

Who is Entitled to Make Space?

Participation and Co-Creation in a Citizen-Involved Smart City Initiative

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Wien, 10. Oktober 2024

Hannah May

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Kurzfassung

Die Herausforderungen, denen Städte durch technologischen Fortschritt und Umweltprobleme gegenüberstehen, stellen das Konzept des öffentlichen Raums zunehmend in Frage. Traditionelle Top-down-Ansätze zur Städteplanung, die von technokratischen Systemen und Expertenansichten geprägt sind, vernachlässigen oft die vielfältigen Bedürfnisse und Erfahrungen der Bürger. Als Reaktion darauf haben sich Bottom-up-Ansätze wie der DIY-Urbanismus entwickelt, die dafür plädieren, dass öffentliche Räume eher von ihren Bewohnern gestaltet als von Planern vorgegeben werden. Neuartige Methoden zur Verknüpfung dieser Perspektiven setzen zudem digitale Werkzeuge ein, um die Prozesse der Mitgestaltung zu unterstützen. Verstärkt durch die unscharfen Zukunftsvisionen der "SSmart City", die das städtische Leben durchdringen, steht die Rolle der Bürgerstimmen an einem Wendepunkt. Diese Arbeit untersucht diese Spannungen im Kontext einer ganzheitlichen Smart-City-Entwicklung und verwendet das Wiener Projekt "5er Klimateam als Fallstudie.

Die Untersuchung basiert auf einer umfassenden Literaturrecherche, die zentrale Konzepte des öffentlichen Raums, zukünftiger urbaner Vorstellungen und kollaborativer Stadtgestaltung untersucht. Diese theoretische Grundlage bildet das Fundament für die anschließende empirische Forschung, die einen gemischten Methodenansatz verwendet und qualitative Inhaltsanalyse mit digitaler Ethnographie kombiniert. Die Studie analysiert 308 Bürgervorschläge, deren Weiterentwicklung zu 27 Projekten und die Umsetzung von 5 ausgewählten Initiativen anhand von Daten der Wiener "MitgestaltenPlattform.

Die Analyse zeigt eine erhebliche Diskrepanz zwischen den Bürgerwünschen und der tatsächlichen Projektumsetzung. Von den fünf zur Umsetzung ausgewählten Projekten zeigten zwei wenig oder gar keine Fortschritte, während die anderen oft erheblich von ihren ursprünglichen Zielen abwichen. Die Forschung identifiziert eine schrittweise Verwässerung der Bürgerbeiträge im Laufe des gesamten Prozesses, wobei die Bürgerbeteiligung in der entscheidenden Umsetzungsphase begrenzt blieb. Darüber hinaus zeigt die Studie, dass die Stadtverwaltung häufig versuchte, bestehende Initiativen nachträglich anzupassen, um Bürgervorschläge zu berücksichtigen, anstatt wirklich innovative Lösungen auf Grundlage der Bürgerbeiträge zu entwickeln.

Diese Masterarbeit stellt eine kritische, detaillierte Untersuchung einer realen partizipativen Smart-City-Initiative dar und bietet Einblicke in die praktischen Herausforderungen bei der Integration von Bürgerbeteiligung in die Stadtplanung. Indem sie theoretische

Konzepte aus der Literaturrecherche mit empirischen Erkenntnissen verbindet, trägt sie zum Diskurs über Bürgerbeteiligung in Smart Cities bei. Die Studie verdeutlicht die Komplexität bei der Umsetzung unterschiedlicher Bürgerwünsche in konkrete städtische Maßnahmen innerhalb bestehender Verwaltungsstrukturen und liefert wertvolle Erkenntnisse für politische Entscheidungsträger, Stadtplaner und Forscher, die dynamischere und inklusivere Smart Cities gestalten wollen.

Abstract

As cities around the world address technological advancements and environmental challenges, the concept of public space is increasingly contested. Traditional top-down urban planning approaches, driven by technocratic systems and expert narratives, often overlook the diverse needs and experiences of citizens. In response, bottom-up approaches such as DIY urbanism have emerged, advocating for public spaces shaped by their inhabitants rather than imposed by planners. Emerging methods for joining these perspectives together further employ digital tools to mediate the co-creation processes. Compounded by the blurry future imaginary of the ‘smart’ city permeating urban life, the role of citizen voices in imagineering the spaces of today and tomorrow is at a crossroads. This thesis examines these tensions in the context of holistic smart city development, using Vienna’s 5er Klimateam project as a case study.

It’s investigation is grounded in a comprehensive literature review which explores key concepts of public space, future urban imaginaries, and collaborative city-making. This theoretical foundation informs the subsequent empirical research, which employs a mixed-methods approach combining qualitative content analysis with digital ethnography. The study analyzes 308 citizen submissions, their refinement into 27 projects, and the implementation of 5 selected initiatives, using data from the Wien Mitgestalten platform.

The analysis reveals a significant gap between these citizen aspirations and final project implementations. Of the five projects selected for implementation, two showed little to no progress, while the others often diverged substantially from their original intentions. The research identifies a gradual dilution of citizen input throughout the process, with limited citizen involvement in the crucial implementation phase. Furthermore, the study highlights how city administration often retrofitted existing initiatives to address citizen proposals, rather than developing truly novel solutions based on community input.

This research provides a critical, in-depth examination of a real-world smart city participatory initiative, offering insights into the practical challenges of integrating citizen input into urban planning. By connecting theoretical concepts from the literature review with empirical findings, it contributes to the discourse on citizen participation in smart cities. The study highlights the complexities of translating diverse citizen aspirations into concrete urban interventions within existing administrative frameworks, offering valuable insights for policymakers, urban planners, and researchers seeking to create more inclusive and responsive smart cities.

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CHAPTER 1

Introduction

In an age of rapid technological advancement and integration into everyday life, the "corporate imaginary" [54] of the future has captured the attention of many. This vision of the world is populated by utopian smart cities where hyped-up digital technologies are at the center of all aspects of urban life, and citizens and their actions are primarily viewed as opportunities for value extraction. However, this perspective is countered by a growing body of research that emphasizes the importance of human-centered design and citizen participation in urban development. This tension leaves the concept of public space more contested than ever.

Historically, public spaces have been curated by 'experts', with little consideration for lived experiences, especially when these don't align with hegemonic needs and values. However, in the last couple of decades, cities across the globe have seen a rise in bottom-up approaches to counteract this traditional method of urban design. Often classified under terms such as DIY, Guerilla, Participatory, and Tactical Urbanism, these citizen-led actions usually take the form of appropriations of existing spaces to better suit the needs of individuals or communities. While such placemaking practices are often unsanctioned and even illegal, many governments have recently begun to embrace these community-led initiatives as integral to successful city development. With 68% of the world's population expected to live in urban areas by 2050 [27], finding a middle ground between top-down planning and bottom-up initiatives is essential for designing resilient cities of the future. Cities such as Vienna have set up integrated systems to fund and implement citizen ideas, with Vienna naming "participation, engagement & culture" as one of the key 11 thematic fields of its smart city approach [17]. However, the effectiveness of these initiatives in truly incorporating citizen voices remains questionable.

1.1 Problem Statement

Despite the increasing recognition of the importance of citizen participation in smart city development, there is a significant gap between rhetoric and reality. In an investigation of Vienna's Smart City implementation, Sepehr and Felt [56] found citizen involvement to be lacking or even absent from the process. This disconnect between stated goals and actual practices raises concerns about the authenticity and impact of citizen participation initiatives.

Zhao et al. [79] establish citizen engagement as one of the four major open research areas in smart city literature, emphasizing that determining how to effectively engage and increase citizen participation should be a key focus for further research. The authors of [71] conclude that relationships between citizens and authorities in smart cities, as well as the communication tools available, are integral to the planning process and active engagement. Furthermore, Mora and Deakin [49] identify the need to continue studying real-world smart city development practices as they arise, with a special emphasis on the importance of understanding the collaborative environments between civil society and the "triple-helix" (industry-government-research). Creating effective and inclusive collaborative smart city environments remains an area of open research.

This complex and interdisciplinary issue calls for a comprehensive investigation into the processes and outcomes of citizen participation initiatives in smart city development. By examining these initiatives in detail, we can gain valuable insights into the challenges and opportunities of integrating citizen voices into urban planning and development.

1.2 Aim of the Thesis

This masters thesis falls under the multi-disciplinary field of Urban Informatics, which "is situated at the intersection of [...] place, technology, and people in urban environments" [26]. It investigates a case study which highlights the citizen-involved smart city projects being implemented by the city of Vienna in order to, alongside findings from previous research, answer the following research question:

- How and in which ways does the 5er Klimateam initiative enact a shift towards a more collaborative city-making process, as envisioned in literature on holistic smart cities?

In investigating this question, the thesis aims to critically reflect on the tensions between top-down and bottom-up approaches in the context of holistic smart city development, as well as evaluate the effectiveness of the 5er Klimateam initiative in translating citizen ideas into concrete urban interventions, identifying potential gaps and disconnects in this process of citizen participation. Ultimately, it seeks to provide insights and recommendations for improving citizen participation in smart city initiatives.

1.3 Methodological Approach

This study employs a mixed-methods approach, combining a comprehensive literature review with an in-depth case study analysis of Vienna's 5er Klimateam initiative. This methodology allows for a thorough examination of both theoretical concepts and practical implementations in citizen participation for smart city development.

Literature Review

The research begins with an extensive review of academic literature focusing on key concepts relevant to urban development and citizen participation. This interdisciplinary approach, drawing from urban studies, sociology, and human-computer interaction, is essential for comprehensively understanding the complex sociotechnical dynamics of digitally mediated urban participation. By expanding beyond traditional informatics literature, this review aims to capture the nuanced interplay between technology, social processes, and urban space that shapes contemporary smart city development and citizen engagement practices. In this spirit, the review explores theories of public space, future urban imaginaries, collaborative city-making, and smart city development. Particular attention is given to the actors involved in smart city placemaking practices and the narratives and politics surrounding public space. The review delves into movements such as DIY-, Guerrilla-, Participatory-, and Tactical Urbanism, examining their roles in shaping urban environments and challenging traditional top-down planning approaches. Central to this review is the exploration of concepts such as creative activism, collective identity and intelligence, and appropriations of space. These ideas are crucial for understanding how citizens engage with and transform their urban environments outside of official channels. The review also addresses the potential negative consequences of such interventions, including gentrification and the unintended exclusion of certain groups. The literature review also considers the evolving role of technology in urban spaces, examining how digital tools and platforms are being used to facilitate citizen engagement and shape the development of smart cities. This includes an exploration of the potential benefits and risks associated with increased digitization of urban planning processes.

By synthesizing findings from these diverse but interconnected areas of study, the literature review establishes the relevant background knowledge needed to inform the investigation of this intersectional topic. It provides a theoretical framework for understanding the complexities of citizen engagement in urban planning and the challenges of implementing participatory processes in smart city initiatives. Importantly, the insights gained from this comprehensive review will later be drawn upon in the evaluation section of the thesis. They will be used to analyze the findings of the case study more effectively, providing depth and meaning to the observations and allowing for a critical assessment of the case study within the broader context of urban development and citizen participation theories and practices.

Case Study

The core of this research is a detailed case study of the 5er Klimateam. The project was selected from City of Vienna's Smart City [17] based on its high level of active community engagement compared with other smart city initiatives.

The Wiener Klimateam [69] (the parent-initiative which the 5er Klimateam project belongs to) is sponsored by Stadt Wien to crowd source project ideas for environment-friendly design in the city, a set of which is eventually implemented. This investigation employs qualitative content analysis and elements of digital ethnography to examine the entire process from initial citizen submissions to final project implementations. Data for the case study is primarily sourced from the Wien Mitgestalten [67] platform. This data undergoes a systematic coding process to identify emerging themes in an aim to understand what types of contributions are most valued, explore who is involved in this process and what ideas are dis- or enabled by the participation process. The case study analysis also includes a multi-stage comparative examination to track the evolution of ideas throughout the process. This involves comparing initial submissions to refined projects, analyzing selected projects against their implementations, and evaluating the overall process against stated goals and best practices identified in the literature review. Visualization tools such as Miro boards are used to illustrate relationships and patterns within the data. To capture the dynamic nature of the initiative, the case study incorporates elements of digital ethnography, including observation of online interactions, analysis of city communications, and tracking of project timelines. This approach provides insights into how different stakeholders engaged with the process over time.

Case studies are a popular research method in this field. For example, [12] highlights multiple different examples of what the authors call "DIY media architecture" in order to argue for the engagement of 'laypeople' in the urban design process. The authors of [19] also focus on two specific implementations of DIY Urbanism in Denmark to identify the movement's implications and potentials. Another study [59] uses case studies of two types of subversive movements in Portugal to investigate the relationship between youth subcultures and digital media. [35] focus on three case studies in their research into DIY assistive technologies (DIY-AT), with the first two looking at implementations of DIY-AT, and the third focusing on individuals who haven't engaged with making their own DIY-AT.

By combining a comprehensive literature review with an in-depth case study analysis, this methodology aims to provide a nuanced understanding of citizen participation in smart city initiatives, bridging theoretical concepts with practical implementations and outcomes.

1.4 Structure of the Thesis

Chapter 2 presents the literature review, exploring key concepts relevant to citizen participation in smart city initiatives. This chapter establishes the theoretical framework

for understanding the complexities of citizen engagement in urban development.

Chapter 3 forms the core of the empirical research, presenting a detailed case study of the 5er Klimateam. This chapter presents a detailed case study of the 5er Klimateam initiative broken up into three areas of focus:

- Phases 1 & 2: The Submissions - An in-depth analysis of the 308 initial citizen submissions, including their themes, stakeholders, and proposed approaches.
- Phases 3 & 4: The Projects - An examination of how citizen ideas were translated into the 27 refined projects and the subsequent selection process.
- Phase 5: The Implementations - A critical look at the five projects chosen for implementation, their progress, and how they compare to the original citizen proposals.

