CONTEXTUALIZING POLICY TOOLS AND MECHANISMS; AN EXPLORATORY CASE STUDY OF VIENNA

By

Andrea Ortiz Garcia

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Supervisor: Andrew Cartwright, PhD

Author's Declaration

I, Andrea Ortiz Garcia hereby declare that I am the sole author of this thesis. To the best of my knowledge this thesis contains no material previously published by any other person except where proper acknowledgement has been made. This thesis contains no material which has been accepted as part of the requirements of any other academic degree or non-degree program, in English or in any other language.

This is a true copy of the thesis, including final revisions.

Date: February 11, 2022

Name: Andrea Ortiz Garcia

Signature: *Andrea Ortiz Garcia*

Abstract

This thesis presents an exploratory case study of Vienna situated at the intersection of public policy studies and urban planning applications. It is informed by the assumption that Vienna is considered a highly livable urban center and that planning processes are key to the city's development. In the search for policy tools and mechanisms that influence quality of life, the case study explores the background of Vienna through economic, socio-political, and environmental aspects. Thematic analysis and a Framework Analysis Matrix are utilized to illustrate the interactions between the 14 discovered policy tools, mechanisms, and the planning environment.

Acknowledgements

For the continued support with scope, methods, and structure, I respectively thank my supervisor Andrew Cartwright PhD, Thilo Bodenstein PhD, and Sanjay Kumar PhD. This thesis is dedicated in part to my loving partner, Maximilian Pötinger, who supported me through liver surgery and many late-night writing sessions. I also dedicate this effort to my parents in gratitude for their everlasting inspiration and understanding.

Table of contents

List of Figures, Tables or Illustrations

Chapter 1 – Introduction

1.1. Vienna: “The livable City”

In recent years, the city of Vienna has ranked among the top in several rankings designed to evaluate the quality of life in urban centers. The most complete and rigorous of these are the ‘Global Livability Index’ from the Economist Intelligence Unit (EIU) and the ‘Quality of Living City Ranking’ from Mercer (City of Vienna- Chief Executive Office 2021). Another notable long-term and continual ranking concerned with living standards is the ‘Monocle Magazine’s 25 Most Livable Cities Index’. Vienna figures in all three, but has notably taken the top spot on Mercer’s list for 10 years running up until their last report in 2019 (Mercer LLC 2021). This same year marked Vienna’s second year topping the EIU’s list (The Economist Intelligence Unit 2019). Although it has since dropped off (mostly due to poor performance in new COVID-19 related features in the index), Vienna was prominent in the top 15 spots for almost a decade (The Local Austria 2021). While these rankings offer an alternative to measuring urban development purely through (increasingly outdated) econometric terms, the question of ‘What exactly is ‘livability’, or what components are considered in ‘quality of life?’ arises.

This study hereby offers a working definition of livability based on the Encyclopedia of Quality of Life and Well-Being Research. The term is cross-referenced with subjective indicators of well-being, which “comprises living conditions, social arrangements, and progress towards social goals” (Michalos 2014 pp6429). While existing livability indexes lack uniformity, transparency, and are constructed for commercial interests which compile subjective information along with arbitrary econometric figures, they highlight an important aspect of life

in urban centers (Scerri 2014; Cramer-Greenbaum 2021; Pamer 2019). This is valuable for policy studies with urban planning applications and informs the line of inquiry of this study.

This introductory chapter has so far introduced Vienna's consideration as a livable city and offered a definition of livability. It has also identified gaps regarding indexes alluding to the purpose of the study, which follows this subsection. Finally, an overview of the thesis structure will be presented.

1.2. Purpose of this study

This thesis stems from the perceived success that the City of Vienna enjoys as a 'livable' urban center. Hence, there is a need to explore the case of Vienna under an urban planning and public policy intersection. The aim of this study is to discover contexts in which policy tools and mechanisms relate to favorable quality of life aspects. While this study is exploratory in nature, it is directed by the following guiding question(s):

- Which are some of the policy instruments and mechanisms present in the urban planning process and context which contribute to the livability of Vienna?
    - What are some guiding features of the tools?
    - How do those policy tools and mechanisms relate to the city's urban development plans?

1.3. Thesis structure overview

The following chapters follow from the logical presentation of a case study. The next chapter situates the thesis within relevant policy, urban planning, and city-specific literature. Chapter 3 sets up the methodological frame for the proceeding case study. The case study itself is divided into two parts. Part 1 in Chapter 4 offers a contextualization of case study components including background and stakeholder definition. Part 2 in Chapter 5 offers an examination of

the case through Thematic and Framework Analysis. Finally, Chapter 6 concludes the study with a summary of key take-aways and final considerations.

Chapter 2 – Literature Review

2.1. Vienna Planning literature

This study is situated at the intersection of public policy and urban planning literature. It also aims to contribute to the body of research surrounding Viennese urban studies. EU integration, as well as the city's active membership in several international knowledge-sharing networks (in sustainable development, SMART initiatives, regional resource conservation, etc) has significantly increased the literature in English regarding urban topics in Vienna in the past couple of decades. Discussions of best-practices and project related literature is vast in this area. Yet, modern analytical studies that mention Vienna's quality of life attributes are slim and tend to focus on spatial aspects of planning with little mention of public policy processes.

Within the city-specific analytical literature consulted, three groups emerged.

1. Publications concerned with **urban planning and abstract social implications**- This slim collection is comprised of those who have attempted to answer similar questions to the ones posed in this study. Notably, Johanes Suitner' recent work provides the first-of-its-kind periodization of distinct planning phases in Vienna's history and helped orient the case study after the beginning of the Second Republic(Suitner 2021). While this work does not attempt explicitly to address planning successes, nor implicate policy discussions, it was useful in providing research context. Hatz provides the most relevant considerations through his explicit acknowledgement of Vienna's quality of life rankings but focuses mostly on spatial and abstract sociological expressions of how different planning eras are expressed through spaces (Hatz 2010b; 2008; 2016). A less theory driven report that was integral to this study is the report by Eugen Antalovsky from the European Investment Bank. This report addressed the most similar question

to the study at hand and offered answers and context through a framing of four planning cycles focused on (1) adapting to population growth, (2) improving housing stock, (3) investments to increase competitiveness, and (4) the current smart urban development phase(Antalovsky and Loew 2018). While useful for understanding planning developments over time, there is a little to no mention of policy tools beyond zoning instruments of planning.

2. Publications at the intersection of **urban planning and environmental topics**-While these publications considered impacts of the urban development plans on residential living, the initiatives discussed mostly focused on spatial/architectural aspects of urban planning. Gaube and Loeffler explore the impact of Vienna's planning on energy use but do not cite specific planning tools (beyond mixed-land-use zoning) which attribute sustainable measures (Loeffler, Oesterreicher, and Stoglehner 2021; Gaube and Remesch 2013). More social aspects of the impacts of environmental applications of urban planning are explored by works explicitly relating to the city plans. Khomenko et al argue that the relationship of health and livability in Vienna is strongly driven by transportation and zoning policy (Khomenko et al. 2020). Brandl and Zielinska review the most recent urban development plan and call out a disconnect between theory and practice of eco-social policy(Brandl and Zielinska 2020). While these address development plans, again the miss substantive policy discussion and focus almost solely on architectural and spatial characteristics of development.
3. Publications concerned with relationship between **infrastructure planning and social topics**. This is the largest grouping of literature that directly addressed Vienna's urban planning and different aspects of livability, including housing. Hatz argues housing subsidies provide a realistic solution to gentrification (Hatz 2021) while Cucca & Friesenecker contend the current housing solutions are not enough to encourage

degrowth efforts(Cucca and Friesenecker 2021). The texts on housing complimented the points raised mainly by Hatz on the importance of the provision, and use of quality spaces to improve social cohesion (Hatz 2010a; 2009). While these contribute a significant focus to specific components of Vienna's planning goals, they do not frame initiatives through a policy lens. A theoretical approach to considering a policy mechanism active in urban planning is offered through two of Kirsch's works. This literature concerns the importance of social discourse in infrastructure planning. Krisch discovers the importance of collective action (Krisch and Suitner 2020) and argues that the Social Infrastructure has contributed to the city's success through involvement and by guiding culture as a "selling point for the city"(Krisch 2019). While these two last publications are more focused on the processes of planning, stakeholder interaction, and even lightly mention mechanisms, they still ignore policy tools.

The aforementioned literature description served to situate the study at hand within works specific to Vienna's planning environment. Since there is a considerable gap of understanding of policy tools and mechanisms within Viennese planning, and considering the field of study of this thesis, the following section briefly reviews relevant policy literature.

2.2. Policy Literature

This study utilizes applications of policy analysis to seek out policy tools and mechanisms within the unique urban planning environment of Vienna. It makes use of understanding derived from several prominent epochs of policy theorization. Although until recently, few publications have specifically related and developed policy instrument theory within the urban planning discipline(Stead 2021). Stead's work stands out by bridging practical planning process literature with more theoretical policy and planning aspects. Stead argues that the existing focus on policy tools is inadequate as it is limited to spatial regulations and land use

policy (Stead 2021). Proponents of collaborative planning theory highlight the importance of participatory mechanisms, and institutional pathways to creating tools beyond regulation (Rydin 1998; Healey 2003; Innes 2018).

This thesis utilizes a complimentary view of policy tools whereby they can be both, regulatory instruments (like zoning and land protection) and initiatives (like projects, competitions, and provisions) that come about through city top-down efforts or collaborative processes. While Stead's work served to guide thinking of planning applications of policy tools, the suggested taxonomy of tools is not utilized. Instead, a general combination of categorization of tools into procedural and substantive tools types was considered and is utilized within the analysis matrix (Bali et al. 2021; Capano and Howlett 2020; Howlett 2000).

Chapter 3 – Research Methodology

3.1. Introduction

This chapter will present, discuss, and justify the research design choices present in this thesis. The following design choices have been made based on the focus of the study: An exploration of urban planning and policy interactions in the city of Vienna as they relate to the city's livability success. The aims of the research are centered on identifying specific policy tools and mechanisms which interact with Viennese urban planning processes and ultimately contribute to a positive impact on livability and quality of life features.

This chapter is comprised of four sections. The first recalled the aims and focus of the research. The second section outlines the research design choices with corresponding sub-sections' discussion on the research philosophy, type, strategy, time horizon, sampling strategy, data collection, and analysis techniques. The third and final section reviews methodological limitations and mitigating experiences.

3.2. Research Design

3.2.1. Research Philosophy

This thesis is based on an interpretive philosophy and conceptualization of urban planning processes and policy actions. Ideology has inevitably informed the perception of socially focused initiatives as positive and desirable for urban planning continuity. This ideology exemplifies the interpretation of the researcher, while attitudes about same initiatives to be studied may be differently portrayed by stakeholders in the study. This acceptance of the differences in views of a given subject requires research that accepts the complexity of views and therefore calls for social constructivism to be applied ("Quality of Living City Ranking |

Mercer" 2021). The research attitudes also recognize that the researcher's beliefs have influenced the data collection, analysis, and conclusions of the study itself.

While positivist philosophy could have served to establish causality between policy tools and outcomes, it would not address the complexity of the case, nor be sufficient to fulfill the descriptive purpose in studying the interaction between policy tools and activated mechanisms in the urban planning process. In contrast, this study assumes the ontology of qualitative research described by Creswell and Poth wherein the nature of reality is based on interpretation from different points of view and yields to multiple realities (Creswell and Poth 2018). Since the research is not focused on causality of policy tools on livability, an interpretive philosophy and research design fits the search for causal mechanisms, the tools which activate them, and their description(Lin 1998).

The research is initially exploratory in nature as no firm hypothesis exists to prove or disprove. A descriptive nature of the study developed as the need to better understand the relationships between policy tools, mechanisms, and stakeholders emerged. The focus of the study is on process, rather than outcome. While the outcome is what may have initially appealed to embarking on the research (the livability of Vienna), it is really the process that this study is interested in (what aspects of policy are engaged through the urban planning process that led to the livability). The study offers a policy narrative of this process to encourage deliberate policy making (Bevir and Blakely 2018), Hence answers the call to apply Bevir and Blakely's anti-naturalist approach to policy study. The main pursuit with utilizing this philosophy is to provide value to the urban planning and policy area beyond econometric predictions signaling an incomplete story of livability in Vienna.

