, unhurried mood. Reality paints a much different picture, though this does not mean that quality of life is lacking. It is simply of another nature, one that is more complex and different for each of us.

fig. 38 Gänsehäufel island in Vienna's 22nd district

3. A third and final response may be: not so sure, it all depends on what we mean by "public space". Oftentimes, public space is reduced to a question of its form and planning. But that obscures the real question: to what extent does the form of public space influence quality of life in the city? Isn't the social aspect of this space the key priority? The facts show that public space planning bears an important yet not essential impact on how residents use these spaces and the sense of belonging they enable. That is why we can find very minimally planned public spaces that still manage to deliver a high quality of life due to the social life they accommodate, as well as public spaces that do not "work" despite the great deal of planning involved in their creation. Because public space is a blend of spatial form and social life, it must find a way to unify these elements if it is to ensure a high quality of life.

For all these reasons, planners should always ask themselves the following question:

How can we continue to ensure a successful union of form and social life, even as the use of public space evolves over time, while its form remains the same?

Vienna

Public space in Vienna: “the urban living room”

Public space makes up almost 50% of Vienna, with a remarkable portion devoted to green spaces. In fact, the city offers an average of 120 square meters of green space for each resident. How can Vienna continue to maintain this availability of public space, even as the city experiences steady growth and the users and uses of public space become more numerous? How can it ensure that public space remains accessible to all? These are the challenges facing Vienna today.

fig. 39 Skateboard ramp in Stadtpark, Vienna’s first public park

Vienna’s awareness of the important role public space plays in quality of life is nothing new. This quality has even become the object of special passion, as demonstrated by Camillo Sitte’s groundbreaking work on European urban planning, *City Planning According to Artistic Principles*, as well as the debates and polemics it has raised. Responding to Vienna’s radical transformation under the urban planning of Franz Joseph, Sitte closely examines the foundations of public space and studies the extent to which changes to its form and scale can alter lifestyles and the way people experience the city. He offers an early argument for thinking of public space as a living room to be arranged with as much care and attention to its occupants as a living room in one’s own home. Several historic projects stand out for the attention paid to Vienna’s citizens and their typical needs: the Burggarten, the Volksgarten, the Prater and the Gänsehäufel beach – all major public gathering areas and powerful vectors of culture, history, common identity and therefore, sharing.

Recently ranked for the ninth consecutive year as the top city in terms of quality of life, Vienna works hard to update its approach with respect to these spaces. Its project consists in transforming public space so that it not only encourages various uses and users through its fair and diversified character, but also functions as a site of engagement and co-creation. In this way, the desired form of public space is seen as: lively and open to others; socially fair and adapted to all genders; favorable towards movement and learning; ecological and robust; favorable towards participation and fostering a sense of identity. The city has thus enacted thirty-two measures, ranging from promoting temporary uses and reversibility to establishing public space as the backbone of new districts, while also responding to the need to combine public space and social work for people experiencing hardship. What Vienna rightly seized on, to an even greater extent than its focus on public space and quality, is the necessary connection between these spaces and other urban amenities (housing, transportation, etc.). Considering the question of linking, connecting and integrating public space and the urban fabric is what earned Vienna its high marks for these public spaces and the role they can play as strong drivers of the city’s quality of life.

How can cities ensure the utility of this concept? Vienna’s approach is distinguished by its focus on translating its vision of public space and its planning approach into a set number of tools designed to minimize information loss at each stage in the project, from start to finish. *The Leitbild zum öffentlichen Raum in Wien*, created by the city to ensure dialogue between the municipality, external experts and the mayors of each district in order to favor public-private partnerships, establishes the vision; this vision is reaffirmed by the STEP 2025 plan which combines all the objectives the city plans to achieve by 2025. This plan clearly views public space as a tool for aligning policies in diverse sectors, as well as the benchmark infrastructure and indicator of the capital’s urban vitality (STEP 2025 *Das Fachkonzept Öffentlicher Raum*). The public space development plan (*Entwicklungsplan Öffentlicher Raum)* serves as a strategic planning instrument for the purpose of translating the city’s vision in a way that is adapted to each district and project, while serving as the basis for citizen participation; lastly, the manual for the configuration of public space outlines all the laws, norms and directives that must be taken into account when planning public spaces within the city of Vienna. With the same concern of ensuring consistency, projects are evaluated after delivery to verify that all objectives have been attained or to determine if the strategy must be refined or altered in order to achieve its objectives.