It is structured in three main sections: Data Collection, Methods, and Findings. The Data Collection section outlines the process and phases of the initiative, the Methods section describes the analytical approach used, and the Findings section presents the results of the analysis.

Chapter 4 provides a discussion of the findings, critically examining the effectiveness of the 5er Klimateam's participatory process. It identifies strengths and weaknesses in the approach and offers recommendations for improving citizen engagement in smart city initiatives. It also acknowledges the limitations of this research approach.

Chapter 5 concludes the thesis, summarizing key insights and reflecting on the implications for future smart city development. It also suggests directions for further research in this multifaceted and complex field.

This structure allows for a systematic exploration of the 5er Klimateam initiative, from initial citizen input to final project outcomes, while situating the analysis within the broader context of smart city literature and participatory urban planning practices.

Literature Review

2.1 Public Space and Place

Public space is of interest to many different research disciplines due to its uniqueness, from the way its inhabitants behave (e.g. concept of civil inattention [24]), to the - often contested - politics of its use and ownership. Since "the urban sphere is populated by a number of different citizenships inflected by identity, social positioning, cultural assumptions, institutional practices and senses of belonging" [73], it is a place where multiple interests and desires coexist and collide [21], revealing complex power structures. In the field of HCI, research originally focused on professional or domestic environments, leaving public space on the literal outside [24]. With the rise of ubiquitous computing, *the city* has become a new frontier for digitization, raising complex questions about how these spaces (and the people in them) can and should evolve.

Place tells a story about the intersection of physical space with their human associations, experiences, interactions, and identities [75]. The concept highlights the fact that spaces don't define themselves but are rather turned into lived and experienced environments consisting of the subjective interpretations and emotional connections of the people within it. Freeman [27] expands: "[w]hat distinguishes place from space is inhabitants' sense-making activities: human responses to their living environment, including understandings of behavioral appropriateness and cultural expectations, make place a cultural and social phenomenon."

2.1.1 Objectivity and the Expert Narrative

Modern societies tend to operate under technocratic systems, in which decision makers (such as urban designers and developers) are those who have professional 'expertise' in a very specific area of responsibility [20]. Their knowledge often consists of standardized practices which exist in order to create space between (the perceived unreliability of)

the subjective person and (the perceived reliability of) their processes, since "[the less] permeable the boundaries of a discipline, [the less it is vulnerable] to outside criticism" [53] and scrutiny. However, underneath the guise of neutrality - just like the people who created them - these processes have their own agendas and values. They usually prioritize ideals such as progress and efficiency, which they aim to capture through 'rationality,' making it easy to empirically assign labels of 'good' and 'bad' to various technologies. Such design offers purely one-sided communication [18], where 'expert solutions' are seen as isolated objects which define themselves and have strict uses/meanings that are then 'passed down' to be consumed by passive actors who are meant to mold themselves to the object [20].

In urban development, this 'top-down' design assumes that only the 'experts' are properly equipped to determine the needs of a citizen or neighborhood [52]. However, these 'experts' - "those in the business of providing solutions" [54] - mainly address the perceived deficits that they believe they know the answer to. This is a backwards form of identifying and addressing issues, and excludes those with unique 'problems' or needs. The standardization of techniques and materials in urban settings also creates limits which constrain the imagination and creativity of possible solutions [42]. Furthermore, measurements such as financial return and optimization of space are often used as the success metrics for city planning initiatives [52] (propagated by the incorporation of algorithms in decision making processes [58]), leading to unsafe/unsanitary or unusable neighborhoods.

Big Data

The authors of [53] describe the interest in "evidence-based policy making" where the fuzzy concept of Big Data is given authority through its promise of objectivity and 'truth' in its most raw form, pointing out:

A different form of trust first accompanied and then superseded the premoderns' faith in the integrity of the solitary knower and the moderns' confidence in the rigor of institutionalized expertise, a type of trust that has gained considerable traction with the arrival of Big Data: people's trust in numbers.

Data is one of the most lucrative commodities of the digital age. Not only is it cheaper and faster than ever to collect, store, and analyze in increasingly massive proportions, but it is also hyped-up by governments and corporations across the world as *the* objective form of information to process for 'certain' and 'fact-based' decision making. The underpinning rationale mirrors that of Blockchain: it is easier to trust a distributed group than any one individual because you get a larger sample, of which it is unlikely that the majority are 'bad actors' (or in the case of Big Data, inconsistent actors). However, this disproportionately favors those whose data is aligned with that of the majority, propagating hegemonic needs and values through trends. Such a preference for quantifiable information, therefore, ignores the complexities and intricacies of the human experience and alludes to a view that the world is a predictable place, where its chaos and messiness can be captured and controlled [2] through "coherence and generality" [53].

2.1.2 Alternatives to the Rational Society

Postmodern concepts like social constructivism reframe the relationship between people and *things* to position people as the active agents in the interaction, who therein define the meanings of the *things* [20], which opposes the idea that *things* have their own, ingrained definitions. From this alternative perspective, there are no intrinsically ‘good’ or ‘bad’ technologies, just ones that appeal differently to different people and groups of people. The resulting design, then, is not an ‘ideal’ realization of the object but rather one which reflects the values and interests of one or more actors [20]. This uncovers the implicit bias with which a ‘rational society’ addresses the design of technology: ‘good’ designs by capitalist definitions meet the goals and advance the interests of a very specific group of people, while many ‘bad’ designs might actually meet the needs of a group that was being left out of the design process. At a broader level, we then see a move away from the exclusionary view that urban space can be captured through general theories and “meta-narratives” [60], recognizing that multiple realities can exist simultaneously and legitimizing the need for individual voices to be heard. Furthermore, De La Bellacasa [16] recognizes the power of *care* in the expert. Rather than taking a detached, cold, ‘objective’ stance, the author suggests that researchers and designers should be deeply invested in the problems they tackle - “matters of care” [16]. When scaled, this ideological shift works to “re-affect objectified worlds” [16].

In practice, all of this reveals the need to move towards bidirectional communication between urban spaces - by extension, its designers - and their inhabitants. An interesting parallel is that of the radio, as described by Brecht [10]. When it emerged, the powerful, new technology was at first valued for its unidirectional potential to indoctrinate the masses. However, the radio as a “distribution apparatus” [10] overlooked the fact that ordinary individuals are curious, have the ability to critically reflect, and are capable of being more than just passive absorbers of information. Brecht envisioned the use of radios to empower bidirectional communication, where ordinary citizens were able to question and challenge those in power, hold them accountable, and incite the production of media that catered to their interests and concerns rather than the empty messaging that was being provided in the interest of the authorities. After all, those who are not “experts” still have expertise, even if *only* in their individual life experiences. Reflexive modernization aims to move towards technical citizenship through democratic interventions, in which the ‘unqualified’ public can involve themselves in designs of technology [20]. The underlying idea is also present in Lefebvre’s *right to the city*, which, at its most basic, can be described as “the commoning of urban spaces, services, and resources through processes of appropriation and participation” [21].

2.1.3 Emancipatory Uses and Appropriations of Space

In that spirit, bottom-up approaches to urban design have emerged. They advocate for public spaces that are used by the people rather than (or in addition to) expert-planned spaces that are imposed onto them. The underlying belief is that the design of public spaces should cater to its uses; not enforce predefined, dictated uses [52]. The purposes of

these actions can be multi-faceted and are quite broad, including introducing art and play into a space (e.g. parkour, yarn-bombing, light displays, murals, electronic ‘throwies’), providing commentary and self-expression (e.g. graffiti, protest, stickering), building community and capturing a shared identity (e.g. book exchanges, spontaneous memorials, pop-up spaces), meeting citizen needs (e.g. community gardens and kitchens, chair-bombing, impromptu skate parks), promoting sustainability (e.g. handmade bike lanes, parking space re-purposing, seed bombing), conducting research (e.g. citizen-science), etc. [33, 19, 52, 22, 39, 6, 4].

In movements like do-it-yourself (DIY) urbanism, citizens take the unprompted initiative to improve their neighborhoods (by their own metrics) through usually small-scale, temporary alterations, which are often done outside of official channels, offering a form of "playful protest" [21] that presents alternative ideas for how urban space can be used. Terminology such as tactical- and guerilla urbanism capture similar ideas of small-scale, often temporary, citizen-led urban interventions [50]. A large subset of these practices are done without respect for bureaucratic processes, laws, and regulations, although the legal status of many can also be fluid as time and contexts change [52]. Start-it-yourself (SIY) urbanism occurs when citizens with unmet needs garner support from private/public bodies for permission/resources in addressing them [80]. These movements have been researched quite extensively, uncovering their powerful potential for change beyond the tangible, as well as bringing to light otherwise overlooked conflicts.

Collective Wonder

Recently, a video of a set of luxury Los Angeles skyscrapers - abandoned by developers before completion due to money troubles - went viral when taggers had ‘bombed’ (covered) the exterior on dozens of high-up floors [1]. How did they get up there? How weren’t they caught? And of course, the age-old question: art or vandalism? Glăveanu [29] would call this *collective wonder*. When we see a chair glued upside down to a ceiling, or a piece of graffiti deep in the subway tunnel, or a tree wearing a knit sweater, or a vegetable garden in a former parking space, it makes us stop and think: *well that’s different*. This wonder is powerful even if it takes the form of a negative emotion; even if the thought that comes to mind is *wow that is such an eye sore*. It is the deviation from routine, the new perspective, the curiosity of how things could be done differently that Glăveanu [29] argues is a form of "creative activism."

Not only does physical space have the power to spark an embodied perception of the world [72], but this consciousness of ourselves can also be expanded to that of those around us. The authors of [19] recognize this idea by pointing out that such ‘place appropriations’ have the power to open people’s eyes to who the existing infrastructure works for and who it excludes. Bloch [7] concisely sums up this sentiment by addressing the power of such appropriations to make apparent "the normative spatial codes and dominant ideological structures that are manifested in and on public space." And once this realization turns into action, making becomes "a way for an individual or group to make their social imaginaries, ideas, frustrations and hopes tangible, manifest and

communicable" [19]. Such exposures to alternative uses of public space and challenges of their hegemonic ideals [7] allow for collective critical reflection and imagination of possibilities for change, instilling hope in an imperfect world.

Platform for Democracy

The open [51] and participatory nature of citizen-led interventions is, in itself a form of democratization of urban design, by giving 'power to the people' [18] and "collectiviz[ing] diverse groups in order to challenge unjust policies and practices" [21]. [75] calls this "street democracy, which gives back place to its owners." However, sparked by the collective wonder they create, the potential for such practices to support democratic values reaches far deeper than this. [7] sees public space as collective resource, a "place for talk, given over as much to the exchange of words and signs as it is to the exchange of things." Sunstein [70], quoting a decision by Supreme Court Justice Louis Brandeis, expresses the importance of this exchange:

[Those who won our independence] believed that ... without free speech and assembly discussion would be futile; ... that the greatest menace to freedom is an inert people; that public discussion is a political duty; and that this should be a fundamental principle of the American government.

Protest (from graffiti tags reading *FREE GAZA* to thousands of people gathering in the streets) is an interesting example of space appropriation, pointed out by [19], in which citizens are able to temporarily occupy and even claim space, as for example, members of Cat Calls of Vienna [9] do when they cover sidewalks in chalk messages, making the harassment of and violence against women visible to any passerby. This spontaneously turns the streets into a place of critical reflection and debate, where a diverse group of anonymous people are confronted with ideas that might not be present in their everyday consciousness [30]. An "educated populace who engages in debate" [3] is vital to a deliberative democracy.

The openness and even inescapability of public spaces [75] is one of the core aspects which makes it so effective in this sense. The potential to be surprised by what you hear and see and to be exposed to the unplanned and unexpected is more and more limited by technologies made to control our environments and filter out anything that we don't want to engage with [70]. While personalization is an excellent tool for social media platforms, the resulting experiences only reinforce our preferences and biases, no matter how (un)informed they are. This is not a 'free' people, since *freedom* comes from "the ability to have preferences formed after exposure to a sufficient amount of information and also to an appropriately wide and diverse range of options" [70]. It's important, therefore, to conserve the engagement with public spaces, especially since we live in a time where people are increasingly avoiding the streets [55], and when people do navigate public spaces, popular and emerging technologies (from noise-cancelling headphones to AR headsets) are "diminishing [their] sensory landscape" [72], therein encroaching on the exposure that it is meant to provide.

Community Engagement and Identity

People have always sought out ways to express themselves and make their existence known, evident from the earliest forms of graffiti found on cave walls [75]. Placemaking practices provide citizens a way to embed themselves into their city, communicating their presence [57], contribution [37], existence [60], and belonging in an anonymous world. Those who felt previously excluded from democratic decision-making processes are given a voice through practices such as graffiti writing [51], in which they are able to take power and find community in the subculture where they can act as an 'insider' [37]. Mcphie [44] discusses the concept of the "extended mind," arguing that mental processes are not confined to the brain but extend into the environment through various forms of externalization, such as tattoos, graffiti, and even the physical spaces we inhabit. In this sense, people and experiences can be manifested and embodied in physical spaces.

"In an increasingly disconnected society in which public life is undergoing an alarming erosion," [52], movements like DIY Urbanism present a potential counter-force through their creation of an 'ethos of engagement': "a desire to be and do with diverse others" [21]. Envisioning spaces together fosters empathy and understanding amongst residents, building a stronger sense of community [3]. These interventions therein also empower communities as a whole, giving them a sense of shared ownership [75] over their neighborhoods, and leading to a more vibrant and diverse urban landscape [52]. "In the face of globalization's tendency toward homogenization and privatization" [30], appropriations of spaces allow a community to express their uniqueness [22]. Spaces should "articulate, over time, the intangible collective values, memories and stories reflective of, and appreciated by, the local community" [34]. Even the conflicts within a space can tell a story about the people that shape it [57]. Belfast's murals, for example, serve as a visual representation of the deep-rooted historical divisions and ongoing tensions between Irish nationalists (Catholics) and British loyalists (Protestants). They are not simply works of art but powerful symbols of identity, history, and conflict [74].