3.2.2. Research Type

The type of research undertaken in this thesis is inductive in nature. Observations were made in the field directly and hence stimulated further research through seeking out additional information. The initial observations became the assumptions from which the research logic was derived from. A simplified version of these assumptions is: “Vienna is among the top livable cities globally.” From there, the exploratory research style informed the categorization of assumptions and elaboration of the research focus on policy tools and mechanisms.

While some of the research that informs the literature section of this thesis does make use of (or is based on) quantitative methods, the research methods used in this study are purely qualitative. This choice fits the purpose to provide rich details and allow for exploration of a topic.

3.2.3. Research Strategy

The qualitative Case Study was chosen for its unique ability as a research strategy to contribute to development of theory (George and Bennett 2005). Although the theory in this study does not inform a hypothesis to be tested, the rich descriptive aspect of case study design allows for in depth analysis that is less abstract. By setting a geographic, temporal, and thematic barrier through a case study, agent interactions and phenomena that contribute to urban planning success can be observed. The case study format also allows for analysis methodology, which is tailored to the case, like the proposed Framework Analysis matrix. This and other analysis choices will be discussed in the respective section.

Within the case study, participatory research methods were considered to expand the understanding of the relationships between stakeholders in the city planning process. The ability to derive insights from local residents who have been involved in district level initiatives at either the planning, implementation, or evaluation phase would have been useful but not

necessarily suitable for the case study analysis (Institute of development studies 2021). The study scope may have also been invertedly widened by including stakeholder attitudes and resulted to be counterproductive.

3.2.4. Time Horizon

A cross-sectional study was chosen to capture the existing interactions between policy tools, mechanisms, and different stakeholders involved in the processes of urban planning in Vienna. The literature review encompasses a historical periodization of urban planning in Vienna. However, it serves to inform on the context in which current policies, stakeholders, and policy tools interact and is not the object of the study itself. Although the policy tools that will be discussed have, in some cases, been implemented for years, the focus of the study is not on the historical analysis of their implementation.

During Part 1 of the case study, the case description and background are temporally limited from the early 20th Century to 2021, about the time this study was conducted. This time period provides a relevant and comparable context to explore where modern ideals of urban planning are present. Since this study was motivated by Vienna's prevalence on Mercer's Quality of Living ranking for the past 10 years, considering the immediate period preceding it while still accounting for contemporary historical context was important. This temporal specificity also allows for the study to utilize the urban development plans which are electronically accessible.

3.2.5. Sampling Strategy

Geographic purposive sampling is evident considering the deliberate choice of Vienna as the case study. Due to the inductive nature of the research, observations made led to the continuing narrowing of the topic and spatial boundary setting. While the narrow geographical scope of the study may not lead to major generalization prospects for findings, it is relevant to urban studies in Vienna.

The policy tools, and interactive mechanisms under analysis are also purposive. They were chosen based on their interaction to the urban planning process. The urban planning process refers to the city works and administration bodies which implement the Urban Development Plans (STEPs), SMART City Wien Framework Strategy (SCWSF), and other smaller scale initiatives that fall under actionable plans. Analysis of the actions taken by the City of Vienna, which are related to aspects of the livability of the city were deliberately chosen on the same basis. This non-probability sampling strategy allows the study to focus on only actions related to urban planning success in terms of livability.

3.2.6. Data Collection Method-

The data utilized was mostly gathered from secondary academic sources alongside official city administration resources. Most of the population data came from the Municipal Department of Economic Affairs, Labor and Statistics (MA23), its statistics office (Statistics Vienna), and Statistik Austria, an independent non-profit federal institution since its separation from government in 2000 (Stadt Wien 2021b; Statistik Austria 2008). Some primary texts were also collected from available public records from the City of Vienna. These include the SCWSF, the STEP 2025, the STEP 2005, and their corresponding reports.

3.2.7. Analysis Methods and Techniques-

By using principles of case study design and analysis from George and Bennet's 2005 application of case study models for social science analysis in complex contexts, a within-case analysis followed. Two main tools of analysis have been used for this case study. First, a Thematic Analysis to locate motivational themes within primary documents. Following, Framework Analysis inspired on Ritchie and Spencer's five-step model is pursued and produces a case matrix. It is illustrated as a table in Appendix 1 and discussed in depth in the Analysis Chapter.

Thematic Analysis

In an effort to isolate practical aspects of urban planning from ideological motivations, thematic analysis was utilized for investigating the unique intersection of topics addressed in this study. By naming, analyzing, and discussing patterns within a body of data, thematic analysis provides a way to conceptualize themes that arose from the case study components (Scharp and Sanders 2019). Thematic analysis also allows the study to take a simultaneous investigation of stakeholders, initiatives, actions, and their assumed result (Braun and Clarke 2012). Two rounds of analysis were done. First, a rough inductive analysis of the official Urban Development Plans and Strategy discovered themes through the researcher's interpretations of what the administration seemed to concentrate on. This yielded three main themes. On the second round of thematic analysis, NVIVO software was utilized to code and textually identify theme frequency within a document. Appendixes 2, 3, and 4 provide a report of the coding incidence within each of the three analyzed documents. The combined thematic analysis efforts fulfill the familiarization, theme identification, and indexing (or coding) steps in the second mode of analysis and are thus complementary.

Framework Analysis

This thesis offers a unique format to map out connections between stakeholders, themes, policy tools, and community level outcomes. It is inspired on Framework Analysis which offers a case-specific and theme-based approach which utilizes a matrix to map out of case components (Ritchie and Spencer 1994). The matrix lay-out is also lightly informed by Relationship Matrixes often used in strategic management practices which help isolate value transfer from stakeholders to processes and products (DemandFarmInc 2021). However, the analysis is solely based on policy applications of Framework Analysis which is adapted to four main categories of qualitative research: Contextual, Diagnostic, Evaluative, and Strategic (Ritchie and Spencer 1994). The research at hand concerns the contextual category which is focused on

identifying “form and nature of what exists” (Ritchie and Spencer 1994 pp177). While the case study itself serves to build context, analysis through the proposed matrix helps visualize and discover unique clusters and thematic emergences. The case matrix is offered with the purpose to locate and illustrate the connection between specific observed policy tools, the mechanisms they activate, the associated themes they satisfy, the stakeholders involved, and the associated livability outcomes in the urban environment.

Ritchie and Spencer suggest five steps in Framework Analysis: Familiarization, Thematic Framework identification, Indexing (coding), Charting/Summarizing, and Mapping and Interpretation(Ritchie and Spencer 1994). As mentioned, the first three steps are satisfied with the complimentary Thematic Analysis. Charting and summarizing are mostly satisfied in the thick description given in the Background/Context portion of the following chapter “Case Study: Part 1”. The Mapping and Interpretation are then followed up in “Case Study: Part 2; Results and Analysis” through the matrix mapping and findings discussion.

3.3 Methodological Limitations

The main limitations to the study were time and budget bound. Expert interviews with urban planners and administrators were initially desired to seek unique interpretations of tools and mechanisms that drive success. The main constraint to this approach was low response from requests for interviews from current civil servants. While in depth interviews could have provided guidance in research and eased procedural understanding, collaborative theory building from the interviews may have redirected the goals of the study towards explicating causality. This could have been counterproductive to the descriptive nature of the study.

Although a single case study design is limited in the possibility for generalization, this study provides a unique opportunity to dissect and provide rich detail about the intersection of development themes, stakeholder involvement, and policy tools and mechanisms within a city

that has one way, or another earned a reputation as one of the most livable in the world. Better than attributing livability to historical context, political will, or economic triumph, this study attempts to contribute to a deeper understanding of Vienna which could support its continuing improvement on the themes explored.

Chapter 4 – Case Study Part1: “Vienna from the early 20th Century to today”

4.1. Introduction

This chapter will introduce the city of Vienna as a case study by presenting the case background, including challenges and responses, and identifying stakeholders involved in the urban development process. The case’s implications to policy mechanisms and tools within the city planning process will be analyzed in the subsequent chapter. The chapter at hand serves as a set up to the analysis and to satisfy rich description. First, an overview of the city of Vienna through its key urban figures will disclose population and spatial features along with their changes in contemporary history. Then, an overview of economic, environmental, and socio-political factors will serve the purpose of understanding the backdrop in which the urban planning and execution processes take place.

To finalize the background presentation, a separate subchapter has been reserved for providing the urban planning context in Vienna. It will give an overview of the Urban Development Plans used for analysis and the planning process in Vienna. A review of the stakeholders finalizes the descriptive portion of the case study and prepares the reader for Part 2.

4.2. Background/Context

4.2.1 Facts and Figures

Vienna’s population, like many other urban centers, has been steadily rising over the past decade. By 2019, Vienna was the fastest growing city within the EU”s 10 largest cities, despite being only the 5th largest (Statistics Vienna 2021). With a population of 1,920,949 and a population density of 4,630 people per square kilometer by Jan 1st 2021, it is the country’s geographically smallest province and most populated area at the same time (Statistics Vienna

2021). The city consists of 23 municipal districts where population density ranges from 1,429 to 27,029 people per square kilometer(Statistics Vienna 2021). The districts and hence city limits below in Fig.1 were last edited in 1955, following a series of inclusions of districts throughout the 19th and 20th century which were prompted mostly by fiscal revenue shortages from the districts to be (Statistics Vienna 2021; Stadt Wien 2021a).

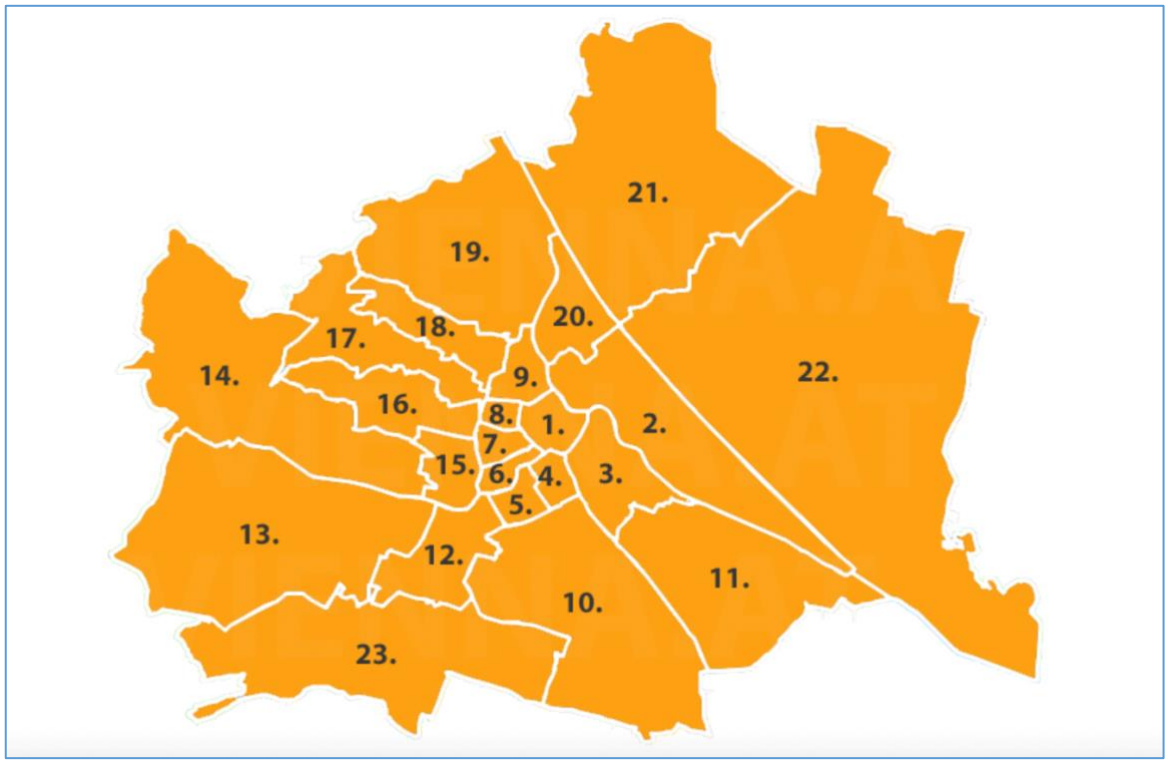


Figure 1- Map of Vienna with district borders. Vienna.at 2022. Found at: Link

Main population trends

While it is generally forecasted that Vienna will surpass the 2 million inhabitants (again) by 2028, this steady and arguably controllable growth has not always been constant. Despite the city's once-upon-a-time historical standing as a culture and diplomacy hub, the population downward trend from the 1910 height culminated in its last drastic drop (post-WWI and II) in the 1970's where its generally aging population prompted a very European challenge to

Vienna's city planners (Antalovsky and Loew 2018; Stadt Wien 2021a). Since then, the steady population growth has been an integral factor to socio-political, economic, environmental, and planning aspects of the city discussed later in the chapter. The chart below helps visualize the magnitude of the changes.