From establishing its vision to carrying out each project, the success of Vienna’s approach also relies on the following pillars:

1. The importance placed on understanding the situation on the ground and actual uses. Sociological and socio-spatial surveys serve as the basis of each project, which makes it possible to adapt the general framework to specific situations and offer a response suited to the actual needs of citizens.

fig. 40 Public space in the Seestadt area

2. Strong dialogue between various stakeholders, including different administrations, private companies and residents. Information sharing, co-creation and engagement of each stakeholder on their specific level constitute the central components of the design and management process for public space. Examples include the efforts to involve construction workers in the precise application of the vision, as well as the option begun in 2014 of signing urban planning contracts between the city and private companies, with the aim of jointly financing certain public spaces.

3. A blend of strong principles and adaptation to specific situations. That notably involves distinct planning of each public space and the importance placed on regulating how public spaces are used in order to avoid conflict, coupled with a pragmatic flexibility to facilitate everyday use of public spaces.

Examples

Gender mainstreaming: an innovation made in Vienna?

Begun over twenty years ago through an urban planning project taking gender into account, gender mainstreaming has given Vienna a reputation as the world capital of feminist urban planning. Gender mainstreaming refers to "*the reorganization, improvement, development and evaluation of policy processes, so that a gender equality perspective is incorporated in all policies*[36]". Vienna's governing bodies have transformed the city into a safer and more practical city for women, notably by improving street lighting and widening sidewalks to increase the sense of security. The *Frauen Werk Stadt* pilot project, completed in 1997 and led by four female architects, has become a global benchmark in terms of housing designed to promote gender equality (furniture and signage intended to favor gender equality, etc.). Much more than a collection of buildings, the *Frauen Werk Stadt* is also exemplary in its use of public space and integration of diverse practices; its public spaces are designed to make life easier for residents and encourage social interaction. Since this initial pilot, Vienna has carried out some fifty urban projects taking gender into account. But gender mainstreaming is not just about women; it also seeks to promote a form of urban planning adapted to people of all ages and genders, by accounting for their specific practices, needs and vulnerabilities.

Examples

The Meindlinger Hauptstraße redeveloped on the basis of a sociological survey

fig. 41 The Meindlinger Hauptstraße, redesigned following a sociological survey

Another example of this reversal of perspective that has come to characterize Vienna's concept of public space: the redevelopment of the Meidlinger Hauptstraße, a major retail thoroughfare. Instead of planning for automobile traffic first and the rest of the public space second, the project made pedestrians and the uses of public space its top priorities, with car traffic adapting to these pillars. To determine which uses to prioritize, the city carried out an extensive sociological survey through observation and a series of user interviews. Together with a map analyzing uses, traffic circulation and conflicts arising from the space's various functions, the survey was integrated into the project submitted to the European competition for the redevelopment of this thoroughfare. Just two of the 22 applicants fully accounted for these considerations. Hamburg firm WES&Partners and Kurt Traxler and Krems won the competition for their project, selected for its attention to uses, flexibility in terms of buildings and consideration of the specific movement required by a retail thoroughfare and the need for rest and meeting areas outside the consumer setting.

Examples

Grätzloase: how to encourage more public involvement?

fig. 42 Temporary transformation of a road into a playground as part of the Grätzloase project

Increasing public involvement in the planning of public space constitutes one of the pillars of Vienna's vision of public space. The underlying idea is that public involvement enables a wider diversity and coordination of public space, thereby enhancing quality of life and the sense of community. To encourage this involvement, a fund was created to finance projects selected through the Grätzloase program carried out in the framework of Agenda 21 from 2015 to 2018. Advisors are also available to facilitate the project's development. More than 150 projects have already been completed, including transforming parking lots into public spaces, organizing games and dinners and urban gardening.