Beside the extension of oneself and strengthening of community, building *place* involves connection with the physical space around us. Some projects, such as that conducted by [14], specifically seek to educate it's inhabitants about their spaces and engage them with this information. Citizen science - specifically citizen sensing - is often employed in the research of city environments, and carries the same spirit of reflection and involvement. Putting sensors in the hands of laypeople allows them to connect with and learn about their spaces, making them curious about and invested in the well-being of their environment [39].

Rejection of Capitalist Value Extraction

DIY Urbanism practices often reflect post-capitalist sentiments, challenging the idea that goods and services have to be bought and sold [21, 40]. Many projects specifically work to re-purpose un- and under-used spaces [52], practicing "placemaking not as a way to optimise urban space for commercial gain, but – informed by Lefebvre's 'right to

the city' – as a strategy to bring about radical social change and urban renewal" [22]. They promote new ways of thinking and acting that often reject mass produced goods and the privatization of space, focusing on non-commodified desires such as collective enjoyment [21] rather than productivity, profit, and consumption. This allows for design to be freed of the constraints created "by the demands of industry" [11], promoting new opportunities for creativity and uniqueness, valued in itself, not for its potential for monetary extraction [29, 40]. [11] find that in such circles, fulfillment comes from the sentiment of having made something 'of ones own hand,' and that diversity (of both artifacts themselves and the processes in which they were created) is at the center of maker culture.

2.1.4 Exclusionary Practices

One of the primary motivations behind bottom-up design is that individuals can make cities work for them, ultimately leading to more accessible spaces which reflect a more collective identity. That is not to say that such citizen-led initiatives are without conflict. Just as "a public space may serve [...] to bring different groups together or bolster existing community relations, [it can also] function to reinforce existing social inequalities" [30], especially so when a space is used for its economic value. Explicitly top-down design of urban spaces, by definition, exclude the majority of citizens since "only those who legally own, oversee, or pay may lawfully enter, alter, or personalize the seemingly superficial appearance of the city" [7]. However, even as we move away from these traditional systems to create more inclusive public spaces, we can still uncover a pattern of exclusion.

Forced Self-Reliance and the Fallacy of Independence

Marginalized perspectives are unlikely to be included - let alone actively - in the imagining process of urban spaces. This is an issue that exists in many similar fields as well, such as in assistive technologies (AT), where DIY making is practiced by people with disabilities usually to address issues of accessibility in their environments [47], since top-down design (mostly led by the able-bodied) tends to assume and therein overlook their actual needs and preferences [46]. While DIY design has wonderful potential due to the enjoy- and empowerment it offers, the low cost, and of course the creation of solutions that actually address the correct problem, the underlying issue should not be ignored. The tendency of mainstream products to either not consider underrepresented groups (including the design of maker tools [46]) or take part in some form of social-, specifically access washing, further disables these individuals. This creates people who are, in a sense, forced to become their own makers to meet needs that others take for granted, for example in regards to clothing, as described by Barry [43]:

Disabled people have always been designers. We've had to make and remake clothes to best support our bodies and minds, to affirm our identities. And so, in many ways, making clothing is part of disability culture. But within fashion, when disabled people have had opportunities to engage in design, it's always been having them - or having us be invited in to test products, to be research subjects, maybe at best as co-designers, but often without the design credit and compensation that comes along with sharing our ideas.

While it is important to recognize, for example, AT users as capable of being their own expert makers [47] - and to hand over real power to them and their ideas in design spaces - it is also equally important not to place an expectation of self-reliance on anyone because it places a higher burden on those who are not already supported adequately by the design of their environment, propagating inequalities. The idea of the ‘autonomous man’ that exists in our society is a contradiction since it is, in reality, the (at times invisible) support from society that’s enabled *his* independence [48]. Vice versa, perhaps paradoxically, the need for reliance on others results from a lack of existing societal and environmental support.

The Whitewashing of Counterculture

Other, more obscured patterns of exclusion and oppression exist within the design of urban spaces as well. Bloch [7] writes about the drastic change in perception of graffiti as a violent crime (when practiced by marginalized groups primarily of youth and poverty) to a minor infraction correlated with its rise in popularity in mainstream media and the art industry (known as market sterilization):

[G]raffiti, which was once seen as evidence of a strong gang presence, began to be seen as indicative of artsy lifestyles and fashionably transgressive sensibilities. Part of this shift is the result of graffiti increasingly being understood as produced by white, art-school educated, middle-class, suburban, men and women possessing high degrees of distinctive social, economic, and cultural capital.

Attitudes of ‘not in my backyard’ [60] quickly changed as galleries and marketing agencies began to exploit the formerly nuisance-associated practice for its value, entirely opposing the original intention of the practice as a counterculture: "[o]nly when contested and unrestrained did I feel that graffiti had something to say" [7]. In this vein, some also see legal graffiti walls as serving as a form of censorship [18] in that they reduce graffiti to an aesthetic product, thereby "diluting its strength" [7] to challenge the norms and dominant values of space. Pulling this idea into the wider context of citizen-led placemaking practices, we can see that the mere act of ‘making space’ for one’s self in a city is in and of itself valuable because of its subversiveness.

Gentrification Within Placemaking Practices

A similar trend of appropriation has been observed in research of tactical urbanism [50], where previously ‘fringe’ and illegal placemaking practices are embraced by urban governments and the "creative class" [33]. This can have a gentrifying and exclusionary effect, in that previously ignored neighborhoods are re-branded as hip because of citizen-originated interventions, which are then taken over and appropriated, negating their original purpose and value [22, 21]. Often, the utility and aesthetics of an intervention plays a roll in the level at which it is adopted and tolerated by authorities [52]; characteristics which are subjective and discriminatory. This highlights the need to investigate whether practical implementations of citizen-involved urban initiatives are merely reinforcing existing privileges and playing to a progressive and creative image/brand, rather than actually handing over any real control to individual citizens.

The Propagation of Inequalities

LaFrombois [33] conducts a theoretical exploration of who is entitled to make space for themselves in their city through the means of citizen-led interventions in which she finds:

the dominant discourses of DIY urbanism scholarship focus on a narrow set of unauthorised, grassroots, and citizen-led urban planning interventions, which has racial, gendered, and classed implications. In this sense, many practices of DIY urbanism rely on social privilege, in that city authorities choose to ignore, but also may adopt/adapt into policy and practice, more ‘creative’ forms of DIY urbanism, despite its illegality, because it aligns with desired images of a liberal and creative city and the actors are seen as nonthreatening.

The author points out the alignment of expectations of public spaces with masculinist uses and notions of economic ‘productivity’ and utility, while overlooking "the vast array of other, and often more ‘private’, ‘do-it-yourself’ activities that also take place in cities [...] such as the activities low income individuals, homeless individuals, and documented and undocumented immigrants engage in in order to survive and ensure the basic needs of themselves and their families are met" [33].

Physical and institutional barriers to placemaking (propagated by the underlying social and political negotiations of space) raise questions about who is considered a (valuable) member of the public since not all public spaces are accessible to the public, for example, when public parks or bathrooms are locked at night to prevent unhoused individuals from using them [18]. Young people, the primary inhabitants of ‘the future’ are often left out of discussions about what this future should look like or are not taken seriously [58]. One major goal for urban governments should therefore be that "marginalized and economically threatened communities [are] enabled to engage with their neighbourhood on their own terms and create their own urban imaginaries" [23].

2.1.5 Digital Tools

Hespanhol [34] describes four levels of technology adoption into public spaces: **analog** interventions including more traditional forms of tactical urbanism (e.g. yarn bombing), **layering** through the incorporation of digital devices into physical spaces (e.g. a projector in a park), **interactions** with the built environment facilitated through virtual systems (e.g. a QR code that enables access to/participation in a space, such as StallTalk [28]), and **virtual spaces** (e.g. an augmented reality tour of a city that takes you to a different time/version). Technology has also been employed to facilitate and assist the participatory design process in both planning and realization stages of citizen-involved urban interventions (e.g. [15, 66, 41]). While digital artifacts within an environment can facilitate processes, encourage participation, and introduce play into a space [13], the author of [5] points out that it is important to ensure that digital media that is introduced into urban spaces considers and amplifies its physical context, including the people who inhabit it.

While the COVID-19 pandemic was a temporary condition, the hybrid- and digitization

practices that it necessitated (many of which are linked to public spaces) have remained even after its height. For example, many workplaces have drastically expanded their work-from home models, which reduces the need for a regular commute. Many public events - such as museum exhibitions or concerts - offer an online option. It's no longer even necessary to go into a grocery store to get your weekly shopping; just order online! Interactions are therein further and further removed from physical space and/or pushed to being mediated through digital technologies. While in some ways, adding digital access points to physical locations can be like placing chairs in public (as in, offering opportunities for connection) [28], in other ways, the merging of these worlds is potentially problematic.

The authors of [59] investigate the use of digital media alongside street cultures, such as graffiti writing and protest rap. The researchers find, that in such a context, technologies serve as a form of memory in often temporary interventions and can facilitate communication and collaboration among those with shared interests and provide a new medium for reaching wider audiences. They point out the increase exposure and visibility that digital media can provide, empowering the marginalized groups who engage in these subcultures to challenge mainstream ideas. Technology has also increasingly enabled the connection of hobbyists and creation of DIY communities that showcase projects, share information, provide inspiration and feedback, troubleshoot as a group, etc. [40]. The researchers of [45] identify six themes of (mostly mainstream) technology use amongst 40 surveyed urban knitters: "Access and Networking," "Collaboration," "Inspiration," "Documentation," "Resources," and "Amplification." The increasing technological literacy and availability of low-cost, ready to use materials such as sensors, open-source tools and resources, etc. has democratized access to powerful technologies, allowing the wider, non-expert public to experiment with their own solutions and engage in citizen science [39, 6].

However, [34] points out that the 'blending' of the digital and physical within spaces can create un-"cohesive place narratives," where multiple realities exist simultaneously [72], and experiences of what is perceived as the *same* space are misaligned, similarly to how, on social media, different users are served up varying versions of the same underlying platform. Furthermore, in a study of e-participation in smart cities in Poland, [71] finds that despite the increasing computerization and Internet access in households and businesses across all regions, a portion of the population still lacks Internet access and computers, posing challenges for full participation in e-participation processes. The incorporation of digital tools into these practices must, therefore, take into account the possible exclusion of those who lack digital literacy or access [23]. Furthermore, concerns regarding algorithmic bias, privacy and security, and the resulting potential for misuse of personal information arise; especially as the use of sensors and data collection in smart cities becomes more widespread [3]. Whether justified or not, many citizens fear smart city technologies [27]. Those who are not willing to sacrifice their personal data or lack the technical know-how needed to engage with the smart city are at risk of being left out.

2.2 Future Urban Imaginaries

The imagination of future cities plays a crucial role in the development of urban design. Fictional conceptualization of fantastical cities, as explored by [42], allow for the creative exploration of alternative urban designs and remove the restrictions that present realities impose. This freedom allows such visions to be used to "tacitly [govern] the future directions of urban developments," [56] escaping the need to explicitly bind ideas in reality and to face resulting criticism. On the other hand, the 'future' is "socially constructed and performed in the present" [36], making it a sort of self-fulfilling prophecy. Our expectations for the future inevitably become the future. Furthermore, future imaginaries do not only describe infrastructure and other technologies, but also the ways that people navigate these spaces and interact with one another, known as a socio-technical imaginary [54].

2.2.1 The Smart City

Interest in the smart city as a field of research emerged mostly within the last 15 years [49]. Since the beginning, the term has been used to mean different things, just as the question *What makes a city smart?* has multiple answers depending on who you ask [27]. In response to this lack of focus, Mora and Deakin [49] separate smart city imaginaries into two competing development paths, namely corporate and holistic, established through a bibliometric analysis of academic literature between 1992 and 2012. They identify that there is a gap in the definition of smart cities, with one group of research (mainly produced by the North American corporate sector) subscribing to a techno-centric model, and the other (mostly from European universities) approaching the topic from a wider perspective, taking into account many factors alongside digitization. Similarly, [8] recognizes these as the Technology-Driven Method (TDM) and the Human-Driven Method (HDM). In a review of smart city research [79], the two alternative visions are also acknowledged, referencing the techno-economical version of the smart city as "smart city 1.0," and the more human-centered approach as "smart city 2.0." This divide will become important in my investigation, as Vienna is one of the cities taking a holistic path towards the smart city [17], while cultural portrayals in media consumed by citizens largely subscribe to the corporate imaginary [54].

The Corporate Imaginary

The idea of the smart city was first adopted by companies such as Cisco (late 1990s), and later IBM, which developed the concept into a focal point [54, 73]. These multinational corporations subscribe to an ideology of technological determinism, where their products and 'solutions' are at the center of urban life [54], the integration of which into the built environment makes any city *smart* [49]. Powered by big data, they strive to colonize the future through optimized resource allocation and automation [53], and envision the city as "a marketplace for technologies and a product" in itself [58], where 'efficiency,' 'intelligence,' and 'performance' are prioritized in the name of progress and growth [2].

While such imaginaries may "speak about the citizens of smart cities, and speak in the name of them, [...] very little is [actually] known about citizens' real desires and aspirations" [73].

Projects in this realm often seek to erect entire developed cities quickly and from scratch (e.g. The Line in Saudi Arabia), rather than implement small-scale changes incrementally to existing cities [73, 52]. Furthermore, the making of these new spaces may come at the destruction of existing places [27]. Foth [22] terms these 'masterplanned,' 'instant urbanism' developments "accelerated placemaking." There have been quite a few failed attempts at such proposed utopias in the past decade, including Songdo (South Korea), Masdar City (United Arab Emirates), and PlanIt Valley (Portugal) [73, 2] which all fizzled out when it came to implementation. They were not helped by the fact that citizens are usually entirely missing from such imaginaries [73].