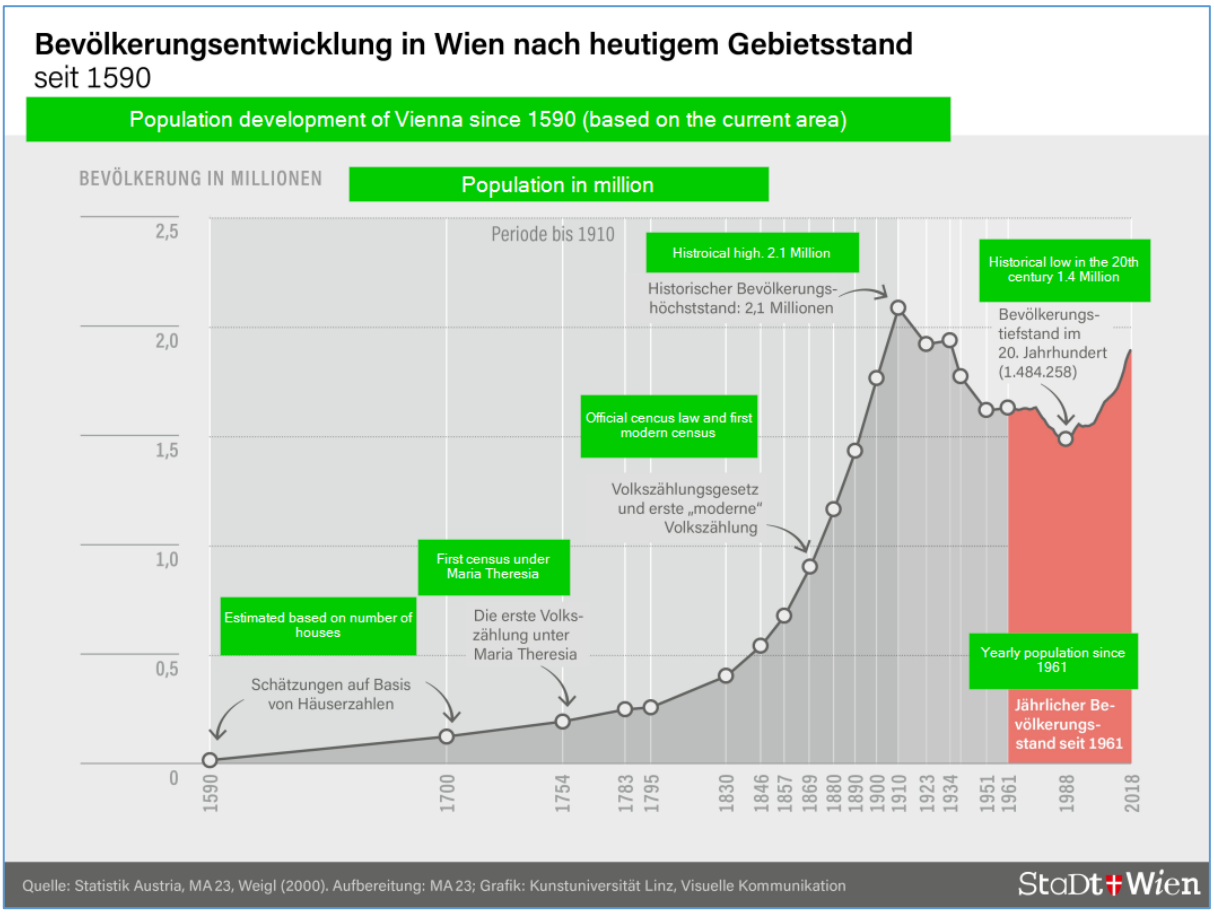


Figure 2- "Population development of Vienna since 1590 (based on current area)" MA23 2020. Found at: Link

Main geographic features

Cities are generally geographically confined by natural environments. In the case of Vienna, elevated areas have previously provided a physical barrier to sprawl, along with the Danube River. Although, in recent years river management and incorporation have eliminated it as a containment barrier to a growing city. The 414,9 square kilometer city limits now contain two

mountains (The Kahlenberg and Hermansnskogel) and edge into the Vienna Woods (Wienerwald), making for easy to reach excursion sites (Holzner, Ehrlich, and Hill 2020). While the Danube is perceived as "running through the heart of Vienna", the actual river no longer runs by the inner-city district since a previous natural arm of the river was turned into a canal in the 16th century. Centuries of river regulation and management are now reflected in the recent Danube Island (Donnauinsel) where, in the 1970s, part of the floodplains were converted into a raised island separating the man-made straight flow of the river and the canal (Holzner, Ehrlich, and Hill 2020; UNHabitat 2011). Between these geographic features of water and general green spaces, they make up 50% of the land use from the city (Statistics Vienna 2021).

4.2.2 Context and Challenges in Economic, Socio-Political, and Environmental terms

Economic Context

Vienna contributes to roughly 25% of the Austrian GDP (MA23 2020). In 2019 GDP for the city hit a high of 100,39 Billion Euros, and without surprise marking a slump in the upward trend since 2010, GDP fell by a 6,2% in 2020 (Mohr 2022; City of Vienna 2021c). If the national growth forecast of 3,7 % for 2021materializes, and the 25% share contribution of Vienna from national GDP holds true, then the gradual economic recovery for Vienna may renew the upwards trend in years to come (Wiener Zeitung 2021).

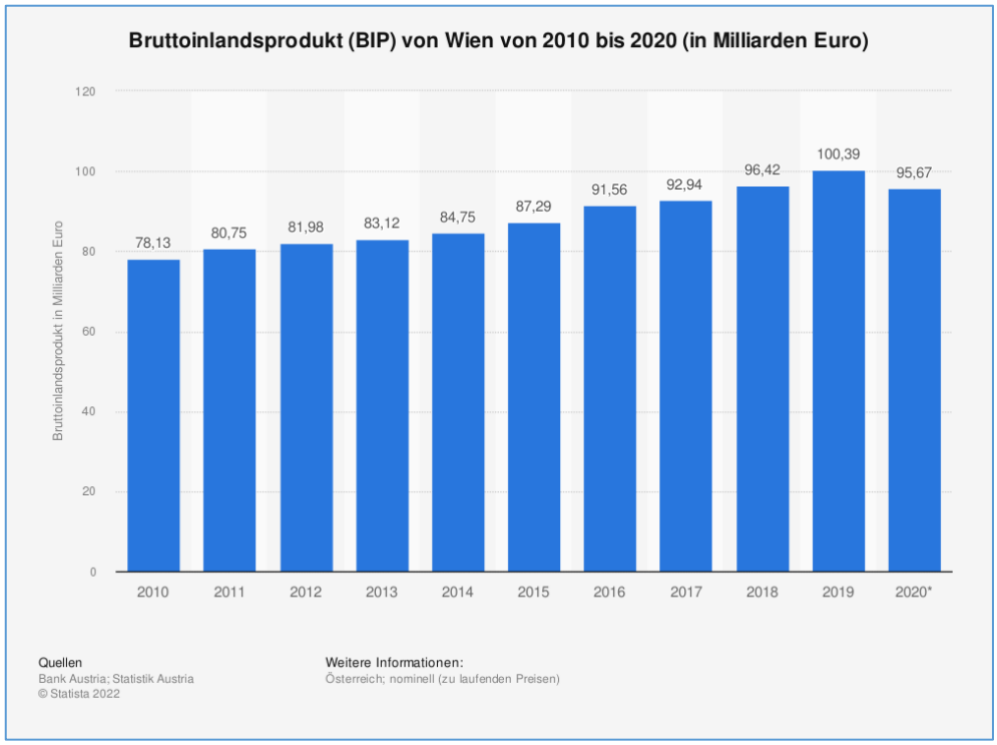


Figure 3- "Gross domestic product (GDP) of Vienna from 2010-2020" Mohr, Martin, 17/01/2022.Found at: Link

What would traditionally be considered "spendable revenue" in city budgeting is an allocation in Vienna. The total budget allocation for the city of Vienna amounted to about 14,2 billion Euros in 2019 marking the first surplus in 12 years, just before the COVID pandemic hit (Schindl 2020). An allocation of 14,9 billion Euros in 2020 followed, but without the hope for surplus (City of Vienna 2021b). Since the federal government primarily collects taxes, Vienna's city revenue is made up of a complex set of sources. These include federal redistribution from collected taxes at national level, revenues from local taxes on real estate and income, fees, revenues for services, and interest built from financial investments and housing deposits (Wien1x1 2014). The redistribution of federal taxes is based on a unique formula that considers the population of the receiver locality along with a consideration for the population that may make use of offered services due to proximity(Statistik Austria 2022).

While the city revenues that could be collected from corporate tax does not directly go to the city, the redistribution is certainly affected. This drives the initiatives in Vienna's strategic plans to raise the city's business competitiveness and actively attract innovative industries and companies. A 25% tax rate on corporations and research and business hubs situated will within transit network have been fruitful(Pavlovic 2020). Already by 2019 Vienna housed 220 multinational companies across financial and knowledge intensive industries and topped that years Startup Cities Index (ABA 2019; Coleman 2019). Many of those companies are centrally located in the business hub within Donau Stadt which provides fully business equipped spaces, conference centers, and services within mixed land use areas (VIENNADC 2021; MA21b, Mayr, and Goepfrich-Milner 2010).

When considering the economic context of Vienna today, clearly the COVID pandemic has had an impact at a global and national level that influences the city's economy. While many of the long-term effects may not be known for some time, at the time of the writing of this thesis, most reports only cover 2020 partially and many agencies have not released reports beyond that. The latest Annual report by Statistik Austria corresponding to the first half of 2020 (when the large scale societal effects of the COVID pandemic began to be apparent) reported an overall decline in material well-being indicators while at the same time quality of life indicators followed positive trends in comparison to the previous year (Statistik Austria 2021b). These inverse reports contradict the traditional (and generally recently disputed) assumptions regarding the ability of economic development to predict quality of life measures. While the subjective measure of quality of life satisfaction remained on an upward trend at the beginning of the pandemic compared to the previous year, the report contends results may have been affected through subjectivity later in the year and through COVID lockdown related hardships. The main subjective question analyzed, as part of the quality of life indicators, focuses on a scale rating of satisfaction with life which reflects a "long term assessment of diverse aspects

of one's life" year (Statistik Austria 2021b). While this satisfaction scale may not be influenced by many factors, and is indeed reported for the entire country, it could be interpreted that it is a near accurate reflection within Vienna. However, this national measure still only tells a partial story of the social factors of the Viennese case. A better understanding of the social nuances of the case is necessary.

Socio-political Context

As of Jan 1st 2021, 30% of Vienna's population was comprised of foreign nationals, marking a 10,3 % increase from 2010(MA23 2021). After the height of the population decline of the 1970s, there have been three main net migration trending surges that occur in periods of 8 to 10years (City of Vienna 2021a). The first was from 1981 to 1991. It signified a net increase in population of about 31,685 people and was marked by the fall of the iron curtain along conflicts in the then Yugoslavia. The second surge of almost 10 years was from 1994 to 2002 and reflected Austria's and neighboring countries' new EU membership. The third surge starting in 2008 ended at the height of the refugee crisis in 2015 and was a major contributor to the trending down of the median age in Vienna to a young 41 (the youngest state in the nation)(Wien1x1 2019, 1). Although this last surge included some of highest year to year net increases, at 30,271 it was just barely below the first net increase from the first post-war 1970s surge. Each wave has brought unique changes to the social composition of Vienna and responses to the challenges and opportunities that the city administration and markets are faced with.