fig. 43 Lake in Stadtpark

fig. 44 Near the *Palmenhaus*

Numbers for thought

Vienna in key figures

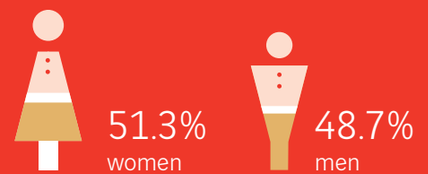
General

Area

41,489 ha

Population[1]

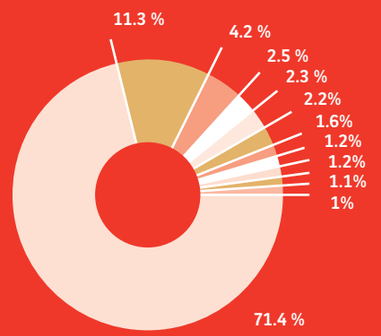
1,867,582 residents



Population change[2]

+12.4% between 2005 and 2010

Percentage of residents of foreign origin[3]



Serbia **4.2%**
Turkey **2.5%**
Germany **2.3%**
Poland **2.2%**
Romania **1.6%**
Bosnia **1.2%**
Croatia **1.2%**
Hungary **1.1%**
Syria **1%**
Other nationalities **11.3%**

1- Source: Statistik Austria - www.statistik.at
2- Source: Statistik Austria - www.statistik.at
3- Source: Municipal Department 23 in charge of economic affairs, labor and statistics Statistik Austria - www.statistik.at

Economy

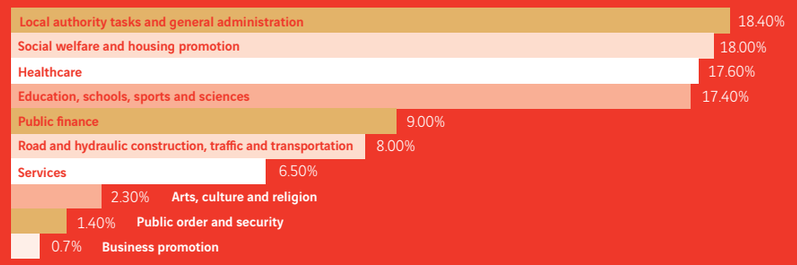
Per capita GDP[4]

47,000 euros

Main economic sectors

Financial services, tourism, research, innovation

Expenditure by type[5]



New startups since 2015[6]

+3.6 %

Gross hourly wage[7]

23.9 euros

Unemployment rate[8]

11.6% in 2014

Education

Level of education of general population[9]

82.9% of the population holds a high school diploma or higher (European average: 76.5%)

Number of students[10]

196,455

R&D investments[11]

3% of GDP (European average: 2%)

4- Source: Eurostat ; Statistik Austria
5- Sources: Statistik Austria – City's account closures. Magistratsabteilung 5 - Finanzwesen
6- Source: Statistics Austria; Vienna Business Agency; Vienna Economic Chamber
7- Source: Statistik Austria
8- Source: Social security institution for industry, commerce, and crafts, Regional Bureau of the Austrian Employment Agency (Ams Wien)
9- Source: Federal Ministry for Scientific and Economic Research
10- Source: Statistik Austria
11- Source: Municipal Department 23 in charge of economic affairs, labor, and statisitics.
https://wwwwien.gv.at/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf

Housing

23% of apartments were built before World War I[12]

Percentage of residents living in social housing[13]

60%

Share of public and social housing in total housing stock [14]

42%

Percentage of renters[15]

80%

Percentage of private residences[16]

9%

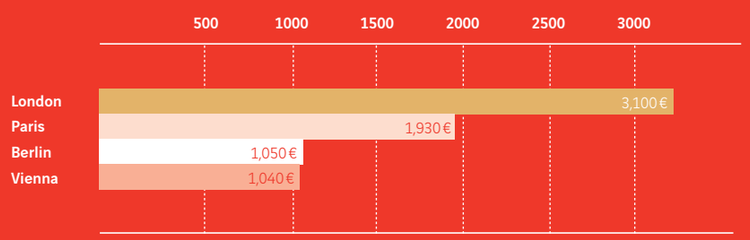
Vacancy rate[17]

2%

Average surface area per capita[18]