Interestingly, portrayals of the corporate imaginary in mainstream media, such as by the popular Netflix series *Black Mirror*, are usually dystopian or depict what seems to be a utopia but is quickly uncovered as a dystopia, where passive citizens are subjugated to the technologies around them [73]. Once again, rather than seeing citizens as active inhabitants positioned at the center of these imagined worlds, they are used instead as components or nodes to make the larger system work [73, 2]; but if not for the citizens themselves, then for who?

The Holistic Path

The holistic smart city evolved from the recognition among academic literature that "smart cities can become meaningful only when the technocentric and market-oriented development logic they are currently founded on is replaced with the collaborative efforts of an open community whose actions are based on a holistic interpretation of smart city development" [49]. Community engagement and participation, where citizens play an *active* role in the design of their cities, is vital to social sustainability [80]. The holistic smart city, therefore takes on a more progressive, human-centered approach, where technology is a tool, there to be used in the empowerment of citizens, unlocking their existing potential [2]; in other words, an artifact, the meaning of which is defined by its use rather than dictated to its users. It is an interpretation of the smart city "in which human, social, cultural, environmental, economic, and technological aspects stand alongside one another" [49].

For the holistic smart city, a more sustainable future and one integrated with digital tools goes hand in hand [58]. While there are many applications of technology to monitor, prevent, and even combat climate change (e.g. air quality sensing balloons [38]), it's important to point out the competing interests of these two smart city trends. Light/noise pollution, resource depletion, and energy consumption are some of the ways in which digital technologies are contributing to global ecocide [25]. In this sense, it's important to consider what wider effects the design of a city has, beyond just the humans who inhabit it to all which relies on it and to the wider ecosystem at large (termed "post-anthropocentric"

and "more-than-human" design [24]). It's no easy task however, to balance the needs of such a diverse set of stakeholders.

2.2.2 Vienna's Smart City Imaginary

In an investigation of Vienna's smart-city policy documents, Sepehr and Felt [56] identify three primary takeaways:

Policy documents mainly feature policymakers and experts, sidelining citizen voices. Citizens are depicted as future consumers in a technologically enhanced city rather than active participants, reflecting a top-down, paternalistic vision.

Although local values such as social justice and inclusivity are emphasized, the proposed solutions focus on technical innovation. This alignment with digital capitalism and smart solutionism limits the diversity of innovative directions. The vague references to "Viennese values" allow smart capitalism to dominate, despite their supposed importance.

The smartification of Vienna redefines its global position, blending local uniqueness with global trends. However, this approach, driven by neoliberal logic, involves strategic decisions about comparison, collaboration, and competition with other cities. The reliance on progress indicators risks neglecting the complex social and environmental contexts of urban development. A critical, reflective approach is needed to ensure alignment with Vienna's values and to address inequalities.

These will become important in my investigation of the city's actions in relation to these documents, as it remains to be seen if the assessments of what the city says hold up in how it behaves in real world enactments of its policies.

2.3 Collaboration and Co-creation

The idea that the 'whole' performs best based on its quality of collaboration rather than any individual's abilities is described by [78] as "collective intelligence." The researchers find that, given a task, a group's success is correlated with its levels of social sensitivity, equal participation, and proportion of females (thought to be due to their higher levels of social sensitivity); and not with the average or maximum intelligence of its individual members. In other words, the power of whole is greater than the sum of its parts. The question within the holistic smart city turns to *how* to enable effective participation and meaningful collaboration between citizens and the triple helix. Foth [24] classifies four levels of citizen involvement: the **(i) city as an administrator** who aims to improve the lives of its citizens as residents, the **(ii) city as a service provider** who uses technology to improve the provision of services to citizens as consumers of these services, the **(iii) city as a facilitator** who uses technologies to enable citizen participation, viewing them as consultants, and finally the **(iv) city as a collaborator**, where cities focus on employing technologies to empower collaborative city-making with citizens as co-creators. The authors of [49] present a similar framework with three levels: **(i) residents as testers** of solutions (providing feedback), **(ii) residents as reporters** (providing ideas, needs, and challenges), **(iii) residents as developers** (providing solutions).

Concluding sentiments reflect the idea that collaboration is only genuine once city governments don't limit the inclusion of citizens to consultation but "regard them as co-creators in a collaborative form of citymaking" [22]. This enables a shared "project identity" [21] among all stakeholders (even if they share nothing else in common), who therein consider the issue a "matter-of-care" [16], to which they bring their own, diverse perspective. Similarly, [58] highlights the importance of a "shared vision," writing "[o]nly a shared vision can be a responsible one." Furthermore, we must consider at what point the citizen is brought into the fold, since the translation of large, sweeping goals into its smaller, implementable steps leave a lot of room for ambiguity and subjective interpretation and there is power in who "will have a voice in defining these little, much more local futures" [56]. In conclusion of their extensive literature review, Mora and Deakin [49] find that smart city collaborative environments should "create an innovation system where **(i)** values, expectations, and resources belonging to different actors are brought together and aligned to create value for all the participants and **(ii)** bottom-up and top-down forces are complementary in nature and instigate evolutionary processes that sustain urban development."

2.4 Synthesis

The literature review has revealed several key insights that form the theoretical foundation for examining citizen participation in smart city initiatives.

The contested nature of public spaces makes them sites of complex power dynamics, where multiple interests and desires coexist and collide. There is a wide and growing recognition among academics of the value of citizen participation in urban development. The literature emphasizes the importance of public spaces as sites for democratic engagement, community building, and creative expression. Movements like DIY urbanism and tactical urbanism represent a shift towards more collaborative and inclusive approaches to city-making and highlight the potential of small-scale, citizen-driven interventions in shaping urban environments. These ideas are crucial in assessing the nature and impact of citizen proposals in the 5er Klimateam initiative, especially considering how Smart City Vienna presents itself, and taking into account Sepehr and Felt's [56] skepticism of the city's participatory rhetoric.

The tension between corporate-driven and holistic smart city models provides a framework for evaluating Vienna's approach. In contrast to technology-centric, corporate-driven smart city models, the holistic smart city approach emphasizes balancing technological innovation with social inclusion and environmental sustainability, and aligns more closely with participatory ideals. The literature emphasizes the potential of harnessing collective intelligence through genuine collaboration between citizens, experts, and city authorities. It stresses the importance of moving beyond tokenistic participation to true collaboration between citizens and city authorities. Foth's [24] classification of citizen involvement levels and Mora and Deakin's [49] framework for citizen participation are instrumental in assessing the depth of engagement in the 5er Klimateam process.

While some highlight the potential of digital tools to enhance citizen engagement, concerns about digital divides and exclusion as well as the challenges they present related to accessibility, privacy, and the potential exacerbation of existing inequalities must also be considered. This tension will be important in evaluating the accessibility and inclusivity of the 5er Klimateam's digital platform. Furthermore, there are significant challenges in translating citizen input into concrete urban interventions within existing administrative frameworks. Ensuring diverse and inclusive participation, particularly from marginalized groups, is crucial for creating truly representative urban solutions. This insight will be crucial in examining how effectively citizen ideas are translated into concrete urban interventions in the 5er Klimateam project.

Based on these insights, effective citizen participation in smart city development should:

- Foster genuine collaboration between citizens, experts, and city authorities, moving beyond consultation to co-creation.
- Balance technological innovation with social and environmental considerations, aligning with the holistic smart city model.
- Ensure inclusive representation and accessibility, addressing potential digital divides.
- Effectively translate citizen input into tangible urban interventions, bridging the gap between participatory ideals and practical implementation.
- Leverage the potential of small-scale, citizen-driven interventions to shape urban spaces.

This theoretical framework will guide the analysis of the 5er Klimateam initiative, helping to assess how well it embodies the principles of collaborative city-making and contributes to the development of a holistic smart city. The subsequent chapters will examine how these theoretical ideals manifest in practice, identifying successes, challenges, and areas for improvement in Vienna's approach to citizen participation in smart city development.

Case Study: 5er Klimateam

The ‘Wiener Klimateam’ [*Vienna Climate Team*] [69] is one of the City of Vienna’s Smart City [17] projects. It is sponsored by Stadt Wien to crowd source project ideas for environment-friendly design in the city, a set of which are eventually implemented. The project’s website [67] states:

Als Expert*innen für ihren Bezirk wissen sie nämlich am besten, was es bei ihnen ums Eck für ein besseres Klima braucht. Vom Gemeindebau bis zum Schrebergarten, vom Park bis zum Vereinslokal: Überall dort dort, wo sich das Leben im Grätzl abspielt, kannst du Teil des Klimateams werden. [*As experts of your district, you know best what is needed around your corner for a better climate. From community housing to allotment gardens, from parks to club houses: wherever life takes place in the neighborhood, you can become part of the climate team.*]

Es spielt keine Rolle, wie groß oder klein deine Idee ist: Die Stadt Wien und die Bezirke freuen sich über alle Vorschläge, die die Folgen des Klimawandels wirksam verringern und den Klimawandel aufhalten können. Wie deine Idee konkret umgesetzt werden kann, erarbeitest du im Laufe des Projekts zusammen mit den Expert*innen der Verwaltung, den Bezirken und der Politik. [*It doesn’t matter how big or small your idea is: The City of Vienna and the districts welcome all suggestions that can effectively reduce the consequences of climate change and stop climate change. Over the course of the project, you will work out how your idea can be implemented in concrete terms together with the experts from the administration, the districts and politicians.*]

The Vienna Climate Team operates at a neighborhood level, having one process per district (Vienna’s neighborhood zoning system). When the Vienna Climate Team began in 2022, it chose three districts to start out with: Margareten (the 5th district), Simmering (the 11th district) and Ottakring (the 16th district). The initiative returned in 2023 for a new round of submissions, choosing three further districts. Each initiative is on a two year timeline and goes through five phases, as described by [77]:

1. **Submit Ideas** During the first stage, all Vienna residents are able to submit their ideas. These submissions can be made on behalf of individuals or groups. Additionally, this stage features events in the participating district, allowing those interested to share their thoughts and gain more insight into climate protection.
2. **Review Ideas** Experts from the City of Vienna evaluate the practicality and potential impact of the submitted proposals, following the pre-defined submission guidelines (see Section 3.1.1).
3. **Develop projects** During this phase, individuals who submitted ideas and other residents of Vienna are encouraged to participate in neighborhood and project workshops. Collaborating with City of Vienna personnel and various experts, they refine their ideas into preliminary project plans. The final project plans are then subject to a final assessment by City of Vienna experts.
4. **Citizens jury** A randomly chosen, representative sample of residents from each district determines which projects will be executed based on the allocated budget.
5. **Implement projects** The projects chosen by the jury are announced and the City of Vienna proceeds with the implementation of these selected projects.

This investigation focuses on the ‘5er Klimateam,’ which is the Climate Team initiative for Margareten. It was chosen since it took place in 2022, meaning most of the resulting projects are near completion (planned December 2024), and due to its central - most urban - location compared to the two other districts chosen in 2022.

3.1 Data Collection

The exchange throughout the 5er Klimateam project is centrally organized and mostly takes place on a platform called Wien Mitgestalten [66], which is Stadt Wien’s primary citizen collaboration website where various citizen-involved urban planning initiatives are proposed, tracked, and engaged with by the public. Participants are able to submit their ideas and engage with submissions from others through likes and comments. They can also see an overview of the initiative’s lifecycle, which responsively shows which projects have been included in which phases and what their outcomes in the phase were, as shown in Figure 3.1. The city also uses this platform as a communication tool, by posting information about instructions and events, responding to idea submissions directly on the submission’s page, updating the status of ideas, etc.

3.1.1 Phases 1 & 2: The Submissions

The idea submission phase of the 5er Klimateam was open from the 19th of April 2022 until the 6th of June 2022. The city offers some submission criteria [76]:

5er Klimateam

Danke für die zahlreichen 1er Ideen fürs 5er Wiener Klimateam

Im 1. Klimateam-Jahr 2022 haben die Wiener*innen viele tolle Ideen für das Klima in Margareten eingebracht. Aus 309 eingereichten Ideen für Margareten sind 27 Projektskizzen geworden. Die Bürger*innen-Jury hat sich schließlich für 5 Projekte entschieden. Sie werden in den nächsten 2 Jahren umgesetzt.

Scrolle nach unten, um mehr zu den Projekten zu erfahren.

Über

- 📅 Endete am 31. Dez. 2022
- 👤 551 Teilnehmende
- 📌 5 Phasen
- 💡 5 Projekte in der finalen Phase
- 📅 16 Veranstaltungen
- ➔ [Teilen](#)

[Zu den Projekten](#)

Phasen

1
Ideen einreichen

2
Ideen prüfen

3
Projekte ausarbeiten

4
Bürger*innen-Jury

5
Projekte umsetzen

1

Ideen einreichen


19. April 2022 - 6. Juni 2022

Alle Menschen, die in Wien leben, können Ideen für die klimafitte Zukunft in Margareten einreichen.

Ideen

Liste Karte


Beliebt ▾
Themen ▾



Gehsteigverbreiterung und Neugestaltung der Kri...

vor 2 Jahren Die Kriehubergasse vor dem Rainerygymnasium im ...


👍 63 🗳️ 0 🗨️ 33 IN PRÜFUNG



Biomüll raus aus dem Restmüll rein ins Wurmhotel!

vor 2 Jahren Unser Biomüll hält es im Restmüll nimmer länger aus. ...


👍 43 🗳️ 0 🗨️ 2 IN PRÜFUNG



Blätterdächer für Gassen

vor 2 Jahren Man kann Gassen mit einem Gitternetz überspannen, an dem z.B. ...

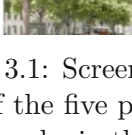
👍 40 🗳️ 0 ABGELEHNT



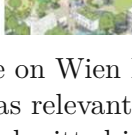
Würmer Füttern = nährstoffreiche Erde für Pflanzen

vor 2 Jahren Ein Wurmhotel für Margareten! Es landet viel zu vi...