A unique challenge for the nearly 17% of residents above voting age in Vienna is their limited representation in municipal politics as they are not entitled to vote municipally, at regional, nor federal level (City of Vienna 2021a). Austrian law preserves all voting rights to only those with Austrian citizenship (Federal Ministry for European and international Affairs 2020)The 2020 municipal council election voter turn-out hit an all-time low at 62,7% from the eligible

population (Wolf 2020). Said population is comprised of roughly 69,3% Austrian citizens and 13,9% of EU citizens from the Viennese population over 16 (City of Vienna 2021a). Although this renders a limited number of citizens responsible for choosing city government officials, which is often associated with conservatisms, the city still reflects a stronghold of its socialist legacy.

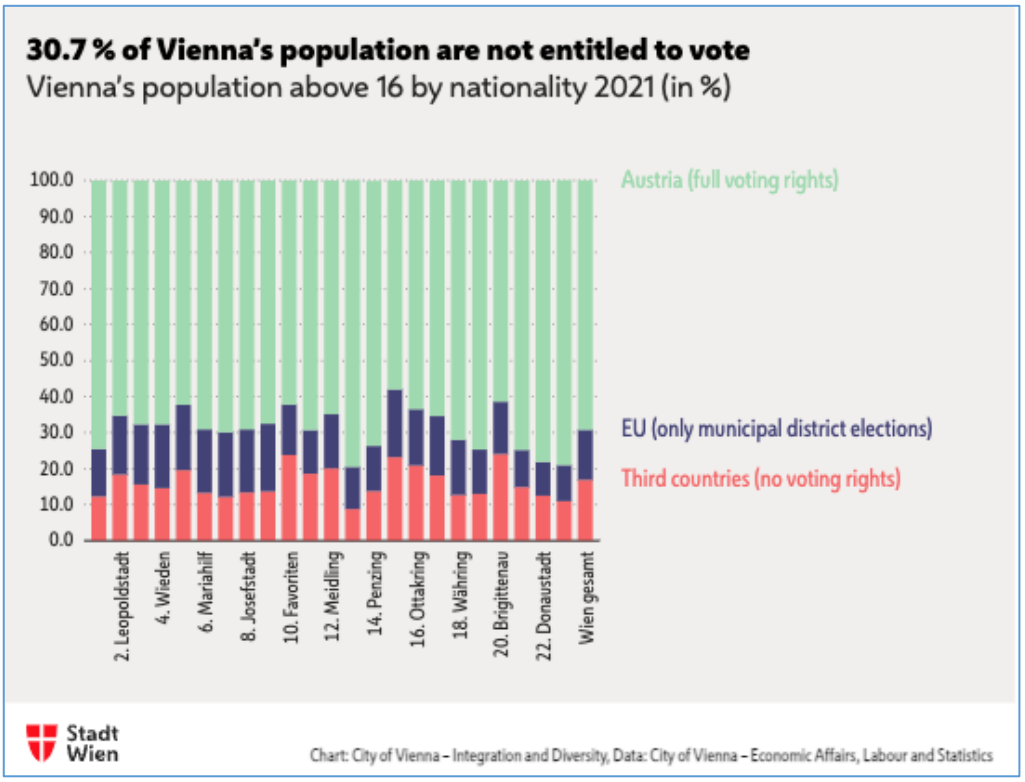


Figure 4- 30,7% of Vienna's population are not entitled to vote (in national elections). City of Vienna. 2021. Found at: Link

The period of the so called 'Red Vienna' began with the election of the first socialist Mayor in 1919 and followed with 15 years of continuous municipal projects as part of a comprehensive urban plan with basis in Austro-Marxist theory (Blau 2016). All the projects of this time were a tangible representation of a period inherently political and idealistic. To aid WWI reconstruction, a short-term luxury tax which only affected the wealthiest 20% of Vienna's residents came into effect and to help fund reconstruction efforts (Czeike 1958 pp30). The new

model of municipal socialism produced constant campaigning efforts, continuous projects in areas of housing, infrastructure, and education along with the propagation of citizenship participation in efforts to create a just society (Ball 2019; Blau 2016; Stieber 2000). The legacy of reclaimed private spaces for the public use was interrupted violently during fascist rule and Nazi occupation but resurfaced throughout the Second Republic despite growingly conservative political national trends. It was then that the efforts of the Socialist Party in Vienna, again, turned to alleviating post-war struggles. This, while setting up a successful support system based on carefully crafted patronage and large-scale employment offers within the city administration to promote political support (Berg 2014).

This post war period was characterized by an emerging discourse with citizens who took to writing often to city administration officials to plead, demand, and remind them of their responsibility to the people, regardless of party affiliation (Berg 2014). In the following decades the ruling party continued to diversify its voter base while modernizing its core values and creating coalitions with both the center right Peoples Party and the environmentalist Green Party. The last 10-year coalition between Social Democrats and the Green Party recently came to an end in the last election in Nov 2020. It brought a first-of-its kind coalition in Vienna with the Social Democrats and the young entrepreneurial NEOS party. By the time of this study, the coalition was largely supported with a 66% approval rate(APA OTS 2021). It is anticipated to be able to respond to the challenges of today with innovative solutions and experience from the past.

One of the major challenges that the Socialist Administration turned into one of the most celebrated triumphs of the Red Vienna agenda is social housing. A new 64,000 residences were built in the post-WWI period and placed indiscriminately across all 23 districts(Stieber 2000; Ball 2019). Many large-scale housing projects of this time were characterized by mixed land

use with interior courtyards, essential and social services planned within the superblocks. Unfortunately after WWII, about 20% of the entire housing market was uninhabitable and another 40% required major repairs from airstrike damages (Berg 2014). By the time Vienna's population swelled, following the fall of the Iron Curtain, the housing stock needed to catch up. The housing efforts of the1980's and early 1990's focused on preserving historical buildings, urban renewal, and refurbishment of private housing(Antalovsky and Loew 2018). The administration then prompted new building and supported co-operatives to help manage the housing stock, raising the construction of apartments quota from 4,000-6,000 to 8,000-10,000 units per year(Antalovsky and Loew 2018).

By 2020 the housing stock comprised of roughly 913,000 residences, from which about 77% or 702,000 units were rentals (BUWOG GmbH and EHL Wohnen Gmbh 2021; Statistik Austria 2021a). According to the last micro census of 2020, from that 77% rental portion, roughly 29% is social housing, with another 28% owned by co-operatives, leaving only 43% of the rental sector to private and commercial renters (Statistik Austria 2021a). The effects on the Viennese population is significant. Before the pandemic, up to "60% of Vienna's residents live(d) in either municipally owned, subsidized housing, or in social homes run by not-for-profit cooperatives" (Ball 2019). Additionally, rent controls apply to apartments built before 1945, and naturally act as price anchors for the remaining rental market (Housing4Us 2018).

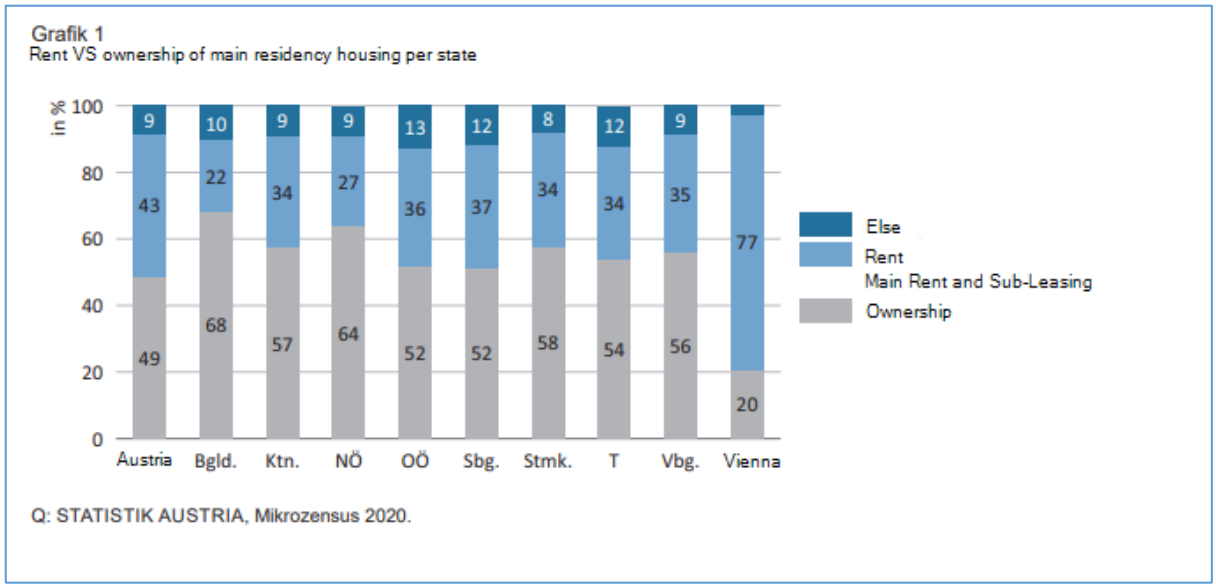


Figure 5- Rent VS ownership of main residency housing per state. In "Housing 2020- Numbers, data and indicators of housing statistics." 2021. Downloaded at: Link

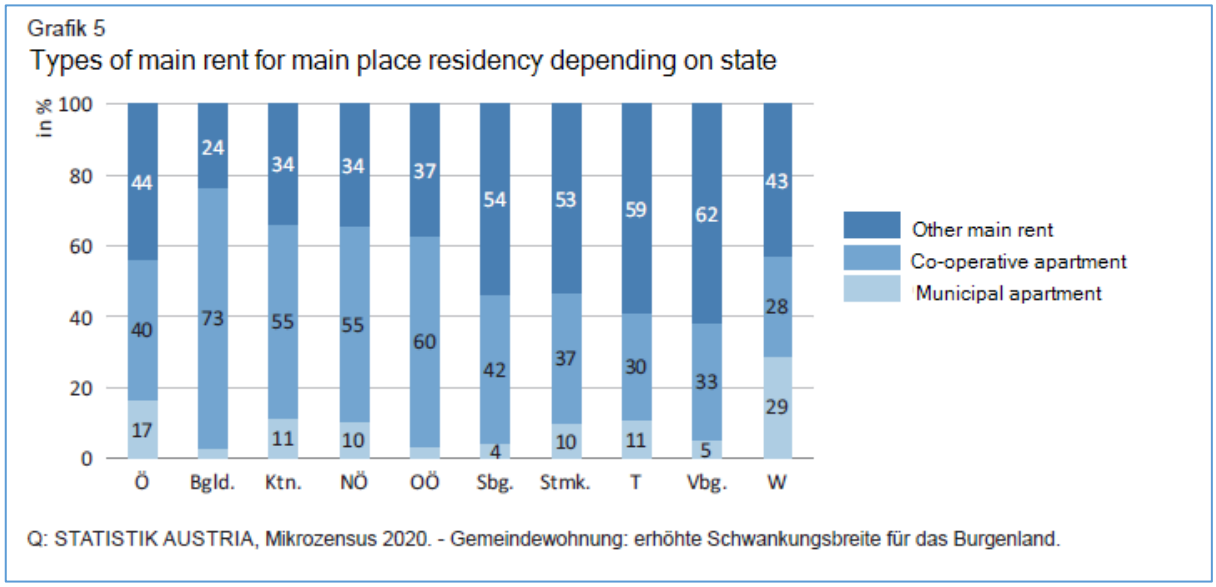
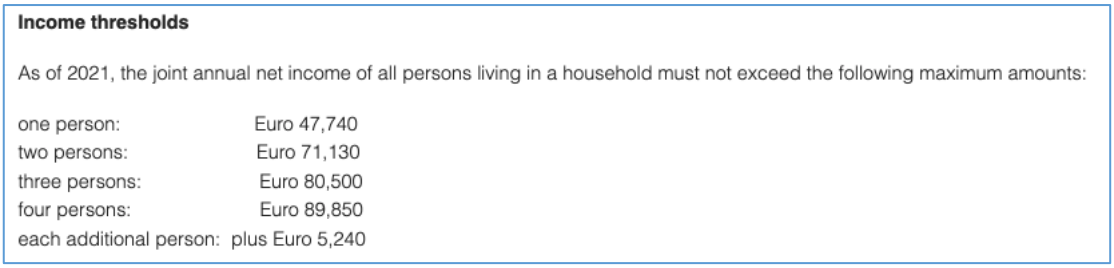


Figure 6- Types of main rent for main residency depending on state. In "Housing 2020- Numbers, data and indicators of housing statistics." 2021. Downloaded at: Link

The diverse ways in which the city administration subsidizes housing makes the accessibility to these aids available for a large portion of the population, without having to be targeted to only low-income residents. The maximum income requirements for applying to social housing are 47,740 per year for one person, which is above the median income of the city (Forrest

2018). Figure 7 below breaks down the income maximum for each additional resident. The limits are above what 75% of the Viennese population earns (City of Vienna- Wiener Wohnen Kundenservice GmbH 2020). While there is a waiting period and some criticism about the ease of the application process, this option is still accessible even to third country foreign nationals after their fifth year of legal residence in Austria (City of Vienna 2021a). Austrians, other EU citizens and recognized refugees need only to have resided in Vienna for two years prior (City of Vienna 2021b).