38m²

Average rent for an unfurnished 3-room apartment (2015)[19]



Annual target for new-build residences[20]

9,000

Increase in free-market price per m² between 2008 and 2016[21]

+42%

Percentage of Vienna residents satisfied with their residence[22]

34% satisfied

47% very satisfied

Energy

Targets by 2050[23]

80% reduction
in greenhouse gas emissions

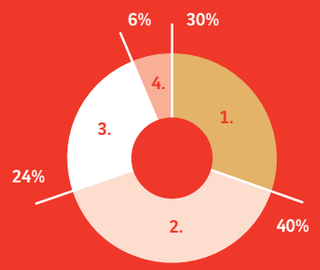
40% reduction
in overall energy consumption

50% share of renewables

12- Source: Statistik Austria
13- Source: Vienna's unique social housing program", PD&R EDGE, HUD User [online].
Available at: https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_011314.html [Accessed on 26 April 2018]
14- Source: CapaCity Workshop – Affordable and Social Housing in Vienna – Workshop Report" [online], October 2017.
Available at: http://capacity.tinavienna.at/tools/uploads/CapaCity_report_Ljubljana_Vienna.pdf [Accessed on 26 April 2018]
15- Source: Institut für Immobilien Bauen und Wohnen (iibw)
16- Source: Vienna's unique social housing program", PD&R EDGE, HUD User [online].
Available at: https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_011314.html [Consulté le 26 avril 2018]
17- Source: "CapaCity Workshop – Affordable and Social Housing in Vienna – Workshop Report" [online], October 2017.
Available at: http://capacity.tinavienna.at/tools/uploads/CapaCity_report_Ljubljana_Vienna.pdf [Accessed on 26 April 2018]
18- Source: Municipal Department 23 in charge of economic affairs, labor, and statistics
https://wwwwien.gv.at/statistik/pdf/wieninzahlen-2016.pdfedge_featd_article_011314.html [Accessed on 26 April 2018]
19- Source: Municipal Department 23 in charge of economic affairs, labor, and statistics
https://wwwwien.gv.at/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf
20- Source: http://www.frde/panorama/oesterreich-darum-sind-die-mieten-in-wien-so-niedrig-a-1370195,2
21- Source: "CapaCity Workshop – Affordable and Social Housing in Vienna – Workshop Report" [online], October 2017. Available at: http://capacity.tinavienna.at/tools/uploads/CapaCity_report_Ljubljana_Vienna.pdf [Accessed on 26 April 2018]
22- Source: VERWIEBE Roland, RIEDERER Bernhard, TROGER Tobias, SEEWANN Lena (2014). " Lebensqualität in Wien im 21. Jahrhundert, Endbericht, Sozialwissenschaftliche Grundlagenforschung II ", Institut für Soziologie Universität Wien [en ligne]. Available at: https://wwwwien.gv.at/stadtentwicklung/studien/pdf/b008404.pdf [Accessed on 26 April 2018]
23- Source: Energy Ahead – Rapport municipal sur l'Energie

Mobility

Modal share[24]



1. Walking
30%
2. Public transit
40%
3. Cars
24%
4. Biking
6%
5. Motorcycle
≈ 0%

Bike paths and lanes[25]

1,298km

Number of commuters into Vienna[26]

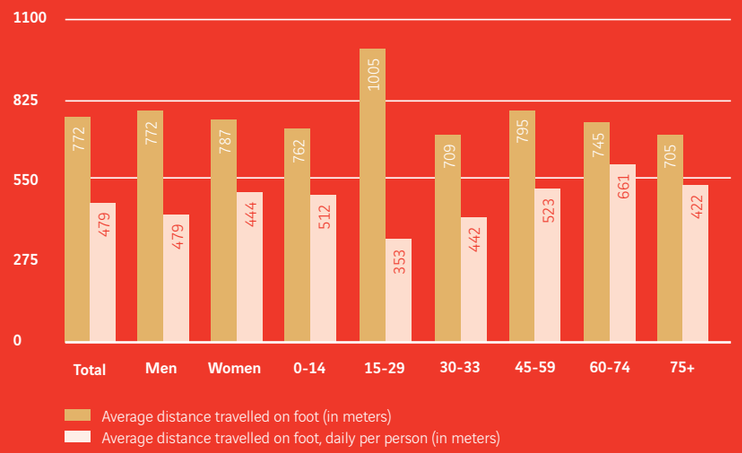
25%

Average red light wait time in school zones or crash-prone areas[27]