👍 37 🗳️ 0 🗨️ 1 IN PRÜFUNG



555 Bäume für den 5ten



Frischluftschneisen planen: Kühle Luft für alle

Figure 3.1: Screenshot of 5er Klimateam page on Wien Mitgestalten. There are tabs for each of the five project phases. Only the ideas relevant to the chosen phase are shown, for example, in the Phase 1 tab, all initially submitted ideas are shown. The outcome of the idea for that phase is shown within the idea card, in this case, Phase 1 is resolved by initial submission either being "in Prüfung" [under Review] or "Abgelehnt" [Rejected].

3. CASE STUDY: 5ER KLIMATEAM

- "Positive Wirkung auf das Klima" [*Positive impact on the climate*]: The city lists some of the desired metrics of what a positive impact might look like, as well as references two of it's broader 2040 climate goals (climate neutrality and -resilience).
- "Soziale Gerechtigkeit und Gemeinschaftsbildung" [*Social justice and community building*]: Specifically, the city points out the groups which it sees as especially affected by climate change:
 - Personen mit chronischen und anderen Erkrankungen [*People with chronic and other illnesses*]
 - Menschen in kleinen Wohnungen [*People living in small apartments*]
 - Menschen mit niedrigem Einkommen [*People with low incomes*]
 - Menschen, die von Armut betroffen sind [*People experiencing poverty*]
- "In 2 Jahren realisierbar" [*Can be implemented in 2 years*]: They also say under this point, "Für die Umsetzung sind die Stadt Wien oder die Bezirke zuständig. Das heißt, es handelt sich um öffentliche Flächen oder Gebäude." [*The City of Vienna or the districts are responsible for implementation. This means that these are public areas or buildings.*]
- "Öffentlich-Rechtlich möglich" [*Possible under public law*]: Other than being legally possible, this guideline also includes the statement "Deine Idee nützt nicht nur Einzelpersonen, sondern dient dem öffentlichen Interesse." [*Your idea not only benefits individuals, but serves the public interest.*]
- "Entspricht den Zielen und Planungen der Stadt Wien" [*Corresponds to the goals and plans of the City of Vienna*]: It should be possible to fund the project or parts of it through the city, district, and/or residents.
- "Stellt den laufenden Betrieb sicher" [*Ensures ongoing operations*]: The costs of the project should be maintainable in the long term.
- "Fällt in den Zuständigkeitsbereich der Stadt Wien" [*Falls within the area of responsibility of the City of Vienna*]: The city lists some of the examples of areas that they are responsible for and suggest the submissions be restricted to these areas.

Submissions can include a title, a cover photo, a textual description, a specific location, and file attachments. User names are used to keep track of authors of idea submissions as well as of the comments. The following thematic analysis was focused on the titles and textual descriptions of the submission ideas since they were most complete and consistently present.

Submissions are reviewed for the first time by the city in Phase 2, which took place between the 7th of June 2022 and August 3rd 2022, during which time the moderators left comments on each of the submissions about the fate of the idea.

	# Titles	# Descriptions	# Named Authors
Unique to Submission	279 (90.58%)	279 (90.58%)	116 (39.86%)
Exact Match to Another Submission	22 (7.14%)	1 (0.32%)	175 (60.13%)
Semantically Close to Another Submission	7 (2.27%)	28 (9.09%)	n/a
Total	308	308	291

Table 3.1: Number of titles, descriptions, and known authors by their uniqueness in the pool of Phase 1 submissions.

In total, there were 308 submissions, of which, only one was posted twice (exact match), and 286 had unique titles (279 of which were semantically unique, see Table 3.1). There were at least 147 unique authors (some posted anonymously or under a group/shared user name), the vast majority (116 authors, 78.91%) of which only posted 1 submission (see Appendix A.3 for more). A few posts described the same or similar submission idea(s). One project in particular (about the greening and sidewalk widening in front of a certain school in the district) had multiple posts advocating for its implementation (≈ 20 submissions). Besides this, one other project (Bräuhaußspitz greening) also had a noticeable number of repeating sentiments (≈ 10 submissions). These were, however, the exception and not the rule, as most other ideas were unique, if not in their underlying goal then in their ideas for implementation methods and in their presentation. This made for a rich set of interesting approaches to addressing various needs and problems. In conclusion of the first round of review, 235 (76.30%) of the submissions were rejected by the organizers, while 73 (23.70%) of the submissions (based on the entirety or part of their suggestion(s)) moved on to be reviewed in the next stage of the process (see Table 3.2). Almost all, 307 (99.68%), of the submissions were written in German. The excerpts presented in this report are quoted as they appeared and then translated to English in parentheses afterwards, if necessary.

Phase 2 Decision	# Submissions
Rejected	235 (76.30%)
In Review	73 (23.70%)
Total	308

Table 3.2: The outcome of the Phase 2 review by city officials of the initial pool of Phase 1 submissions.

3.1.2 Phases 3 & 4: The Projects

Phase 3 of the 5er Klimateam took place from August 4th until October 31st, 2022. As per the city's description of this phase, it occurred through a series of workshops attended by citizens that participated in the submission phase, experts, and city personnel in order

3. CASE STUDY: 5ER KLIMATEAM

to turn ideas into refined projects. Projects are posted to the Mitgestalten platform by the moderators of the 5er Klimateam and each have a title, a project description, as well as address the following points:

- "Bedeutung für den Klimaschutz im Bezirk" [*Significance for climate protection in the district*]
- "Wem kommt das Projekt zugute?" [*Who will benefit from the project?*]
- "Wo soll das Projekt stattfinden?" [*Where will the project take place?*]
- "Ursprüngliche Idee(n)" [*Original idea(s)*]

This is followed up by another round of selection - this time by a group of residents - of the resulting project plans in Phase 4, which occurred between the 1st of November and the 15th of December 2022.

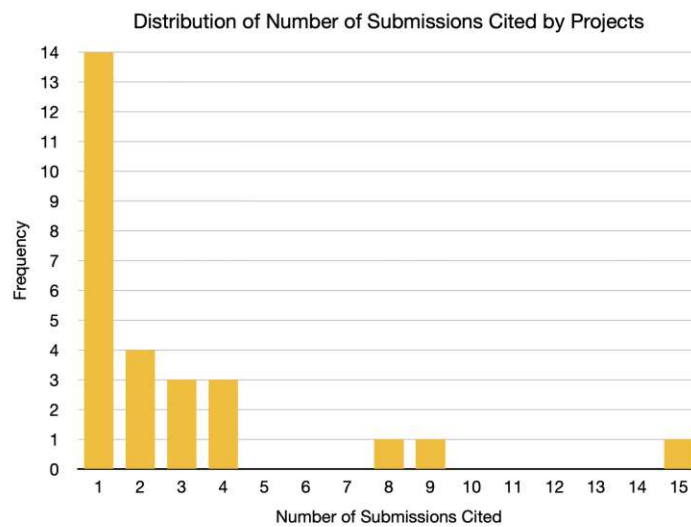


Figure 3.2: The distribution of num submissions cited as the idea source of the projects.

In Phase 3 of the 5er Klimateam, the 73 submissions that came out of the city’s review of the initial citizen submissions were translated into 27 refined projects. All of these submissions were credited in at least one - or in the case of 2 submissions (2.73%) in two - of the projects as one of the originating ideas. Most of the projects, 14 (51.85%), cited only one submission (see Figure 3.2). All of them were documented in German. Out of these 27 projects, 5 (18.52%) were selected by the citizens jury in Phase 4 to move on to implementation (see Table 3.3).

Phase 4 Decision	# Projects
Rejected	22 (76.30%)
Move to Implementation	5 (23.70%)
Total	27

Table 3.3: The outcome of the Phase 4 review by the citizen jury of Phase 3 projects.

3.1.3 Phase 5: The Implementations

In the end, the citizen jury resulted in 5 projects entering the implementation phase. The city outlines the time frame of the 16th of December 2022 until the 31st of December 2022 to put these implementations in motion, stating that projects will be finished by December 2024, at the latest. The city's updates for each project, which were posted on May 7th, 2024, are used as the primary evidence of progress in the analysis of the implementations. Each of the project descriptions and their respective updates are therefore included below.

Repair-Café 05

The description from project website [65] states:

Margareten soll ein öffentliches und kostenloses Repair-Café einrichten. Oftmals werden Dinge weggeworfen, die mit einer kleinen Reparatur noch ein langes Leben hätten. Das Repair-Café 05 soll ein Ort werden, an dem Bezirksbewohner*innen dabei unterstützt und angeleitet werden, wie sie Kaputttes wieder ganz machen bzw. zum Laufen bringen. Dafür braucht es einen Raum, Reparatur-Profis und Werkzeug. Müll vermeiden und Ressourcen sparen lautet die Devise! *[Margareten shall set up a public and free repair café. Things are often thrown away that could have a long life with a small repair. The Repair Café 05 shall be a place where district residents are supported and instructed on how to repair broken things or get them working again. This requires a room, repair professionals and tools. Avoiding waste and saving resources is the motto!]*

Bedeutung für den Klimaschutz im Bezirk [*Significance for climate protection in the district*]

- Fördert die Kreislaufwirtschaft [*Promotes a circular economy*]
- Bewusstsein schaffen [*Raising awareness*]
- soziale Gerechtigkeit [*Social justice*]

Wem kommt das Projekt zugute? [*Who will benefit from the project?*]

Allen Bewohner*innen Margareten's [*All residents of Margareten*]

Wo soll das Projekt stattfinden? [*Where will the project take place?*]

Nähe Siebenbrunnenplatz [*Near Siebenbrunnenplatz*]

Ursprüngliche Idee(n): [*Original Idea(s):*]

Repair-Café 05

The city's update reads:

Hallo! [*Hello!*]

Wir möchten dich heute mit Neuigkeiten aus dem Wiener Klimateam versorgen, denn es gibt ein Update zum Projekt „Margareten Repariert...“. [*We would like to provide you with news from the Vienna climate team today, because there is an update on the “Margareten repariert...” project.*]

Wir dürfen mit Freude mitteilen, dass sich das Projekt „Margareten Repariert...“ mitten in der Umsetzung befindet. Am 21. Februar hat die Eröffnung vom Repair-Cafe im 48er-Tandler in Magareten stattgefunden. Einmal im Monat reparieren Reparatur*innen gratis unterschiedliche Dinge- vom kleinen Elektor-Gerät bis zum Fahrrad. [*We are pleased to announce that the “Margareten repariert...” project is*

in the middle of implementation. On February 21, the opening of the Repair Cafe took place in the 48er-Tandler in Magareten. Once a month, repairers repair various things for free - from small electronic devices to bicycles.]

Die Termine für 2024 sind bereits fixiert und finden an folgenden Tagen jeweils von 14:00 – 18:00 Uhr im 48er Tandler statt: *[The dates for 2024 have already been set and will take place on the following days from 2:00 p.m. to 6:00 p.m. in the 48er Tandler:]*

- 23. Mai *[May 23rd]*
- 29. Juni *[June 29th]*
- 7. August *[August 7th]*
- 11. September *[September 11th]*
- 23. Oktober *[October 23rd]*
- 27. November *[November 27th]*
- 11. Dezember *[December 11th]*

Du kannst deinen Reparatur-Termin auf der Website des 48er Tandlers unter „Margareten repariert...“ reservieren. Für die Termine sind schwerpunktbezogene Reparaturen vorgesehen. Bei den ersten Terminen wurden bereits kleine elektronische Geräte sowie Textilien repariert. In Zukunft wird es neben Textilien und Kleingeräten auch möglich sein, das Fahrrad reparieren zu lassen. *[You can reserve your repair appointment on the 48er Tandler website under “Margareten repariert...”. The appointments are for specific repairs. Small electronic devices and textiles have already been repaired at the first appointments. In the future, it will be possible to have your bicycle repaired in addition to textiles and small devices.]*

Erzähl deiner Familie und Freund*innen davon und bringt gerne eure Gegenstände mit, die eine Reparatur brauchen. *[Tell your family and friends about it and feel free to bring your items that need repair.]*

Das Projekt „Margareten repariert...“ war eine von 309 Ideen, die im Bezirk Margareten im Rahmen des Wiener Klimateams eingereicht wurden. Im Frühjahr 2022 wurde mit der Ideensammlung begonnen, zu Jahresende wurde das Projekt schließlich von einer repräsentativ gelosten Bürger*innen-Jury ausgewählt. Im vergangenen Jahr haben die zuständigen Magistratsabteilungen gemeinsam mit dem Bezirk an der Umsetzung gearbeitet und nun ist es so weit: „Margareten repariert...“ ist eines der ersten Projekte, die im Rahmen des Wiener Klimateams umgesetzt wurden. Es ist ein gutes Beispiel dafür, dass in Zusammenarbeit von Bürger*innen, Verwaltung und Politik neue, spannende Projekte entstehen, von denen sowohl die Bewohner*innen als auch das Klima profitieren! *[The “Margareten repariert...” project was one of 309 ideas submitted in the Margareten district as part of the Vienna Climate Team. The collection of ideas began in spring 2022, and at the end of the year the project was finally selected by a representative jury of citizens. Last year, the responsible municipal departments worked together with the district on the implementation and now the time has come: “Margareten repariert...” is one of the first projects to be implemented as part of the Vienna Climate Team. It is a good example of how new, exciting projects can be created in cooperation between citizens, administration and politics, from which both residents and the climate benefit!]*

Liebe Grüße,
das Wiener Klimateam
Wiener Klimateam
Gepostet am 7. Mai 2024

-
Letzte Bearbeitung am 13. Mai 2024

[*Best regards,
the Vienna Climate Team
Vienna Climate Team
Posted on May 7, 2024*

-
Last edited on May 13, 2024]

„Superblock“ Vorbereitung, Testphase, Pilot ,temporär‘

The description from project website [68] states:

Ein MIV (motorisierter Individualverkehr)-freier Block soll im 5. Bezirk geschaffen werden. Der Superblock soll in mehreren Stufen entwickelt werden, damit die Umsetzung gut mitgetragen wird. Ausgangspunkt sind Straßen und Kreuzungen, die fußgänger- und fahrradfreundlich gestaltet werden können. Der Fokus sollte auf Wohnstraßen liegen. Durch Workshops und Aktionen werden Umgestaltungsmaßnahmen temporär erlebbar. Temporäre Maßnahmen könnten z.B. Bodenmarkierungen sein. Workshops für Möbelbau und Begrünung binden Bürger*innen intensiver ein - wie etwa in Favoriten. Auch Vereine, Geschäfte und kleine Unternehmen können sich involvieren, um den Superblock-Entwicklungsprozess mitzugestalten. [*A MIV (motorized individual transport)-free block is to be created in the 5th district. The superblock is to be developed in several stages so that the implementation is well supported. The starting point is streets and intersections that can be designed to be pedestrian and bicycle friendly. The focus should be on residential streets. Workshops and campaigns will make it possible to experience redesign measures temporarily. Temporary measures could be, for example, floor markings. Workshops on furniture construction and greening involve citizens more intensively - as in Favoriten, for example. Clubs, shops and small companies can also get involved to help shape the superblock development process.*]

Ziele: umweltfreundliche Stadt, mehr öffentlicher Raum, partizipative Prozesse, Kennenlernen der Nachbar*innen. Menschen, die keine Terrasse haben, könnten die Straße als Ort nutzen, um sich auszuruhen, sich abzukühlen, Nachbarn zu treffen und Freunde zu finden. Die Straßen werden wieder als öffentlicher Raum begriffen. Kinder können auf der Straße spielen, Straßenkreuzungen werden in echte „Piazze“ verwandelt. [*Objectives: environmentally friendly city, more public space, participatory processes, getting to know neighbors. People who don't have a terrace could use the street as a place to rest, cool off, meet neighbors and make friends. The streets will be seen as public space again. Children can play in the street, street crossings will be transformed into real "piazze".*]

Bedeutung für den Klimaschutz im Bezirk [*Significance for climate protection in the district*]

- CO₂-Reduktion bedingt durch die autofreie Zone [*CO₂ reduction due to the car-free zone*]
- Hitzereduktion durch viel Grün und Entsiegelung [*Heat reduction through lots of greenery and desealing*]
- Bepflanzung fördert Biodiversität in der Stadt [*Planting promotes biodiversity in the city*]

Wem kommt das Projekt zugute? [Who will benefit from the project?]

- Insekten und Vögeln [*Insects and birds*]
- Kindern und Jugendlichen [*Children and young people*]
- Allen Bewohner*innen im näheren Umkreis [*All residents in the immediate vicinity*]

Wo soll das Projekt stattfinden? [Where will the project take place?]

z.B. westlich von der Reinprechtsdorfer Straße [*e.g. west of Reinprechtsdorfer Straße*]

Ursprüngliche Idee(n): [Original Idea(s):]

„Superblock“
Super-Blocks im 5. Bezirk
Margareten Green Superblock

The city's update reads:

Hallo! [*Hello!*]

Wir melden uns heute mit einem Update zum Projekt „Superblock Vorbereitung, Testphase, Pilot, temporär“. [*We are getting in touch today with an update on the project “Superblock Vorbereitung, Testphase, Pilot, temporär”.*]

Das Projekt befindet sich aktuell in Detailplanung. Expert*innen der Stadt Wien beschäftigen sich gemeinsam mit dem Bezirk Margareten mit der Ausarbeitung und planen die mögliche Umsetzung. [*The project is currently in the detailed planning stage. Experts from the City of Vienna are working with the Margareten district to develop the plan and are planning its possible implementation.*]

Sobald es neue Informationen dazu gibt, kannst du dich hier über den neuen Projekt-Status informieren. [*As soon as there is new information, you can find out about the new project status here.*]

Liebe Grüße,
das Wiener Klimateam
Wiener Klimateam
Gepostet am 7. Mai 2024

[*Best regards,
the Vienna climate team
Vienna climate team
Posted on May 7, 2024*]

Begrünungszone Margaretenstraße

The description from project website [62] states:

Aus der Margaretenstraße soll eine Begrünungszone werden. Das bedeutet eine Beruhigung des (motorisierten) Verkehrs und die Reduktion von Parkstreifen. Diese sollen entsiegelt werden und mit Sitzmöglichkeiten für ALLE aufgewertet werden. Die bestehende Rad- und Gehweg-Infrastruktur soll erweitert werden. Ebenso sollen Möglichkeiten zum Urban Gardening geschaffen werden. [*Margaretenstrasse is to become a green zone. This means calming (motorized) traffic and reducing parking spaces. These are to be unsealed and upgraded with seating for EVERYONE. The existing bike and footpath infrastructure is to be expanded. Opportunities for urban gardening are also to be created.*]

Bedeutung für den Klimaschutz im Bezirk [Significance for climate protection in the district]

- Hitzereduzierung [*Heat reduction*]

- Verbesserung des Mikroklimas (Entsiegelung und mehr Grün) [*Improvement of the microclimate (unsealing and more green)*]
- Minimierung der (Fein)Staubbelastung [*Minimization of (fine) dust pollution*]
- CO₂-Einsparungen [*CO₂ savings*]
- Verkehrsreduktion [*Traffic reduction*]
- Sensibilisierung für Klimaschutz und Vorkehrungen für Klimawandel [*Raising awareness of climate protection and climate change preparedness*]

Wem kommt das Projekt zugute? [*Who will benefit from the project?*]

- Sämtlichen Anrainer*innen und Gewerbetreibenden sowie deren Gesundheit [*All neighbours and business owners and their health*]
- Sozialen Einrichtungen [*Social institutions*]
- Kindern und Jugendlichen [*Children and young people*]
- Vulnerablen Gruppen [*Vulnerable groups*]

Wo soll das Projekt stattfinden? [*Where will the project take place?*]

Zwischen Kettenbrückengasse und Pilgramgasse [*Between Kettenbrückengasse and Pilgramgasse*]

(Margaretenplatz, Pilgramgasse, Krongasse)

Ursprüngliche Idee(n): [*Original Idea(s):*]

Begegnungszone Margaretenstraße

Begegnungszone Margaretenstraße und -platz

Gemeinschaftsgarten Krongasse

The city's update reads:

Hallo! [*Hello!*]

Wir möchten dich heute mit Neuigkeiten aus dem Wiener Klimateam versorgen, denn es gibt ein Update zum Projekt „Begrünungszone Margaretenstraße“. [*We would like to provide you with news from the Vienna Climate Team today, because there is an update on the “Begrünungszone Margaretenstraße” project.*]

Das Projekt befindet sich aktuell in Detailplanung. Expert*innen der Stadt Wien beschäftigen sich gemeinsam mit dem Bezirk Margareten mit der Ausarbeitung und planen die mögliche Umsetzung. [*The project is currently in the detailed planning stage. Experts from the City of Vienna are working with the Margareten district to develop the plan and are planning its possible implementation.*]

Sobald es neue Informationen dazu gibt, kannst du dich hier über den neuen Projekt-Status informieren. [*As soon as there is new information, you can find out about the new project status here.*]

Liebe Grüße,
das Wiener Klimateam
Wiener Klimateam
Gepostet am 7. Mai 2024
[*Best regards,
the Vienna climate team
Vienna climate team
Posted on May 7, 2024*]

Klimatag im Frühjahr (oder 1mal im Monat)

The description from project website [64] states:

Ein verbrennungsmotorenfreier Samstag im Bezirk - einmal pro Jahr oder einmal pro Monat - soll den Fahrradfahrer*innen, (E-)Scooterfahrer*innen oder Fußgänger*innen die Möglichkeit bieten, den Straßenraum großflächiger zu nutzen. Durch Visualisierungen (Poster, Plakate etc.) könnte auch die CO2 Ersparnis, die Verbesserung der Luftqualität usw. veranschaulicht werden. [*A combustion engine-free Saturday in the district - once a year or once a month - should give cyclists, (e-)scooter riders or pedestrians the opportunity to use the road space more extensively. Visualizations (posters, placards, etc.) could also illustrate the CO2 savings, the improvement in air quality, etc.*]

Damit kombiniert könnten z.B. Veranstaltungen zum Thema Klimaschutz, zum Thema nachhaltiges Essen oder ein Kulturprogramm am Margaretenplatz stattfinden. [*In combination with this, events on the topic of climate protection, sustainable food or a cultural program could take place at Margaretenplatz.*]

Bedeutung für den Klimaschutz im Bezirk [*Significance for climate protection in the district*]

- CO2 Ersparnis [*CO2 savings*]
- Bewusstsein schaffen für Klimaschutz [*Raising awareness for climate protection*]

Wem kommt das Projekt zugute? [*Who will benefit from the project?*]

- Anrainer*innen [*Neighbours*]
- Geschäftsleuten (Bar- und Restaurantbesitzer*innen) etc. [*Business people (bar and restaurant owners) etc.*]

Wo soll das Projekt stattfinden? [*Where will the project take place?*]

5. Bezirk [*5th district*]

Ursprüngliche Idee(n): [*Original Idea(s):*]

Klimatag im Bezirk

The city's update reads:

Hallo! [*Hello!*]

Wir können aufregende Neuigkeiten aus dem Bezirk Margareten berichten: Am 16. Mai 2024 findet von 13:00 – 17:00 Uhr in der Redergasse der Klimatag im Frühjahr statt. [*We can report exciting news from the Margareten district: On May 16, 2024, the Spring Climate Day will take place in Redergasse from 1:00 p.m. to 5:00 p.m.*]

Der Klimatag hat zum Ziel, die Bewohner*innen und Interessierte über das vielfältige Angebot rund um den Klimaschutz in Wien zu informieren. Dafür sind unter anderem Organisationen wie das Klimabündnis mit einem Quizrad, die MA 48 mit dem Abfallberatungsbus sowie die Wiener Linien mit einem Lastenfahrrad vor Ort. Aber auch andere Magistratsabteilungen der Stadt Wien und Initiativen werden vertreten sein. Neben einer Bastel- und Spielestation gibt es für Kinder auch einen Fahrradparcour. Es wird ein Fest der Begegnung und Menschen sollen für den Klimaschutz motiviert werden. [*The aim of Climate Day is to inform residents and interested parties about the wide range of climate protection activities in Vienna. Organizations such as the Climate Alliance with a quiz bike, MA 48 with the waste advice bus and Wiener Linien with a cargo bike will be on site. But other municipal departments of the City of Vienna and initiatives will also be represented. In addition to a craft and games station, there will also be a bicycle course for children. It will be a festival of encounters and people will be motivated to protect the climate.*]

Wann: 16. Mai 2024, 13:00 – 17:00 Uhr [*When: May 16, 2024, 1:00 p.m. – 5:00 p.m.*]

Wo: Redergasse, 1050 Wien [*Where: Redergasse, 1050 Vienna*]

Der Klimatag im Frühjahr ist eines von fünf von einer repräsentativ gelosten Bürger*innen-Jury ausgewählten Wiener Klimateam-Projekten aus dem Jahr 2022. Anfänglich als Idee wurde sie im Rahmen des Wiener Klimateams von Bürger*innen für den Bezirk Margareten eingereicht. Anschließend wurden von den Expert*innen der Stadt Wien und des Bezirks die Rahmenbedingungen für den Projektentwurf im Detail geprüft und schließlich zu einem umsetzbaren Projekt weiterentwickelt. [*The climate day in spring is one of five Vienna Climate Team projects from 2022 selected by a representative jury of citizens. Initially, it was submitted as an idea by citizens for the Margareten district as part of the Vienna Climate Team. The framework conditions for the project design were then examined in detail by experts from the City of Vienna and the district and finally developed into a feasible project.*]

Wir freuen uns über alle, die zum Wiener Klimatag kommen! [*We look forward to welcoming everyone to Vienna Climate Day!*]

Bis bald,
Das Wiener Klimateam
Wiener Klimateam
Gepostet am 7. Mai 2024
[*See you soon,
The Vienna Climate Team
Vienna Climate Team
Posted on May 7, 2024*]

Fassadenbegrünung und mehr

The description from project website [63] states:

Das Projekt will Bewusstsein schaffen, dass es Förderungen für Fassadenbegrünung im privaten Bereich gibt. Alle Hauseigentümer*innen in Margareten, die ihre Fassade noch nicht begrünt haben, sollten regelmäßig Informationen über die Vorteile (Klimaschutz, Schaffen von Lebensraum für Insekten und Vögel) bekommen. Ziel ist, dass viele Margaretner*innen ihre Fassaden begrünen. [*The project aims to raise awareness that there are subsidies for greening facades in the private sector. All homeowners in Margareten who have not yet greened their facades should receive regular information about the benefits (climate protection, creating habitats for insects and birds). The aim is for many Margareten residents to green their facades.*]

Neben der Förderung von grünen Fassaden wäre es ebenfalls wichtig, mehr Grün in den Stadtraum zu bekommen. So können z.B. hässliche Verkehrsinseln in der Ramperstoffergasse zu Grünoasen umgestaltet werden. Dies wertet nicht nur das Stadtbild auf, sondern fördert die Biodiversität und wirkt Hitzeinseln im Stadtraum entgegen. Generell sollen die (hauseigenen) Rasenflächen weniger oft gemäht werden. Die Stadt kann hier durch Vorbildwirkung zum Mitmachen anregen. [*In addition to promoting green facades, it would also be important to get more greenery into the city. For example, ugly traffic islands in Ramperstoffergasse could be transformed into green oases. This not only improves the cityscape, but also promotes biodiversity and counteracts heat islands in the city. In general, the (house-owned) lawns should*]

be mowed less often. The city can encourage people to get involved by setting an example here.]