Income thresholds

As of 2021, the joint annual net income of all persons living in a household must not exceed the following maximum amounts:

one person:	Euro 47,740
two persons:	Euro 71,130
three persons:	Euro 80,500
four persons:	Euro 89,850
each additional person:	plus Euro 5,240

Figure 7- Income thresholds. Social Housing Wien. 2020. Found at: Link

Today, the city owned organization 'Wiener Wohnen' owns and operates the municipal housing, but there is a plethora of organizations involved in the distribution, operation, and servicing of the municipal housing stock. All organizations proceeded from the original "Wohnfonds Wien" which was created in 1984 and remains responsible for housing fund and urban renewal (Wohnservice Wien GmbH 2018). In the following decades, several organizations were created to either provide services, manage, or build housing. In recent years, the building of new units directly by the city has mostly stagnated and limited-profit and private developers have taken up municipal funding to include social housing within their developments. The private developers can take up funding directly when collaborating with the city on large scale plans or can participate in the new SMART apartment initiative which focuses on low cost (ongoing maintenance and rent ceiling) and high functionality (Zotero).

The rationale for this transition is to ensure the continued socio-economic mixing which has been an explicit goal of the city administration since the Red Vienna legacy(City of Vienna-Wiener Wohnen Kundenservice GmbH 2021).

The high accessibility of the city is also attributed to the 164 transit lines of the city's multimodal public transit system. These 164 lines from underground, tram, and bus routes span 1,169 kilometers, include 5,476 stops, and carried 960,7 million passengers in 2019 (Wienerlinien 2020). Figure 8 below shows the coverage of the transit system across the city. It is worth noting that the less transited areas in the 2nd district is currently under development and not densely inhabited. The Wiener Linien GmbH builds, maintains, and operates all public transit in Vienna. It is a subsidiary of Wiener Stadtwerke GmbH, which is in turn owned by the city of Vienna (Wienerlinien 2021). The city administration subsidizes the cost of the tickets directly to Wiener Linien by covering all passenger cost burden above 1 Euro per day since 2012. This amounts to about 40% of the operating costs of the transit system(Wiener Stadtwerke 2019). Expansion plans include the U2 and U5 lines towards areas planned for residential and mixed land use developments. While the social value of the transit system dates to its conception, environmental considerations and potentials have considerably grown in the past decades.

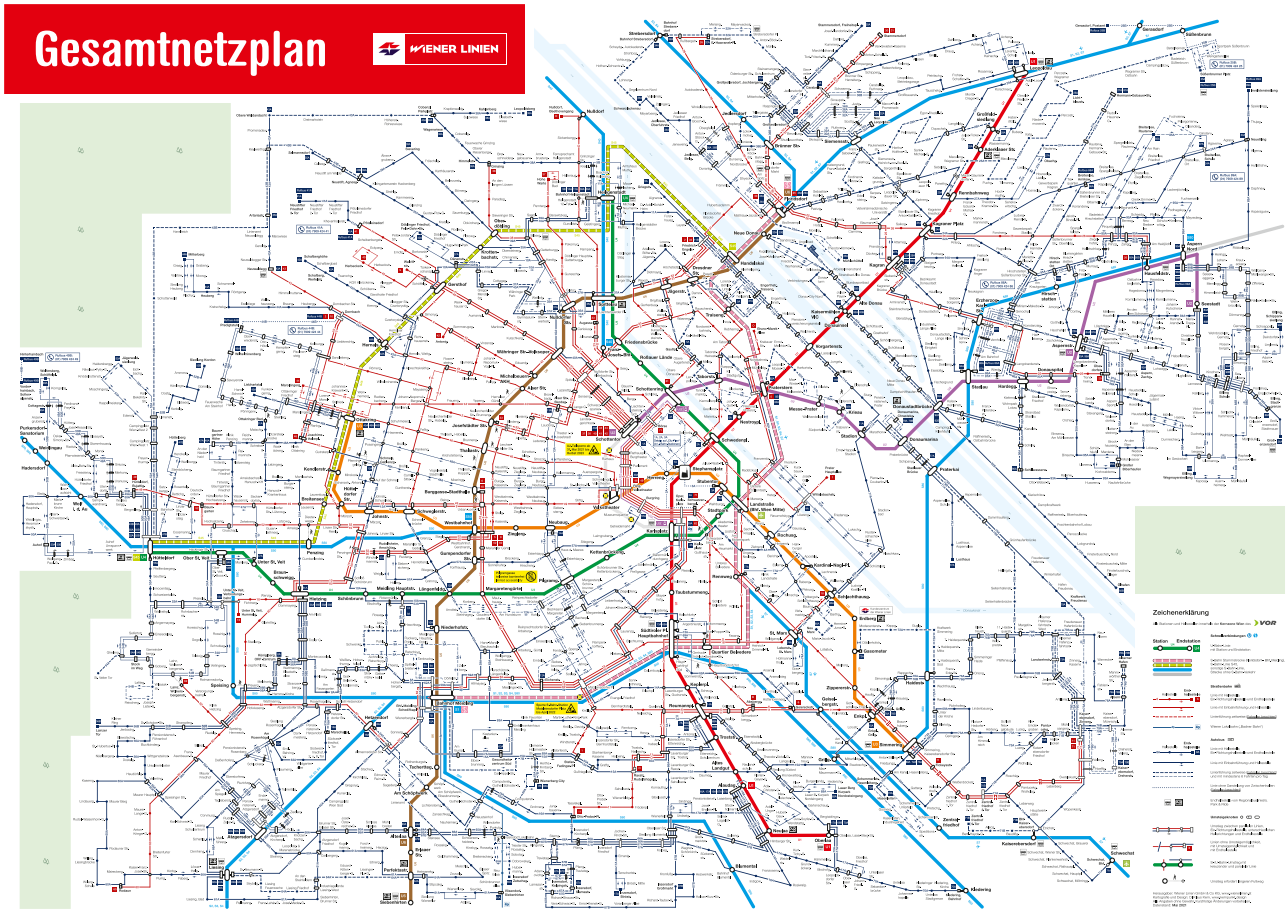


Figure 8- Network Map. Wiener Linien. 2021. Found at:Link

Environmental Context

There are two main areas of action within the environmental context of Vienna: Conservationism and Resource Management. The mass transit network has contributed to the first area through attempts to reduce emissions from motorized traffic, which is the main contributing factor to CO2 emissions (City of Vienna, MA 20 2021 pp201). Figure 9 below illustrates the emissions contributions change since 1990. A downward trend continues since the 2006 peak. While motorized traffic emissions have shrunk since that peak, the 2010 and 2017 overall increases have been driven by energy production emissions (City of Vienna, MA 20 2021 pp201).

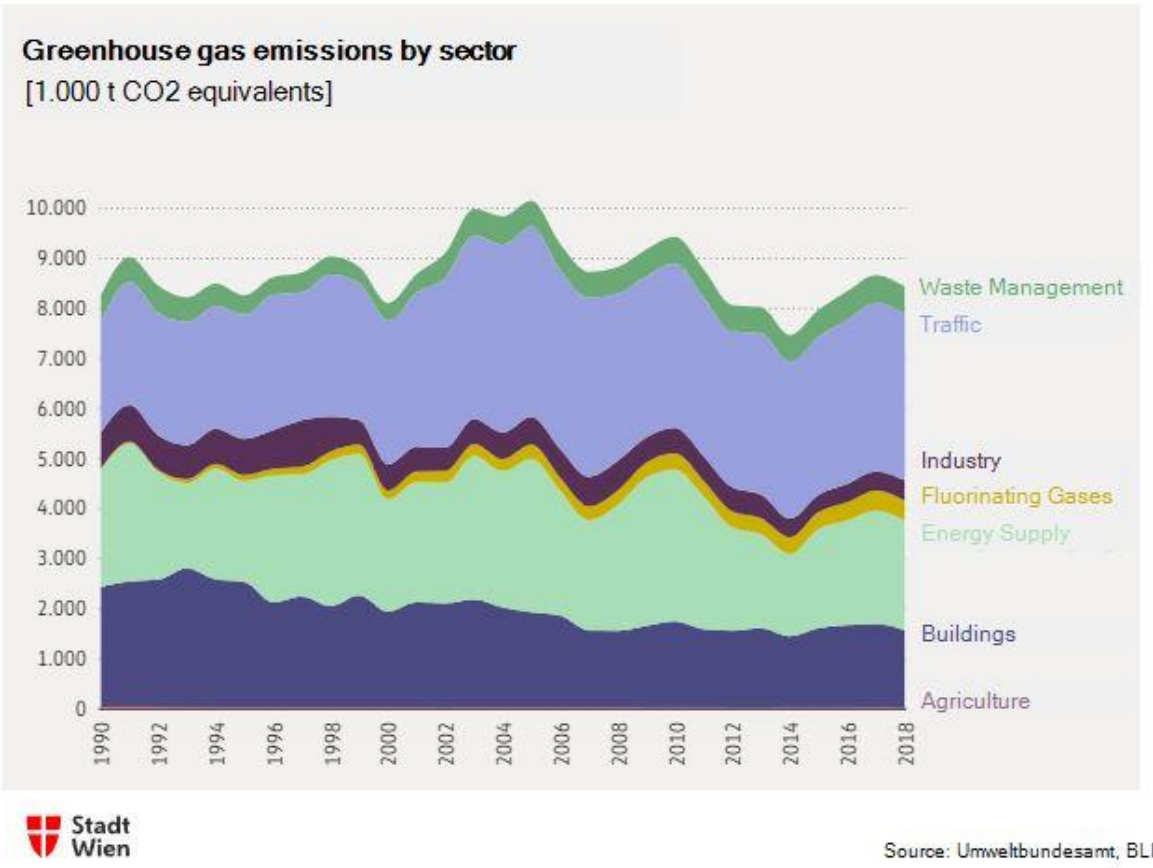


Figure 9- "Greenhouse gas emissions by sector". 2021. In Energy Report for the City of Vienna 2021. Found at: Link

Another main contributor to the conservation efforts is the designation of green spaces. The 1995 milestone Green Belt Declaration and its product "the 1,000-hectare program" ensured the preservation and extension of green areas through zoning protections (Zotero Find). Almost over 50% of the city is composed of green spaces. Although these are not equally accessible throughout the districts, two thirds of Viennese live within 250 meters to publicly accessible green spaces while 96% of the entire population can reach recreational spaces within 30 minutes on public transit (Statistics Vienna 2021). Conservation measures guarante the access to green space by residents, but also challenges expansion (Antalovsky and Loew 2018)

The second area of action within the environmental context, Resource Management, has been integral to flood prevention and energy stability. The regionally cooperative measures of the Danube River training efforts include the Danube River Power Station which was part of the large-scale Danube City project. By 1998, the finalized construction of the hydroelectricity plant and the Danube Island provided a threefold benefit of clean energy provision, flood protection, and natural reserve provision (Antalovsky and Loew 2018). By 2018, up to one third of households' energy supply came from the Freudenau River Power Station which makes up about 70% of the renewable energy production in Vienna (Antalovsky and Loew 2018; City of Vienna, MA 20 2021 pp39).

Altogether renewable energy sources comprise 13.9% of the energy split while fossil gas and crude oil make up 74% of consumption(City of Vienna, MA 20 2021b). Since 2009, 100% of non-recyclable waste is incinerated and contributes to the energy production providing electricity to 25,000 households and district heating to another 50,000 (City of Vienna 2021d). The energy topic has grown in importance since the initial discussions of energy independence and resource conservation in the early 1970s. By 2020, general environmental discussions based on conservation and resource management dominated political and planning discussions as development initiatives focus on creating synergies between areas of development(Austrian Federal Chancellery 2020).