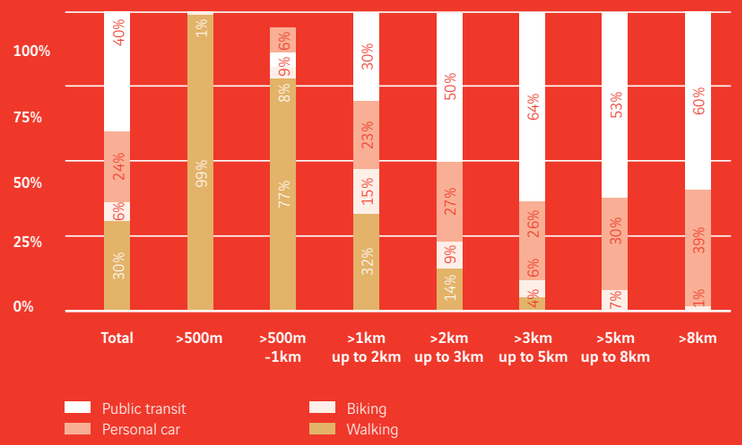
40 seconds

Requirement for bicycle storage
in all new-build offices or residences

Distances travelled on foot[28]



Modal share by distance travelled[29]

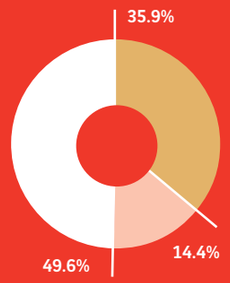


24- Source: Federal Ministry of Traffic, Transportation, Innovation and Technology – Statistik Autria – Wiener Linien
25- Source: Municipal Department 23 in charge of economic affairs, labor, and statistics https://wwwwien.gv.at/statistik/pdf/wieninzahlen-2016.pdf
26- Source: Eurostat; Statistics Austria
27- Source: APUR https://www.apur.org/sites/default/files/documents/volet1_politiques_urbaines_grandes_metropoles_inventaire.pdf

29- Source: Municipal Department 23 in charge of economic affairs, labor, and statistics
https://wwwwien.gv.at/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf
30- Source: Municipal Department 23 in charge of economic affairs, labor, and statistics
https://wwwwien.gv.at/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf

Public space and green space

Proportion of developed space and open space[31]



Built space
35.9%

Roads and traffic lanes
14.4%

Green spaces
49.6%

Minimum sidewalk width[32]

2m

Playgrounds[33]

981

City parks[34]

953

School sports facilities[35]

open to all users outside school activity hours

531

Sports fields (over 1,000m²)[31]

167

31- Source Statistik Austria Directions MA 28, 37, 41
32- Source: APUR https://www.apur.org/sites/default/files/documents/volet1_politiques_urbaines_grandes_metropoles_inventaire.pdf
33- Sources: Statistik Austria
34- Sources: Statistik Austria
35- Sources: Statistik Austria
36- Source: Statistik Austria MA 51

Culture

UNESCO[37]

2 sites:
historic city center and Schönbrunn Palace and park

Number of tourists[38]

6.6 million (in 2015)

Number of overnight stays[39]

15.1 million (in 2015)

International congresses[40]

4th place

Most visited buildings[41]

- **Stephandom**
- **Schönbrunn**
- **Belvedere Gallery**
- **Prater Giant Ferris Wheel**
- **Albertina Museum**

Kaffehäuser[42]

815

Balls[43]

400 balls per year organized from December to March
and attracting 300,000 visitors from around the world

150
number of waltzes composed by Johann Strauss

37- Source: UNESCO World Heritage List Nomination Report
38- Source: Municipal Department 23 in charge of economic affairs, labor and statistics https://wwwwien.gvat/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf
39- Source: European Cities Marketing Report 2015, TourMIS.
40- Source: Municipal Department 23 in charge of economic affairs, labor and statistics
41- Source: Statistik Austria.
42- Source: https://de.statista.com/statistik/daten/studie/582106/umfrage/anzahl-der-kaffehaeuser-in-wien/
43- Source: https://www.austria.info/at/service-fakten/tradition-und-handwerk/brauchtum-leidenschaft-fur-tradition/wiener-ball-und-wiener-walzer