Bedeutung für den Klimaschutz im Bezirk [*Significance for climate protection in the district*]

- Wärmedämmung [*Thermal insulation*]
- Abkühlung im Sommer [*Cooling in the summer*]

Wem kommt das Projekt zugute? [*Who will benefit from the project?*]

- Bewohner*innen [*Residents*]
- Insekten, kleinen Tieren [*Insects, small animals*]

Wo soll das Projekt stattfinden? [*Where will the project take place?*]

Schulen, Gemeindebauten, ggf. einzelne „private“ Häuserblocks [*Schools, community buildings, possibly individual "private" blocks of houses*]

Ursprüngliche Idee(n): [*Original Idea(s):*]

Grünes Margareten – Bacherplatz / Ramperstorffergasse

Verkehrinsel in der Ramperstorffergasse begrünen

Lebensräume schaffen: No Mow May, Fassadenbegrünung & Nistplätze

Begrünung von Rückseiten von öffentlichen Gebäuden

The city's update reads:

Hallo! [*Hello!*]

Wir möchten dich heute mit Neuigkeiten aus dem Wiener Klimateam versorgen, denn es gibt ein Update zum Projekt „Fassadenbegrünung und mehr“. Das Projekt, das sich unter anderem zum Ziel gesetzt hat, Bewusstsein für Förderungen für Fassadenbegrünungen zu schaffen, befindet sich mitten in der Umsetzung. [*Today we would like to provide you with news from the Vienna Climate Team, because there is an update on the project "Fassadenbegrünung und mehr". The project, which aims, among other things, to raise awareness of funding for facade greening, is in the middle of implementation.*]

Im Mai startet GrünStattGrau, Österreichs Kompetenzstelle für Bauwerksbegrünung, eine Informationskampagne und stellt dafür den sogenannten MUGLI auf. Der MUGLI ist ein Informationscontainer zum Thema Fassadenbegrünung von GrünStattGrau und wird jeweils 3 Wochen an den Standorten Margaretenplatz 6 und auf der Wiedner Hauptstraße 94 stehen. Das Team von GrünStattGrau wird auch jede Woche 2 Stunden vor Ort sein und ist für Fragen offen. Zu folgenden Terminen könnt ihr dort vorbeischaun und euch über Fassadenbegrünung informieren. [*In May, GrünStattGrau, Austria's competence center for building greening, is launching an information campaign and is setting up the so-called MUGLI for this purpose. The MUGLI is an information container on the subject of facade greening from GrünStattGrau and will be located at the Margaretenplatz 6 and Wiedner Hauptstraße 94 locations for three weeks each. The GrünStattGrau team will also be on site for two hours each week and is open to questions. You can stop by on the following dates and find out more about facade greening.*]

Margaretenplatz 6

- Freitag, 03.05., 10:00 – 12:00 Uhr
- Mittwoch, 08.05., 17:30 – 19:30 Uhr
- Donnerstag, 16.05., 10:00 – 12:00 Uhr

Wiedner Hauptstraße 94

- Donnerstag, 23.05., 15:30 – 17:30 Uhr

- Mittwoch, 29.05., 16:30 – 18:30 Uhr
- Donnerstag, 06.06., 16:30 – 18:30 Uhr

Das Projekt „Fassadenbegrünung und mehr“ war eine von 309 Ideen, die im Bezirk Margareten im Rahmen des Wiener Klimateams eingereicht wurden. Im Jahr Frühjahr 2022 wurde mit der Ideensammlung begonnen, zu Jahresende wurde das Projekt schließlich von einer repräsentativ gelosten Bürger*innen-Jury ausgewählt. Seit dem vergangenen Jahr hat der Bezirk Margareten mit der zuständigen Magistratsabteilung der Stadt Wien und weiteren Partner*innen an der Umsetzung gearbeitet und nun folgen die ersten Maßnahmen. Das Projekt „Fassadenbegrünung und mehr“ ist eines der ersten Projekte, die im Rahmen des Wiener Klimateams umgesetzt werden. Es ist ein gutes Beispiel dafür, dass in Zusammenarbeit von Bürger*innen, Verwaltung und Politik neue, spannende Projekte entstehen, von denen sowohl die Bewohner*innen als auch das Klima profitieren! [*The project "Fassadenbegrünung und mehr" was one of 309 ideas submitted in the Margareten district as part of the Vienna Climate Team. The collection of ideas began in spring 2022, and at the end of the year the project was finally selected by a representative jury of citizens. Since last year, the Margareten district has been working on the implementation with the responsible municipal department of the City of Vienna and other partners, and now the first measures are following. The project "Fassadenbegrünung und mehr" is one of the first projects to be implemented as part of the Vienna Climate Team. It is a good example of how new, exciting projects can be created in cooperation between citizens, administration and politics, from which both residents and the climate benefit!*]

Sobald es neue Informationen zum Projekt gibt, kannst du dich hier über den neuen Projekt-Status informieren. [*As soon as there is new information about the project, you can find out about the new project status here.*]

Liebe Grüße, das Wiener Klimateam Wiener Klimateam Gepostet am 7. Mai 2024
 [Best regards,
 the Vienna climate team
 Vienna climate team
 Posted on May 7, 2024]

3.2 Methods

The methods for investigating this rich data were tailored to the multifaceted nature of this technologically-facilitated approach to participatory urban planning. The research design combines qualitative content analysis with elements of digital ethnography, allowing for a nuanced examination of both the content of citizen contributions and the evolving dynamics of the participatory process. This mixed-methods approach was chosen to capture the complexity of citizen engagement in smart city development, from the initial submission of ideas through to project implementation. The following subsections detail the specific analytical techniques used to systematically investigate the rich dataset gathered from the Wien Mitgestalten platform, providing a transparent account of how insights were derived from the raw data collected across the five phases of the initiative.

3.2.1 Qualitative Content Analysis

In this study, qualitative content analysis was employed as the primary analytical method to examine the textual data collected from the 5er Klimateam initiative. This approach involves a systematic process of coding and categorizing text to identify patterns, themes, and meanings within the data. Specifically, it was applied as follows:

- Systematic reading: Each of the 308 citizen submissions, 27 refined project descriptions, and implementation updates were carefully read and examined.
- Coding: Key concepts, ideas, and themes within each text were identified and labeled with codes. This process was guided by the 5W framework (Who, What, Where, When, Why) to ensure consistency and comprehensiveness in the analysis.
- Categorization: Similar codes were grouped into broader categories or themes. This allowed for the identification of overarching patterns in the data.
- Interpretation: The coded and categorized data was then interpreted to draw meaningful insights about the content of citizen proposals, the nature of citizen engagement, and the evolution of ideas throughout the initiative's phases.
- Comparative analysis: This method also facilitated the comparison between initial submissions, refined projects, and final implementations, allowing for the tracking of how ideas changed or were adapted throughout the process.

By applying this method, the study aimed to move beyond mere description of the data to a deeper understanding of the underlying meanings, trends, and patterns in citizen participation within the 5er Klimateam initiative. This approach allowed for a rigorous and systematic analysis of the qualitative data, providing a foundation for the insights and conclusions drawn in the study.

3.2.2 Digital Ethnography Elements

To complement the qualitative content analysis and capture the dynamic, evolving nature of the 5er Klimateam initiative, this study incorporated elements of digital ethnography. In the context of this research, it allowed for a more holistic understanding of how the initiative unfolded in the digital space and how various stakeholders engaged with the process over time. Specifically, the following digital ethnography techniques were employed:

- Observation of online interactions: The Wien Mitgestalten platform served as the primary 'field site' for this digital ethnographic approach. Interactions between citizens, city officials, and other stakeholders were observed and analyzed. This included examining comments on submissions, likes and dislikes on ideas, and any dialogues that emerged on the platform.

- Analysis of city communications: Official updates, announcements, and responses from city representatives on the platform were closely examined. This provided insights into how the city engaged with citizens, communicated decision-making processes, and responded to citizen input throughout the initiative.
- Tracking of project timelines and milestones: The progression of the initiative was monitored over time, noting key events, deadlines, and changes in the status of submissions and projects. This chronological tracking helped to contextualize the data within the broader timeline of the initiative.
- Examination of digital artifacts: Beyond text-based communications, other digital artifacts such as images, maps, or documents shared on the platform were analyzed to understand how information was presented and shared in the digital space. Additional documentation or media (external to the Wien Mitgestalten Platform) related to the implemented projects was also reviewed.

By incorporating these digital ethnography elements, the study aimed to situate the understanding of the 5er Klimateam initiative within the given context, going beyond the content of submissions to examine the broader ecosystem of online civic participation in smart city development. This approach aligns with the goal of understanding not just what ideas were proposed, but how citizen participation unfolded in practice within this digitally mediated initiative.

3.2.3 Coding Processes

Submission Analysis The coding process began with a thorough reading of all 308 citizen submissions. Each submission was analyzed and assigned relevant codes based on its content and the way it was communicated. Miro was used as an instrumental tool in visualizing connections between different submissions, themes, and outcomes that might not have been immediately apparent in text-based analysis alone. Figure 3.3 depicts the result of this process, which collected 338 unique codes. To ensure consistency across a large and diverse set of submissions, the 5W framework (Who, What, Where, When, Why) was used as a guide in the analysis, offering organization to the unstructured data. When each submission was read through, it was connected to relevant new or existing codes.

For example, the submission "Umsetzung von Umfragergebnissen: Erhöhung des Grünflächenanteils von 4% auf 50% durch Reduktion der Parkflächen -> weniger Hitzestaus; bessere Abkühlung im Sommer; fördert die Biodiversität mehr auf öffentlichen Gartenflächen" [*Implementation of survey results: Increase the proportion of green space from 4% to 50% by reducing parking areas -> less heat build-up; better cooling in summer; promotes biodiversity more on public garden surfaces*] is broken down and assigned codes as follows:

- "Umsetzung von Umfragergebnissen" → [law/fact/research reference](#)

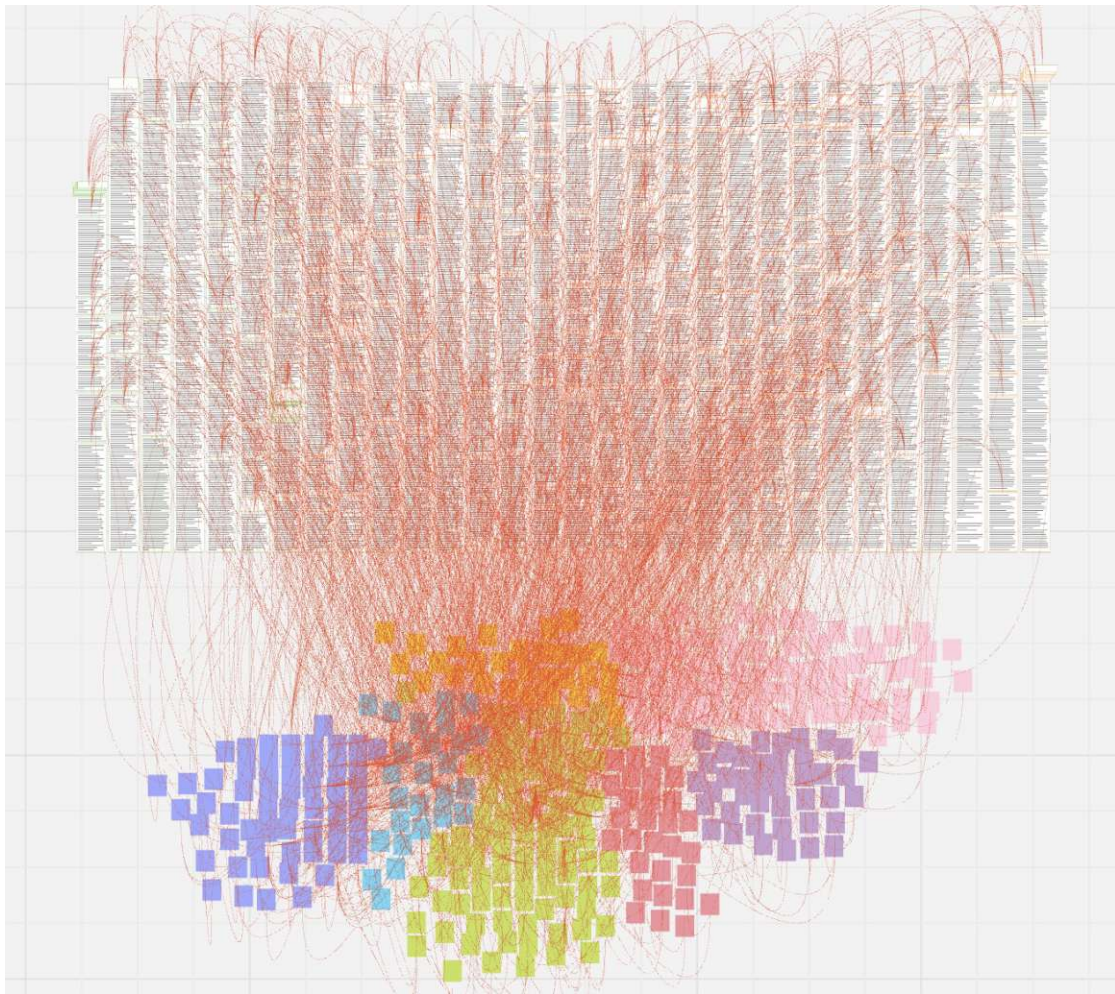


Figure 3.3: Miro board depicting the 308 idea submissions (cards at the top of the board, where those rejected are outlined in *orange* and those in review are outlined in *dark green*). The codes resulting from the initial submission read-throughs are on sticky notes at the bottom of the board, where *dark blue* sticky notes capture codes that describe ‘HOW,’ *light blue* sticky notes capture codes that answer ‘WHY,’ codes about ‘WHAT’ are on *green* sticky notes if they are positive and on *red* sticky notes if they are negative, *purple* sticky notes contain codes about ‘WHO’ (stakeholders, participants, etc.), codes on *pink* sticky notes answer ‘WHERE,’ and any other observations are coded onto *yellow* sticky notes. Red lines connect the original post with the codes ascribed to them.