4.2.3 Planning Context: Process and Urban Development Plans

Vienna's Urban planning process, like in many capital cities, is a complex one. The city has a two tiered internal Administrative system which is comprised of district level administration and municipal administration (Pamer 2019). The decisions regarding land use and the actual urban planning process falls under the responsibility of the municipality. Two main city departments are involved with development and they follow the administrative levels. The

"MA 21- Neighborhood Planning and Land Use" office is responsible for district level developments, while the "MA 18- Urban Development and Planning" office is responsible for the holistic urban development of the city.

The urban planning process evokes development and changes from two spaces. First, development may come from within the administration, through the MA 18's Urban Development Plan (also known as 'STEP'). Secondarily, private developers may request to build projects through a change in the Zoning and Land Use Plan, which is legally binding. Modification procedures to the plan are complicated and lengthy with many change requests lasting more than a year (Pamer 2019). Often if a zoning request directly contradicts efforts from the STEP plan, the plan is given preference as it represents the strategy of the city. The STEP plans themselves will be a focus of the case analysis and are discussed be introduced below.

Vienna's first urban development plan was presented in 1984. Predecessors of this plan, often only considered one aspect of urban planning, like the "Building Zone Plan" of the early 1900s or the "Urban Planning for Vienna" of the 1950s, which mostly focused on architectural implementations (Suitner 2021). The 1984 plan set up a framework for future plans and was the first holistic plan in modern urban planning terms. Since then, three other plans have followed. The second was in 1994, followed by the plan of 2005, and finally the plan of 2015, which was actually named STEP 2025 to reflect the time horizon of the strategy (Suitner 2021; Gruber et al. 2018). All have been devised under Socialist Party administrations. The last two plans have particularly fostered integration of the UN Millennium goals the proceeding Sustainable Development Goals. The explicit understanding of the purpose of the four plans within their text help place the plans' relevance within the urban planning field. It also further

recognizes the role of the city as a change agent and highlights the need for strategic management.

The first two plans reflected a planning environment of "comprehensive, multi-scalar, communicative and political processes" (Suitner 2021 pp894). These plans were caught up in a dilemma to continue welfare planning or focus resources on creating a competitive city in more traditional economic terms of the time (Pamer 2019; Suitner 2021). The most memorable project to be included in the 1994 plan was the "DonauCity" development, erected on the repurposed land from the rejected Twin Cities Expo in 1995. Two public referendums sealed the fate of the Expo after the vote was put up to citizens and the legally binding result accelerated the investment and repurposing of the land for DanauCity (Antalovsky and Loew 2018)

While all the plans have each been integral to addressing urban challenges and the development of the city, the last two signify a transition to modernized ways of thinking about urban development. Again, there was another shift between the first two STEPs and the last two. By STEP 2005, the planning approach shifted from comprehensive to focused on strategic management (Suitner 2021). While the first two plans incorporated citizen participation in planning processes, STEP 2005 and 2025 began using more project-based participation. Urban renewal projects were more often devised from open calls for redesign ideas and competitions for projects with specific goals in mind, like repurposing of parking spaces to create min-parks or promote self-building housing co-operatives to create own housing solutions(RaumUmwelt Planungs-Gmbh 2013).

Guiding the STEP 2005 and 2025 plans, were another three influential works also originating from the city administration. The Strategy Plan of 2000, the SCWSF 2015, and the updated one of 2019 served as long-term guiding efforts to influence the actual STEPs themselves.

The “Strategy Plan for Vienna” published in 2000 was meant to provide guidance on future developments and influence future Urban Development Plans (STEPs). It was created through interactive dialogue with community representatives (City of Vienna 2000). The latter, SCWSF, is explicitly aligned with the UN’s SDGs. It informs projects and converges with planning efforts today. The strategy is meant to provide long-term blueprint for “Vienna’s transformation into a sustainable urban living environment” with projects built upon it (UIV Urban Innovation Vienna GmbH 2021).

The city-wide initiative is supported with a dedicated website that is user-friendly and fosters interaction from residents and private actors. A set monitoring process is also in place to evaluate progress in focus areas. This strategy is fully aligned with strategic management principles in use with the private sector and even has elaborated a mission statement for the city. Specific goals span across the three dimensions of quality of life, resource conservation, and innovation. A much-expected revision to the strategy with and even more significant environmental focus is expected in 2022. (Vienna Municipal Administration 2019)

The STEP 2005, STEP 2025, and SCWSF 2019-2050 be explored for themes and connections to case context through a thematic analysis realized in the Analysis chapter. Overviews of the main areas of focus for each STEP and the last SCWSF are available as Appendixes 5, 6, and 7.

4.3. Stakeholders

To facilitate the analysis portion of this study, the stakeholders will be identified below sot it is clear whom the planning process involves. Each stakeholder represents a group of individuals who interact or are affected directly or indirectly by the urban planning processes and developments within Vienna. Since the urban planning is an inherently multilateral

practice, it is useful to identify what organizations or members of the public are included in each grouping.

4.3.1 Public Stakeholders-The City

The stakeholder henceforth considered as "the city" will encompass all administrative bodies under the City of Vienna management. All departments (also known as MA's or Magistratsabteilungen) are included. Companies involved in provision of services to the city which are owned by the city shall also be henceforth included, although mentioned for clarity. Specifically, this includes Wohnfonds Wien, whos' subsidiaries manage and operate social housing. Also included is Wiener Stadtwerke, which manages smaller entities that operate and provide services in energy, transportation, and cemeteries for the city.

4.3.2 Regional Stakeholder- EU Investors

The stakeholder group henceforth considered as "EU Investors" comprises any European Union managed organization that provides funding or investment for development projects within the city of Vienna. This group namely includes the European Investment Bank (EIB), the European Innovation Council (EIC), and the European Regional Development Fund (ERDF).

4.3.3 Private Stakeholders- Industry and Development

The stakeholder henceforth considered as "Industry and Development" stakeholders are all private, for -profit real-estate and limited-profit development companies. Also included are real estate investment firms, private financial investors, and private firms.

4.3.4 Private Stakeholders- Residents

Finally, the last stakeholder group refers to citizens of Vienna in general. This groups include residents who directly or indirectly are affected from direct projects, policies, or trends set by

the urban planning process. While tourists, commuters, and business travelers are often considered in certain projects, for the sake of this study the general public stakeholder group will only include residents of Vienna.

Chapter 5 – Case Study Part 2: Results and Analysis

5.1. Introduction

The purpose of this chapter is to present findings and conduct two kinds of analysis which contribute to the understanding of the exploratory study at hand. First, assumptions that inform the basis of the analysis will be discussed. Following, working definitions of "policy tool" and "policy mechanism" will be offered. This chapter will then introduce the results from a Thematic Analysis carried out on urban development plans and strategy documents from the city of Vienna. After, a Framework Analysis matrix will be introduced and used as means to locate observed policy tools and mechanisms within the greater Viennese context and planning process. The matrix analysis derives from observed phenomena within Part 1 of the case study. The corresponding analyses will explore meaning of key findings and set up for the concluding chapter.

There are two key assumptions that inform the forthcoming analysis and which the study does not attempt to prove or establish causality within.

1. The degree of quality and access to the following has an influence on quality of life and livability:
    a. Health, education, housing, consumer goods, public services, recreation, and economic, political, natural, and socio-cultural environment. (Based on Mercer's 10 Categories of quality-of-life)
2. Vienna's official development plans and/or strategies contribute to the aforementioned categories and influence quality of life or livability aspects for city residents.

The analysis below makes use of the term “Policy Tool/Instrument” and “Policy Mechanism”. Although they are widely understood within the Policy field, clarification of working definitions is useful. The term **policy tool or instrument** illustrates the link between policy formulation and implementation(Ali 2013). These tools may be techniques of governance that support definition and achievement of policy goals(Bali et al. 2021). The term tools is herein used to name measures, provisions, or devices through which a change action is then developed.

The term “Policy mechanism” in this study is referred to as the actionable means by which a certain activity is put into place within the policy framework. Often it describes the function that is “activated” by a policy initiative or tool(Ali 2013). Stakeholders or agents often operate the mechanism or oversee it. In relationship to causal mechanisms, the term is often used to describe the complex action relationship between a triggering activity (tool), action agents or stakeholders involved, and a unique policy outcome. As this definition blurs the edge between the policy tool and mechanism, it will not be used. Rather, the term mechanism will refer to only the action of operationalization derived from the policy tool (Paz and Fontaine 2018).

An example to illustrate: A **tax** is a policy **tool**. If the purpose of the tax is to fund a welfare program, then the *mechanism* activated would be *redistribution*.

5.2. Thematic Analysis

First Round

During the initial phase of research, the case study focused on the development and strategy plans of the city. All three plans since 2005 were examined together in the familiarization phase and a latent approach was adopted. Discussions of economic competition, development, conservationism, green spaces, and social service provisions and products became evident. The initial thematic review of the plans revealed clusters of initiatives that suggested development,

improvement, or safeguarding of three aspects of Vienna. These initiatives served to develop distinct themes as they were focused on improvement of either:

1. The Viennese macroeconomy, business environment, and competitiveness from a revenue-making point of view.
2. Improving social life and general welfare through housing, transit, and access to mixed use areas for residents.
3. Management of natural resources, energy transitions, and environmental conservationism

While there is reasonable overlap between the areas of benefit that stem from any given initiative, three main themes emerged: Economic, social, and environmental.

Second Round

The second round of thematic analysis was done with NVIVO software and utilized coding of the three previously identified themes to illustrate the presence of each within each separate STEP plan or strategy. The following figures display the share of themes and denote the progressive change across time. Since some text alluded to more than one theme at the same time, it was double, or triple coded to reflect net presence.

Figure 10 reflects the shared focus on economic and social aspects of the 2005 plan. It is a confirming portrayal, as the foreword of the plan highlights placing Vienna atop a new competitive environment and fostering CENTROPE regional relationships (City of Vienna, MA 18 2005a). Appendix 5 highlights the focus areas from this STEP and foretells the prevalence of socially oriented plans through housing, transit, and quality of life. A complimentary word map in Appendix 8 illustrates the most predominant words within the text to help get a sense of the plan beyond the themes.

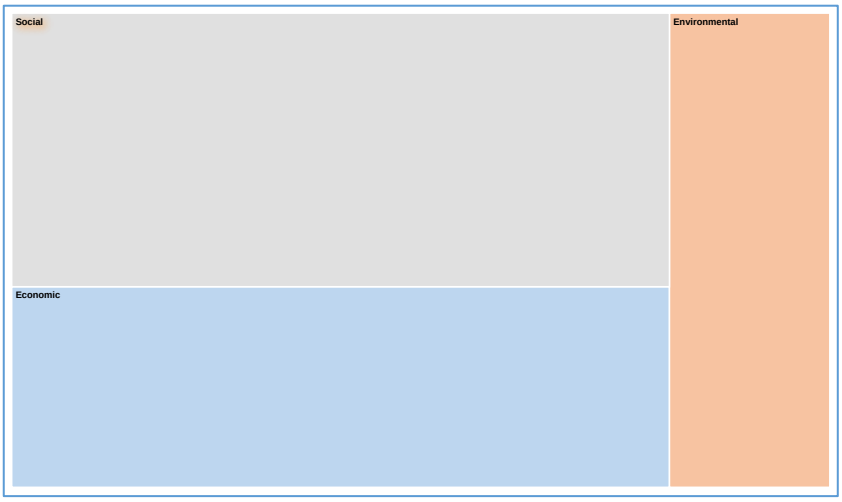


Figure 10- Thematic Split in STEP 2005. Derived from: NVIVO with data from Urban Development Plan Vienna 2005 (STEP 2005).

Figure 11 below suggests an evening out of economic themes to environmental in the following years of the STEP 2025 plan. Many of the specific focus areas that were explicitly social in nature overlapped with environmental efforts and reflect the interest in conservation and management of natural resources for the use of the public. Appendix 6 expands on the urban renewal, development, and spatial focus areas, which make up a large portion of the socially focused discussion. Appendix 9 is the corresponding word map provided and supports the social focus through the most mentioned words in the plan.

Figure 11- Thematic Split in STEP 2025. Derived from: NVIVO with data from Urban Development Plan Vienna 2025 (STEP 2025).