Quality of life

Quality of living ranking (Mercer, 2018)

1st for 9 consecutive years

World's most livable cities ranking (The Economist, 2017)

2nd

Quality of life survey and ranking (Monocle, 2017)

2nd

Most reputable cities ranking (Reputation Institute, 2017)

3rd

Global Cities Index (2016)

19th

Best cities for broke Millennials (Movehub, 2017)

2nd

Ranking of European cities by air purity (Soot-free for the climate!)

3rd

56th most expensive city for expats[44]

44- Source: Municipal Department 23 in charge of economic affairs, labor and statistics https://wwwwien.gv.at/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf
45- Source: Municipal Department 23 in charge of economic affairs, labor and statistics https://wwwwien.gv.at/statistik/pdf/wieninzahlen-2016.pdf
46- Source: https://www.ard-wien.de/2017/12/13/buergerversicherung/
47- Source: Municipal Department 23 in charge of economic affairs, labor and statistics https://wwwwien.gv.at/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf

Life expectancy[45]

Women: 80.7 years, + 2.6 years since 1991

Men: 75 years, + 3.6 years since 1991

Rate of health insurance coverage[46]

100%

Daycare provision enabling full-time work[47]

97%

Personal safety index[48]

88%

Working time needed to buy a Big Mac[49]

12 minutes

Average cost of a cappuccino[50]

3.10 euros

Satisfaction rate of Vienna residents[51]

95% for public transit
97% for cultural offerings
93% for green spaces
88% for healthcare options

48- Source: https://safearound.com/fr/europe/austria/vienna/
49- Source: https://wwwwien.gv.at/statistik/pdf/wieninzahlen-2015.pdf
50- Source: https://www.numbeo.com/cost-of-living/in/Vienna
51- Source: Municipal Department 23 in charge of economic affairs, labor and statistics https://wwwwien.gv.at/statistik/pdf/wirtschaftsstandort-wien-2016-deutsch.pdf

Notes

Introduction

1

1. GRACQ Julien (1985) *La Forme d'une ville.* Paris : José Corti
2. RAUTENBERG Michel (2008) "Introduction". *Culture & Musées*, n°12, L'imaginaire de la ville, le regard et le pas du citadin pp. 13-29

Vienna: capital for quality of life?

2

3. BOURDIN Sébastien ; CORNIER Thomas (2017) "Au-delà de la mesure du bien-être en milieu urbain : quelle perception de la qualité de vie dans les villes européennes ?" *Géographie, économie, société*, vol. 19(1), 3-31 based on work by SEN Amartya (1993) "*Capability and Well-Being*". In: NUSSBAUM, SEN *The Quality of Life.* Oxford: Clarendon Press.
4. https://www.mercer.fr/newsroom/classement-2018-qualite-de-vie.html

Smart City

3

5. Smart City Wien Framework Strategy, 2014, City of Vienna.
6. STREIMIKIENE Dalia (2015), "Quality of Life and Housing " *International Journal of Information and Education Technology,* volume 5, numéro 2, [online], 2 February 2015. Available at: http://www.ijiet.org/papers/491-S10009.pdf [Accessed on 26 April 2018]
7. *Ibid*.

Housing

8. CORTRIGHT Joe (2017) "Housing policy lessons from Vienna: Part I", City Observatory, [online], 20 July 2017, http://cityobservatory.org/housing-policy-lessons-from-vienna-part-i/ [Accessed on 26 April 2018]
9. VERWIEBE Roland, RIEDERER Bernhard, TROGER Tobias, SEEWANN Lena (2014), "Lebensqualität in Wien im 21. Jahrhundert, Endbericht, Sozialwissenschaftliche Grundlagenforschung II", Institut für Soziologie Universität Wien [online]. Available at: https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008404.pdf [Accessed on 26 April 2018]
10. "L'habitat social et le lotissement du Werkbund", Wien.info [online]. Available at: https://www.wien.info/fr/sightseeing/architecture-design/social-housing [Accessed on 26 April 2018]
11. "L'habitat social et le lotissement du Werkbund", Wien.info [online]. Available at: https://www.wien.info/fr/sightseeing/architecture-design/social-housing [Accessed on 26 April 2018]
12. "Vienna's unique social housing program", PD&R EDGE, HUD User [online]. Available at: https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_011314.html [Accessed on 26 April 2018]
13. "Vienna's unique social housing program", PD&R EDGE, HUD User [online]. Available at: https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_011314.html [Accessed on 26 April 2018]
14. "CapaCity Workshop – Affordable and Social Housing in Vienna – Workshop Report" [online], October 2017. Available at: http://capacity.tinavienna.at/tools/uploads/CapaCity_report_Ljubljana_Vienna.pdf [Accessed on 26 April 2018]
15. FÖRSTER Wolfgang, "The Vienna Model: Continuity and Innovation" [online]. Available at: http://www.vienna-model.at/en/prinzipien/kontinuitaet-und-innovation/ [Accessed on 26 April 2018]
16. "Vienna's unique social housing program", PD&R EDGE, HUD User, [en ligne]. Disponible sur : https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_011314.html [Accessed on 26 April 2018]
17. "CapaCity Workshop – Affordable and Social Housing in Vienna – Workshop Report" [online], October 2017. Available at: http://capacity.tinavienna.at/tools/uploads/CapaCity_report_Ljubljana_Vienna.pdf [Accessed on 26 April 2018]
18. CORTRIGHT Joe (2017), "Housing policy lessons from Vienna: Part I", City Observatory, [online], 20 July 2017. Available at: http://cityobservatory.org/housing-policy-lessons-from-vienna-part-i/ [Accessed on 26 April 2018]
19. FOWLER Brenda (1991), "History and a Name in a Vienna Project", New York Times, [online], 11 July 1991. Available at: https://www.nytimes.com/1991/07/11/garden/history-and-a-name-in-a-vienna-project.html [Accessed on 26 April 2018]
20. "Karl-Marx-Hof", Stadt Wien – Wiener Wohnen, [online]. Available at: https://www.wienerwohnen.at/hof/220/Karl-Marx-Hof.html [Accessed on 26 April 2018]
21. SCHANTL Christian, HELIGE Andrea, STRANZ Lilo, "Municipal Housing in Vienna. History, facts & figures", City of Vienna – Wiener Wohnen.
22. HÄUPL Michael (2013), "Green social housing for all, Vienna, Austria ", Covenant of Mayors [online]. Available at: https://www.covenantofmayors.eu/IMG/pdf/Vienna_Case_Study_Covenant_Mayors.pdf [Accessed on 26 April 2018]
23. IBA Vienna New Social Housing, "International Building Exhibition – New Social Housing" [online]. Available at: http://www.iba-wien.at/en/iba-vienna/iba-vienna/ [Accessed on 26 April 2018]
24. "CapaCity Workshop – Affordable and Social Housing in Vienna – Workshop Report" [online], October 2017. Available at: http://capacity.tinavienna.at/tools/uploads/CapaCity_report_Ljubljana_Vienna.pdf [Accessed on 26 April 2018]
25. SCHANTL Christian, HELIGE Andrea, STRANZ Lilo, "Municipal Housing in Vienna. History, facts & figures", City of Vienna – Wiener Wohnen.
26. "Kabelwerk (Cable Works) ", Wien.info [online]. Available at: https://www.wien.info/en/sightseeing/architecture-design/kabelwerk [Accessed on 26 April 2018]
27. "Geschichte & Projektentwicklung", Kabelwerk.at [online]. Available at: http://www.kabelwerk.at/info/geschichte [Accessed on 26 April 2018]
28. IBA Vienna New Social Housing, "International Building Exhibition – New Social Housing" [online]. Available at: http://www.iba-wien.at/en/iba-vienna/iba-vienna/ [Accessed on 26 April 2018]
29. IBA Vienna New Social Housing, "Three action layers of the IBA_Vienna" [online]. Available at: http://www.iba-wien.at/en/iba-vienna/iba-vienna/3-action-layers-of-the-iba-vienna/ [Accessed on 26 April 2018]

4

Post-carbon city

5

Mobility

30. KAUFMANN Vincent (2005) "Mobilités et réversibilités : vers des sociétés plus fluides ?", *Cahiers internationaux de sociologie*, vol. 118, no. 1, pp. 119-135.