Figure 12 embodies the radical shift in the openness of the plans to combat climate change within the SMART Framework presented in 2019. Here, the overlap of topics was especially frequent and a reflection of the focus on creating synergies across areas of development. While many of the environmental initiatives will have down-the-line social and economic benefits, the strategy makes sure the urgency of the environmental aspect is highlighted. The strategic management style of this plan comes across in the focus areas and goals, which are specific and time bound. Appendix 7 provides further details on them. Appendix 10 includes the word map for reference and reflects the strategic management style of the plan.

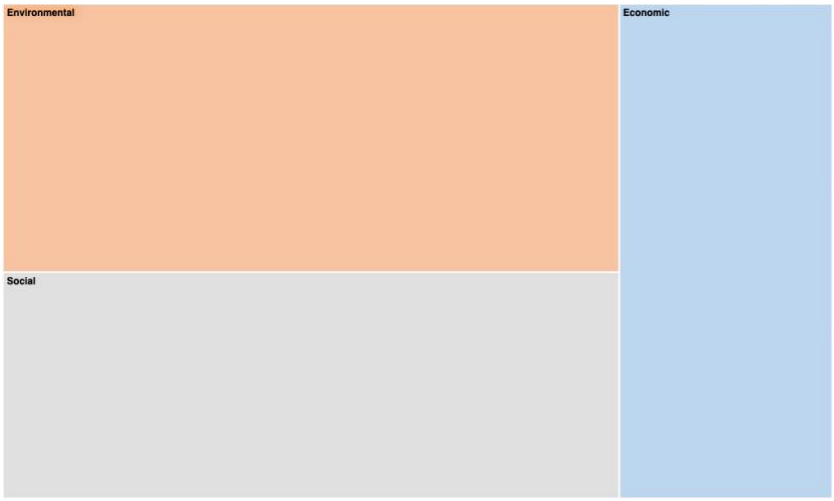


Figure 12- Thematic Split in SCWSF 2019-2050. Derived from: NVIVO with data from SMART City Wien Strategy Framework 2019-2050 (SCWSF 2019-2050)

Application of themes

The examination of the plans in search of policy tools and mechanisms that influenced livability in Vienna yielded few results. Since much of the discussion for each plan was focused on future developments and their intended effect, it was difficult to identify which initiatives

had actually reached their goal. However, the thematic analysis was useful. The findings presented above serve to detail the composition of the plans and frame them in relationship to the observed themes. After the thematic analysis yielded weak insight Policy into tools and mechanisms, attention was focused on the contemporary context of the city in order to investigate the main questions of the study. This context is featured in Part 1 of the case study, in which it is presented through the three themes discovered in the first round of thematic analysis. The second coded round of thematic analysis on NVIVO offers insights into the progression of themes across time and administrations reflected in the development plans and strategies. The themes serve as an additional descriptive dimension to the tools and mechanisms observed. In the following analysis, themes are incorporated as a matrix component, illustrating the position of policy tools within the urban planning context.

5.3. Framework Analysis Matrix

As previously discussed in Chapter 3, the matrix created to conduct the second analysis portion this study is informed in part by Ritchie and Spencer' Framework Analysis. The five corresponding steps are satisfied across different parts of the case study, including Part 1 and the preceding thematic analysis. The purpose of the present analysis is to situate observed policy tools in relationship to the policy mechanisms and associated outcomes within the urban development context of Vienna.

Matrix Components

The proposed matrix of analysis is composed of the **Theme** grouping on the Y axis. The components located on the X axis are: **Policy Tool, Type of Policy Tool, Policy Mechanism, Main Stakeholders Involved, Main Benefited Stakeholder, Plan Focus Area (if applicable), Associated Intermediary Product, Associated Outcome, and Intended Outcome**. The breakdown of each component is as follows:

Matrix Component	Component Description
Theme	Refers to the discovered areas of context discovered through patterns in data. They allow grouping by context.
Policy Tool	Refers to the initiative observed. Must have been a purposive instrument of policy utilized in the time period contextualized in Part 1 of the case study. No future initiatives are considered.
Typology of policy tools	Refers to the distinction between substantive and procedural tools as described by Howlett. Substantive tools are those which directly interact with goods and service provisions to achieve policy goals (Stead 2021). In comparison, procedural tools are those which deal with actions or change to the administrative processes or policy development itself (Howlett 2000).
Policy Mechanism	Refers to the operationalization of the policy tool. In the matrix it often appears as a verb denoting action.
Main Stakeholders Involved	Names groups of stakeholders whose involvement is necessary for the action and trigger between mechanism and tool to be activated.
Main Benefited Stakeholder	Names stakeholder who is most benefited by tool
Plan Focus Area	Refers to the related focus area (or subtheme) of a given tool as indicated by the STEP or strategy plans. Detailed descriptions of these focus areas in Appendixes 5 to 7.
Associated Intermediary Products	Refers to a related step or contributing factor which is not yet an observed feature of the perceived products or outcomes related to the policy tool.

Associated Product	Refers to an associated outcome. It may denote access to phenomena or a state of being. May in some cases be considered a desired achieved outcome.
Intended Outcome (if known)	Mentioned only if explicitly named in city plan or historical reference

Situating Policy Tools and Mechanisms

The matrix in the following page is populated with 14 policy tools and corresponding mechanisms that were identified throughout the research process. Providing contextual background has allowed the researcher to place these tools and mechanisms alongside associated component features described above.

Theme	Policy Tool	Policy Tool Description	Type of Policy Tool	Policy Mechanism	Main Stakeholders Involved	Immediate-benefit Stakeholder	Focus Area (if proposed in STEP)	Associated intermediary Products (if any)	Associated Outcome	Intended Outcome (if known)
Economic	Zoning allocation	Allocation of zoning area for business and retail purposes for "financial district" in DonauStadt	Substantive	Promotion of business enterprise	**Public Stakeholders** The City	**Private Stakeholders** Industry and Development	-	Provided employment opportunities and financial stability to involved residents	High proportion of knowledge-based industry located in DonauCity	Situate Vienna as economic "powerhouse" and enable it as international company host
	Tax Incentive	25% tax rate on coorporations was introduced in 2005. This was a reduction from the 34% of the ten years prior.	Substantive	Promotion of business enterprise	**Public Stakeholders** The City **Private Stakeholders** Industry and Development **Regional Stakeholders** EU Investors	**Private Stakeholders** Industry and Development	-	-	High proportion of industry located in City	Promote Austria for new businesses as "Gate to the east". Vienna as economic "powerhouse" and enable it as international company host
Social	Social Housing Provision	Provison of low-cost social housing to residents in buildings owned and operated by the state (Gemeindebau)	Substantive	Promote accesibility to quality housing	**Public Stakeholders** The City **Private Stakeholders** Residents	**Private Stakeholders** Residents	Housing and land use (STEP 2005)	-	Sufficient and accesible housing stock and cost	Promote housing access as a human right (based on publications by Housing department head)
	Earmarked luxury tax	Tax on luxury items from the First Republic which was dedicated to housing reconstruction spenditures	Substantive	Redistribution of tax revenue	**Private Stakeholders** Residents **Public Stakeholders** The City	**Public Stakeholders** The City	-	Restoring of city owned housig stock	Sufficient and accesible housing stock and cost	Restore portion of social housing destroyed in WWII
	Rent control (residences built before 1945)	Rent controlled imposed on residences built before 1945. Includes regulations on renewals and attic appartments within constructions predating 1945	Substantive	Promote accesibility to quality housing	**Private Stakeholders** Residents **Private Stakeholders** Industry and Development (Real estate holders).	**Private Stakeholders** Residents	-	Defacto rent control or influence on whole housing market	Sufficient and accesible housing stock and cost	Reduce profit from lower quality housing rent
	Investment contribution/ subsidy for building SMART + co-op properties	Developers receive contributions from the city if they comply with SMART requirements or are owned by co-operative organization. Rent cost maximums apply.	Substantive	Influence affordable housing stock availability	**Private Stakeholders** Residents **Private Stakeholders** Industry and Development	**Private Stakeholders** Residents *AND* **Private Stakeholders** Industry and Development (limited profit developers)	Urban Development (STEP 2025)	Increased SMART appartment building and co-operative ownership of properties	Sufficient and accesible housing stock and cost	Foster SMART apartment building that encourages high density habitation and quality focus.
Environmental / Social	Zoning protection of green spaces	Existing and historical green spaces (Weiner Wald, mountain recreation areas, and others are protected through legaly binding zoning regulation.	Substantive	Conserving natural resources and areas	**Public Stakeholders** The City **Private Stakeholders** Industry and Development.	**Private Stakeholders** Residents	Increasing and managing green spaces (STEP 2025)	Contributes to fighting urban-heat-island effect	Ensured access to green spaces and conservation of them	Conserve natural reserves
	Subsidy to transit cost at bottom-line	Subsidy of end- consumer ticket cost to ensure 1Euro/day. Subsidy is directly provided to WienerLinien and covered up to 40% of operational costs in 2019.	Substantive	Promote accesibility to public transit. Promote sustainable transit	**Public Stakeholders** The City **Private Stakeholders** Residents	**Private Stakeholders** Residents	Improving sustainable mobility (STEP 2025) Transit (STEP 2005).	Affordable mass transit to residents	Increased ridership of mass transit	Lower ticket cost to Vienna residents
	Subsidy for transit expansion	Subsidy prodivded to WienerLinien for expansion of U2 and U5 lines.	Substantive	Promote accesibility to public transit. Promote sustainable transit	**Public Stakeholders** The City **Private Stakeholders** Residents	**Private Stakeholders** Residents	Improving sustainable mobility (STEP 2025) Transit (STEP 2005)	Improvement of connections	Increased accesibility for residents of lower density areas	-
	Purposeful zoning of mixed land use areas	Allocation of zoning to include residential, commercial, and recreative/conservation purposes.	Substantive	Prevent gentrification. Promote access to green spaces. Promote green spaces	**Public Stakeholders** The City **Private Stakeholders** Industry and Development	**Private Stakeholders** Residents	Mixed land use developments (STEP 2025) Housing and land use (STEP 2005)	Increased social equity	Increased accesibility of residential, commercial, and green spaces for residents	-
Planning Process Related	Public Referendum	1995 Expo legally binding referendum offered the option to continue with planned EXPO or cancell and deveop area right away into Donau City.	Procedural	Promote participatory practices	**Public Stakeholders** The City **Private Stakeholders** Industry and Development **Private Stakeholders** Residents **Regional Stakeholders** EU Investors	**Private Stakeholders** Industry and Development *AND* **Private Stakeholders** Residents	-	Donau City developed with general public backing	Demonstrated City commitment to resident-based input on development topics	-
	Open letters to administration	Tool which may be utilized by general public at any point. Historically prominent in post-WWII discource.	Procedural	Promote participatory practices	**Public Stakeholders** The City **Private Stakeholders** Residents	**Private Stakeholders** Residents	-	-	Demonstrated City commitment to resident-based input on development topics	Promote response and line of communication from residents to city officials
	Project calls open to public	District and city level open calls to general public for development of commmon spaces, urban renewal projects, beutification projects, etc. Loosely termed and funded based on project size and stakeholders on case by case basis.	Procedural	Promote participatory practices	**Public Stakeholders** The City **Private Stakeholders** Residents	**Private Stakeholders** Residents	Urban Development (STEP 2025) Quality of life (SCWSF 2019-2050)	Demonstrated City commitment to resident-based input on development topics	Tailor-made Projects based on and for resident's designed purpose.	Foster resident participation in planning processes
	Competition for redesign of areas open to co-ops and limited profit developers	City wide competitions held for residential developments designed for promoting cooperative and future resident building and engagement in development and planning process.	Procedural	Promote participatory practices	**Public Stakeholders** The City **Private Stakeholders** Industry and Development **Private Stakeholders** Residents **Regional Stakeholders** EU Investors	**Private Stakeholders** Industry and Development *AND* **Private Stakeholders** Residents	Urban Development (STEP 2025) Quality of life (SCWSF 2019-2050)	-	Demonstrated City commitment to resident-based input on development topics	Foster competition and co-op participation with focus on quality

Findings; Thematic Discoveries and Clusters

During the initial matrix input process, a unique feature emerged concerning the procedural types of tools analysed. These mostly related to promoting process/administrative practices and improve stakeholder inclusivity or support. By employing tools designed to perfect and ultimately perpetuate the modern planning process, the city is embedding and legitimizing allocations on a political, economic, and agenda setting perspective. This suggested relevant significance and is thus included in the matrix as a new theme named 'Planning Process Related'.