6

Public spaces

31. SITTE Camillo (1996 [1889]) L'art de bâtir les villes. Seuil, p.119-120 and p.96
32. CABANIEU Jacques, Weil, Sylvie (2001) Les espaces publics urbains. Mission Interministérielle pour la Qualité des Constructions Publiques, [online]. Available at: http://www.miqcp.gouv.fr/images/Guides/documentPDF/g7-2.pdf
33. "Freiraumstadtraum Wien", City of Vienna, [online]. Available at: https://www.wien.gv.at/stadtentwicklung/studien/pdf/e000005.pdf
34. "STEP 2025 Thematic Concept", CIty of Vienna, [online]. Available at: https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008379b.pdf
35. "Öffentlicher Raum", City of Vienna, 2018, [online]. Available at: https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008522.pdf
36. http://igvm-iefh.belgium.be/fr/activites/gender_mainstreaming

Acknowledgements

La Fabrique de la Cité would like to thank the following people and organizations for their support in organizing this event: the City of Vienna (*Stadt Wien*), the Vienna University of Technology (*Technische Universität Wien*), *Urban Innovation Vienna*, the Interdisciplinary Center for Urban Culture and Public Space (SKuOR), aspern mobil LAB and Aurore Meyfroidt (Postdoctoral Fellow, University of Grenoble).

La Fabrique de la Cité

La Fabrique de la Cité is a think tank dedicated to urban forecasting. Its interdisciplinary approach brings together French and international experts to reflect on best practices in urban development and propose new ways to build and renovate cities. Its work revolves around five key topics: mobility, urban development and construction, energy, digital revolution, and new practices. Created in 2010 by the VINCI Group, its chief sponsor, *La Fabrique de la Cité* is an endowment fund that fulfils a public service mission. Its work is available to the public through a Creative Commons license on its website, Twitter account and Medium publication.

Introduction
Cécile Maisonneuve
Editor
Marie Baléo
Authors
Chloë Voisin-Bormuth
Cécile Maisonneuve
Marie Baléo
Anna Abenhaïm
Research and maps
Christelle Gbado
Photography
Anna Abenhaim
Communications
Matthieu Lerondeau
Laure Blanchard
Graphic design
Elsa Antoine
Printed at
Impression Jaurès

Photos

p.9 (fig. 7): AndreasPraefcke CC BY-3.0
p.10: interior view of Café Central - AndresPraefcke CC BY 3.0;
Burgtheater - Gryffindor CC BY 2.5; Vienna Museum - Bwag CC BY-SA 4.0 ; Schönbrunn palace as seen from the gardens - Yelkrokoyade CC BY-SA 3.0; House of Music - Eva Prader CC BY-SA 3.0;
Hofburg imperial palace - Bwag CC BY-SA 3.0; Liechtenstein palace, garden facade - Welleschik CC BY-SA 3.0
p.34: Forgemind ArchiMedia CC BY – 2.0
p.35: courtesy of Urban Innovation Vienna
p.37: courtesy of Smarter Together
p.38: Bohmann_Andrew Rinkhy © – courtesy of Smart City Wien and WAALTeR
p.45: A long time ago, CC BY 2.0
p.47: Thomas Ledl, CC BY 3.0
p.54: ASCR/Bernd Haberl ©
p.55: Achim Raschka, CC BY SA 4.0
p.62: Chritian Fürthner, courtesy of Stadt Wien
p.65 (fig. 33): Invisigoth67, CC BY SA 4.0
p.78: Kellner/LA21 Wien – courtesy of Johannes Kellner

La Fabrique de la Cité
6, place du Colonel Bourgoin
75012 Paris
France
contact@lafabriquedelacite.com
www.lafabriquedelacite.com

twitter.com/fabriquelacite

medium.com/la-fabrique-de-la-cité