A total of four clusters is suggested from the matrix in an attempt to encompass the shared characteristics present in several policy tools. Clusters One and Two stem from the original themes 'Economic' and 'Social', respectively. Cluster Four is an emerging combination of 'Environmental/Social'. Cluster Five denotes the new theme 'Planning Process Related'.

1. Cluster One (blue)- Comprised of two observed substantive policy tools which activate promotion of business. While neither specific tool is mentioned in the STEPs reviewed, the first tool (zoning allocation) is in line with the STEP 1995 DonauCity related goals as mentioned by planning history literature (Suitner 2021; RaumUmwelt Planungs-Gmbh 2013; MA21b, Mayr, and Goepfrich-Milner 2010).
2. Cluster Two (Grey)- Contains substantive tools mostly related to housing. They activate promotion of accessibility/ affordability of housing stock and redistribute tax revenue. It is without surprise that the associated outcome suggests sufficient and accessible housing stock.
3. Cluster Three (Yellow)- Combines substantive tools related to transit and mixed-land-use zoning. This cluster represents the synergy promoted in SCWSF which is necessary to pursue when promoting policy tools. Surprisingly, the preceding STEP 2005 and 2025

can already be linked to these specific tools through initiatives in their respective focus areas.

4. Cluster Four (Green)- Incorporates the only procedural tools observed. They all activate promotion of participatory practices along the planning and implementation of city plans. At least two of them are referenced in focus areas from STEP 2025 and SCWSF 2019-2050, which points to the increasing prevalence of procedural tools as effective in resident-focused urban planning.

Note on identified Policy Tools

The policy tools that were rendered for analysis within this matrix are not exhaustive of the efforts and initiatives from the city within the discussed period. Simply, they were identified as relevant due to the contributing impact perceived through the research and thick description process of Part 1 of the case study. The policy tools in the matrix serve to illustrate the use of the proposed analysis matrix. Further policy studies in the urban development field may find this composition useful and situate future tools to better frame their components.

Chapter 6 – Conclusion

This chapter will finalize the study by reviewing key take-aways in relation to the purpose of the study and main research questions. It will review the value of contributions, potential applications, and propose areas of future research.

6.1. Satisfied research aims, take-aways, and potential output applications

The study aimed to provide the Viennese context surrounding policy tools and mechanisms within observed areas of urban development. The case study methodology allowed for exploration of backgrounds and application of Thematic and Framework Analysis. The second round of Thematic Analysis suggested a progression in theme components. Environmental themes increased in prevalence over the three urban development plans explored, suggesting increased synergies and efforts through planning. In the Framework Analysis, the proposed application of the matrix discovered a new theme (named 'Planning Process Theme') based on the observed procedural type of policy tools. The matrix also yielded five main clusters of policy tools and mechanisms. Most notably, Cluster 3 (Environmental/Social) represents the shared mechanisms that zoning and subsidiary policy tools can implement within areas of transit system improvement or green space access. This cluster also highlights the potential for future synergies to be fostered within these themes to improve social wellbeing.

The tailor-made Framework Analysis Matrix developed for this case study may be a useful output for contextualizing further policy tools in other cities, time frames, or general contexts. It could be a useful exercise or provide a mapping tool for the prevalent strategic management movement within city planning which aims at understanding complexities and creating synergies between actors, outputs, and mechanisms.

6.3. Future research opportunities

Although there is little generalizability to be taken from this study, (considering similar context may be unlikely in other cities) a contribution in English within the Viennese intersection of urban planning and policy may be useful to encourage international participation in Vienna and application of policy frameworks to an exciting area of development.

Future researchers may find two prospective opportunities based on this study:

1. **Research with similar scope but additional data collection metho**d- Expert interviews with city officials could provide an opportunity to include stakeholder attitudes, invite in-depth planning process insights, and promote collaborative theory building.
2. **Research with a narrowed scope on analyzing Policy Tools within the Framework Matrix**- Comparing the explicit purpose of implemented tools to activated mechanisms and intended outcomes could be of interest to practitioners who seek to explore any value transfer breakages.

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Appendices

Appendix 1 – Proposed Framework Analysis Matrix

Theme	Policy Tool	Policy Tool Description	Type of Policy Tool	Policy Mechanism	Main Stakeholders Involved	Immediate-benefit Stakeholder	Focus Area (if proposed in STEP)	Associated intermediary Products (if any)	Associated Outcome	Intended Outcome (if known)
Economic										
Social										
Environmental/ Social										
Planning Process Related										

*Created by researcher exclusively for this study

Appendix 2 – Coding incidence report for STEP 2005

Codes	Number of coding references	Aggregate number of coding references	Number of items coded	Aggregate number of items coded
Codes\\Economic	47	47	1	1
Codes\\Environmental	27	27	1	1
Codes\\Social	64	64	1	1

*Generated by NVIVO Software

Appendix 3 – Coding incidence report for STEP 2025

Codes	Number of coding references	Aggregate number of coding references	Number of items coded	Aggregate number of items coded
Codes\\Economic	29	29	1	1
Codes\\Environmental	30	30	1	1
Codes\\Social	76	76	1	1

*Generated by NVIVO Software

Appendix 4 – Coding incidence report for SCWSF 2019-2050

Codes	Number of coding references	Aggregate number of coding references	Number of items coded	Aggregate number of items coded
Codes\\Economic	28	28	1	1
Codes\\Environmental	44	44	1	1
Codes\\Social	37	37	1	1

*Generated by NVIVO Software

Appendix 5 – Focus Areas (STEP 2005)

STEP 2005 Focus Areas

Referred to as "Goals"

Focus Areas	Simplified Description
Competitiveness and economic development	Ensure economic development in face of competition with the newly EU Eastern neighbors.
New developments and inclusion of green areas	Preserve living spaces by expanding "Green Belt" and Danube landscape.
Housing and land use	Concentrate housing development along transit lines and encourage mixed-land use.
Transit	Increase environmentally friendly transport, reduce traffic and motorized traffic.
Quality of life	Focus on general social markers to ensure social cohesiveness and integration.

Source: (City of Vienna, MA 18 2005b)

Appendix 6 – Focus Areas (STEP 2025)

STEP 2025 Focus Areas

Referred to as "Eight Key Topics"

Focus Areas	Simplified Description
Urban renewal	Refurbishment of areas built between 1950s-1970. Improvements in function and energy sustainability.
Urban development	SMART principles applied to utilization of land reserves. Infrastructure assessment with long term perspective. Use of private and public developers, merging energy and spatial planning. Pilot projects to test out actions prevalent.
Mixed land use developments	Supporting existing and developing new centers. Transformation of existing spaces to be multifunctional.
Economic development	Foster knowledge intensive industries. Manage land reserve for industrial, research, development and high-tech production enterprises and provide designated zones to combine research and office space offerings. Existing dialogue with logistics industry to develop clean commercial transport to support Vienna as business hub.
Develop regional cooperation	Focus on new instruments for regional cooperation, translational mobility corridors in Central Europe.
Increasing and managing green spaces	Enrich recreation areas through greening of spaces to provide climate adaptation and quality shared spaces through private party and participatory planning.
Improving sustainable mobility	Upgrading public transport and incorporating eco-friendly means. Renovating public spaces for mixed use and tailoring mobility to residential and company locations to increase mobility use.

Develop and integrate educational infrastructure	Support education through provision of high-quality space and ensure facilities are accessible and provide networking opportunities for providers.

Source: (Vienna City Administration MA18 2014)

Appendix 7 – Focus Areas (SCWSF 2019-2050)

SMART City Wien Strategy Framework Focus Areas

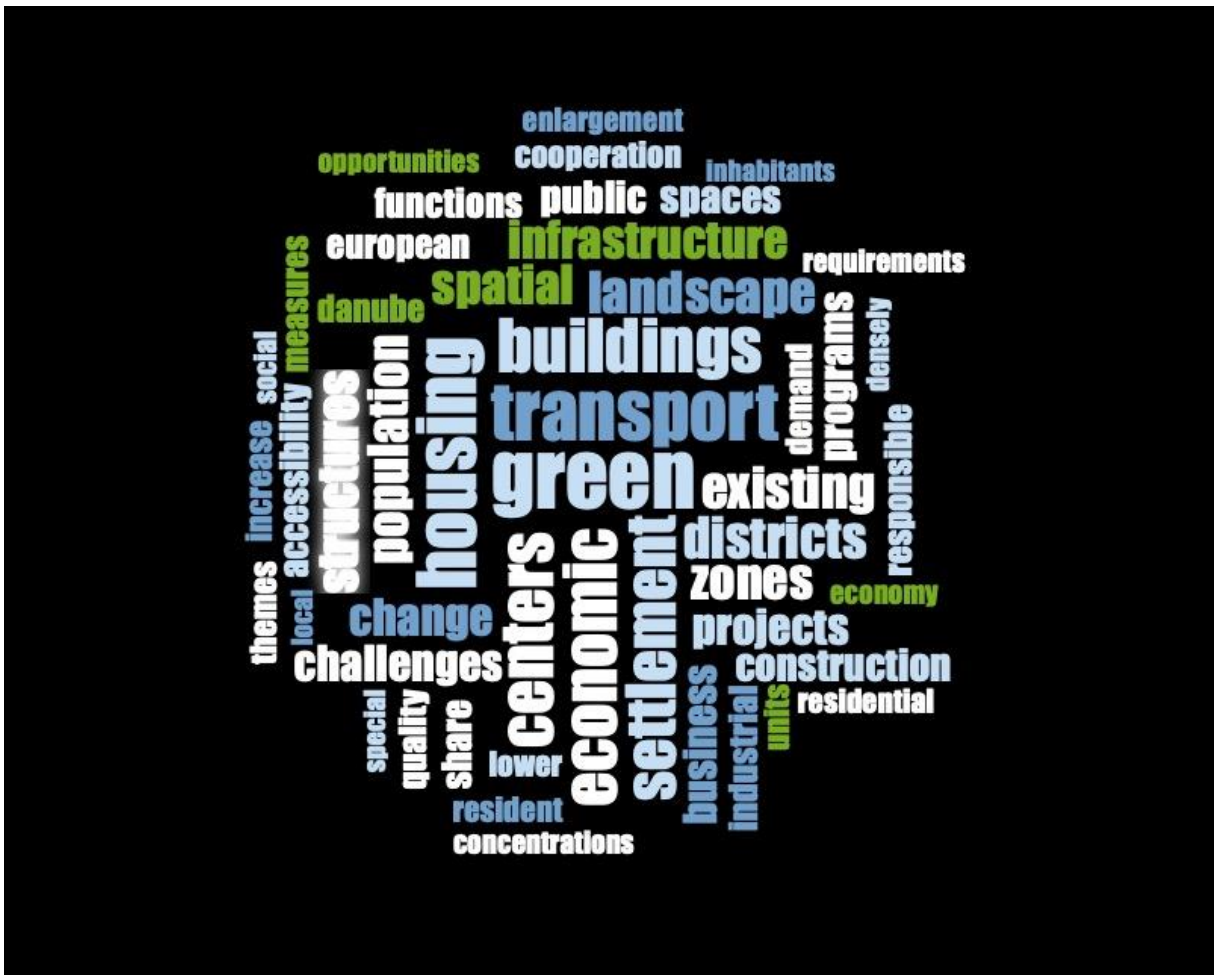
Referred to as "Seven Headline Goals"

"High quality of life for everyone in Vienna through social and technical innovation in all areas, while maximizing conservation of resources"

Focus Areas	**Simplified Description**
Quality of life	Maintain highest quality of life and satisfaction in the world. Focus on social inclusion through policy design and administrative activities.
Resources	Reduce greenhouse gas emissions by 50% by 2030, and by 85% by 2050. Reduce final energy consumption by 30% by 2030, and by 50% by 2050. Reduce its material footprint of consumption by 30% by 2030 and by 50% by 2050
Innovation	Place the city as innovation leader by 2030. Place Vienna as Europe digitalisation capital.

Source: (Vienna Municipal Administration 2019)

Appendix 8 – Word Cloud (SCWSF 2019-2050)



Appendix 9 – Word Cloud (SCWSF 2019-2050)

Appendix 10 – Word Cloud (SCWSF 2019-2050)