- "Erhöhung des Grünflächenanteils von 4% auf 50%" → **explicit goal**, **greening**
- "durch reduktion der Parkflächen" → **car street parking**
- "weniger Hitzestaus" → **heat/heat islands**
- "bessere Abkühlung im Sommer" → **cooling**

- "fördert die Biodiversität mehr auf öffentlichen Gartenflächen" → **biodiversity**, **public space**

An effort was made not to infer any meaning from the posts, coding only what is explicitly mentioned. For example, the example submission mentioned above could be interpreted as pointing to the negative impact of asphalt/concrete which is a code in itself, however, the submission doesn't mention this in their post so it is not coded this way.

Once all submissions were read through and coded, resulting codes were abstracted through the tagging of similar topics. For example, the codes **underground parking garages**, **car sharing**, **car street parking**, **speed limits**, **e-chargers**, **no cars (incl. e-cars)**, **cars/motorized traffic**, **speed bumps**, **car prioritization (e.g. traffic lights)**, **traffic calming**, **electric vehicles**, **car driving space**, **restricting/eliminating car access** were all tagged with the topic *reducing space to motorized traffic*. However, some codes may be tagged with multiple topics, for example, **restricting/eliminating car access** is also tagged with the topic *rules*. Finally, tagged topics and the relationships between them were observed to identify certain themes in the data.

Project Analysis For the analysis of projects, a similar approach was used. Figure 3.4 illustrates the process used to collect observations about how the submissions were translated into projects and about the projects themselves. The three aspects already addressed by the city (project's significance to climate protection, who will benefit, and where it will take place) plus the observations made about *submission(s)* → *project* all underwent a thematic analysis. For example, the project titled "Tauschregale für Margareten" reads:

Margareten soll im Sinne des "Teilens und Wiederverwendens" noch mehr Tauschregale bekommen. Neben den bereits vorhandenen offenen Bücherschränken soll es weitere regengeschützte Regale geben, die jede/r mit Kleidung, Werkzeug, Geschirr oder anderen Dingen, die nicht mehr gebraucht werden, bestücken bzw. von dort entnehmen kann. So werden nicht nur Gegenstände des Alltags recycelt und Ressourcen gespart, sondern (einkommensschwächere) Menschen können sich gratis einkleiden, gratis lesen, etc. [*Margareten should get even more exchange shelves in the spirit of "sharing and reusing". In addition to the existing open bookcases, there are to be additional rain-protected shelves that anyone can fill with clothes, tools, dishes or other things that are no longer needed or take them from there. This way, not only are everyday objects recycled and resources saved, but (lower-income) people can also get clothes for free, read for free, etc.*]

Bedeutung für den Klimaschutz im Bezirk [*Significance for climate protection in the district*]

- Kreislaufwirtschaft wird gefördert [*Circular economy is promoted*]
- soziale Gerechtigkeit [*Social justice*]

Wem kommt das Projekt zugute? [*Who will benefit from the project?*]

- allen Bezirksbewohner*innen [*All district residents*]
- Sozial benachteiligten Menschen [- *Socially disadvantaged people*]

Wo soll das Projekt stattfinden? [*Where will the project take place?*]

Gut verteilt in ganz Margareten [*Well distributed throughout Margareten*]

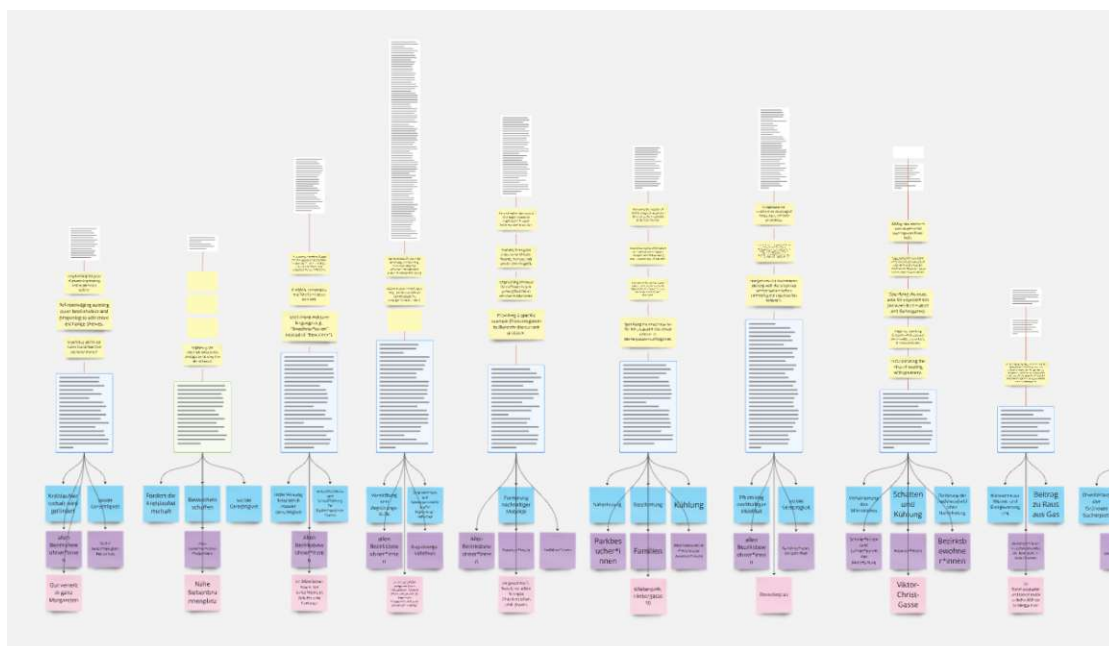


Figure 3.4: The first 9 projects on the Miro board used to visualize, organize, and analyze the 27 projects. The project descriptions are contained in cards colored blue (not selected by citizen jury) or green (selected by citizen jury). Blue sticky notes capture the described significance, purple sticky notes the individual(s) that will benefit from the project, and pink sticky notes contain the answer(s) to where the project will take place. The cited submission(s) are connected to the project using a red connection line between the project description and the original submission description, which appear in white cards above the project. The yellow sticky notes are placed on these connection lines to capture observations about the translation of a submission to its project.

Ursprüngliche Idee(n): [Original Idea(s):]
 Bücher- und andere Regale [Book- and other shelves]

The submission it stems from ("Bücher- und andere Regale" [Book- and other shelves]) states:

Sowohl für Margareten wie für jeden anderen Bezirk kommt es mir in Hinblick auf das Thema "Teilen und wiederverwenden" günstig vor, regengeschützte Regale aufzustellen, die jede/r mit Büchern, Kleidung, Werkzeug etc., das sie/er nicht mehr braucht, bestücken bzw. von dort entnehmen kann. So werden Gegenstände des Alltags recycelt, was Ressourcen spart, auch die der/des Einzelnen, die gratis lesen, sich einkleiden etc. können. [In Margareten, as in any other district, I think it would be a good idea to set up rain-protected shelves that anyone can fill with books, clothing, tools, etc. that they no longer need, or take from there. In this way, everyday objects are recycled, which saves resources, including those of individuals who can read, buy clothes, etc. for free.]

Observations about how the project translates incl. extends/alters/omits parts of the submission were noted on sticky notes and then coded as:

- referring explicitly to the initiative of sharing and reusing → **emphasizing goal, city policy**
- acknowledging the existing open bookshelves in the district → **existing infrastructure**
- adding dishes to the list of items that could be shared → **broadening, more concrete details**
- language changed from suggestions to being formulated as a directive → **formalized language**
- changing language to clarify that everything is free → **clarity, financial details**

The set of resulting codes was small enough to group into more broad patterns and themes which are discussed in the Findings.

3.3 Findings

The findings of the above-described analysis of the 5er Klimateam initiative are presented in this section in a way that follows the chronological progression of the initiative - from 1. initial citizen submissions to 2. the formalization of submissions into projects, and finally 3. the implementations of selected projects - allowing for the tracing of idea evolution and translation into action. A particular attention to the level and nature of citizen involvement, the city's approach to idea selection and implementation, and the overall effectiveness of the initiative in fostering collaborative city-making is paid in each phase. These findings provide a foundation for discussing the successes, challenges, and implications of the 5er Klimateam initiative in the subsequent chapter.

3.3.1 The Submissions

The findings presented here about the initial dataset of 308 citizen submissions not only reveal what citizens proposed but also how they conceptualized their role in shaping Margareten's future. This provides a foundation for understanding how well the subsequent phases of the initiative captured and translated these citizen visions into actionable projects.

Key themes and trends in submitted ideas

The thematic analysis of the 308 submissions revealed that the content of the submitted ideas fell under one or more of three key themes: (a) handing over space to people, plants, and the wider ecosystem; (b) sustainability through convenience, sharing, and resource management; (c) community building, knowledge sharing, and social inclusion.

(a) handing over space to people, plants, and the wider ecosystem

One of the most common requests was the greening of space that is currently dedicated to cars (e.g. parking spaces and parking lots, streets, etc.). More than half of the submissions explicitly mentioned some sort of greening. There was not always consensus on how this should be done, as seen by one citizen asking for traffic to be diverted away from their street and instead over the more heavily trafficked street known as the ‘Gürtel’:

Der Verkehr muss über den Gürtel geleitet werden! *[Traffic must be routed to the Gürtel!]*

while for a citizen living on the Gürtel, the wish is for the Gürtel to be quieter, safer, and more green:

Der Gürtel ist nicht nur eine vielbefahrene Straße, es wohnen auch sehr vielen Menschen direkt am Gürtel. Die Lärm- und CO₂ Belastung ist groß. Breitere Gehsteige an den Seiten der Wohnhäuser und Barrieren die unsere Kinder vor dem Verkehr schützen, wäre mein großer Wunsch. [...] Wenn die Gürtelmitte künftig als Lärm- und Abgasarme Grün- und Freizeitfläche genutzt werden könnte, würden wohl alle davon profitieren die in der Umgebung leben. Familien, Sportler und die Gastro, die ihren Gästen dann ein ruhiges, angenehmes Plätzchen in ihren Schanigärten direkt am Gürtel bieten können. *[The Gürtel is not only a busy road, there are also a lot of people living right on the Gürtel. The noise and CO₂ pollution is high. I would really like to see wider sidewalks on the sides of the houses and barriers that protect our children from traffic. [...] If the middle of the Gürtel could be used in the future as a low-noise, low-emission green and recreational area, everyone who lives in the area would benefit. Families, athletes and the restaurants, who would then be able to offer their guests a quiet, pleasant place in their beer gardens right on the Gürtel.]*

Many proposed underground parking as a solution in order to free up one or both sides of the street to greenery and wider sidewalks. A common request was the restricting of street access to through traffic, opting for so called ‘Begegnungszonen’ instead, where pedestrian and cyclist traffic have free reign and noise levels, air quality, and traffic safety are therein improved. One post recognizes this process as turning *space* into *place*:

Die Straßen werden wieder als öffentlicher Raum begriffen werden *[The streets will be seen as public space again]*

Many pointed to examples of this which already exist in a few selected city streets as well as most of the inner-most 1st district. These shared outdoor pedestrian spaces can be dedicated to recreation, art, play, exercise, and even work, as the submission titled "Park-Arbeitsplatz für Margareten (Draußen Arbeiten und Solarstrom Laden)" *[Park workplace for Margareten (working outside and charging with solar power)]* requests. A lot of references are made to (increasing) heat in the city due to asphalt and concrete surfaces, and greenery is seen as potential refuge through the provided shade and cooling.

In itself, the handover of car space to pedestrians is seen as a reallocation of space from the few to the many:

Entsiegelt man nicht nur einzelne Parkplätze, sondern den befestigten Fahrbereich, gewinnen wir vielerorts mehr (Aufenthaltsraum) als wir einbüßen (Verkehrsfläche) *[If we unseal not only individual parking spaces but also the paved driving area, in many places we gain more (recreational space) than we lose (traffic area)]*

However, there were also explicit calls to avoid (further) privatization of the city, instead preferring public spaces that create value to the wider community, such as:

Fassadenbegrünung statt Werbetafel bei der Kreuzung Reinprechtsdorfer Straße/Schönbrunner Straße. [*Green facades instead of advertising boards at the Reinprechtsdorfer Straße/Schönbrunner Straße intersection.*]

In some submissions, this sentiment was extended to point out the continuous development of new spaces, rather than utilizing existing unused spaces. For example, one such submission reads:

Keine neue Flächenverbauung: auf keinen Fall Grün- oder Freiflächen verbauen, sondern bestehende Flächen evaluieren [*No new development: under no circumstances should green or open spaces be built on, rather existing areas should be evaluated*]

The explicit mention of under- and unused space was common, for example, roofs, which can double as gardens or protect the microclimate through minor alterations such as being painted white or having solar panels installed. There were also multiple ideas for covering existing spaces, such as streets, to gain more opportunities for greening with the added benefit of shade. One submission, for example, proposes covering sections of subway routes:

Die U4 Trasse könnte überdacht werden und diese Fläche dann für Gewinnung von Solarenergie genutzt werden [*The U4 route could be covered and this area could then be used to generate solar energy*],

while another points out the potential of our kanals:

Überdachung des gesamten Wienflusses im Bereich zwischen 5. und 6. Bezirk, darauf Errichtung eine Parkanlage mit Rasen, vielen Bäumen, Sträuchern usw. [*Covering of the entire Vienna River in the area between the 5th and 6th districts, followed by the construction of a park with lawn, lots of trees, bushes, etc.*]

and one citizen notices potential in the advertising columns that are present throughout the city:

Regenwassertanks (in Form von Litfaßsäulen) aufstellen; werden gespeist von den Regenrinnen der umliegenden Hausdächer; werden genutzt zur Bewässerung der Bäume und Grünflächen daneben und natürlich als Infotafeln (tlw. auch Werbeflächen) für Umweltthemen. [*Set up rainwater tanks (in the form of advertising columns); they are fed by the gutters of the surrounding house roofs; they are used to irrigate the trees and green spaces next to them and of course as information boards (sometimes also advertising space) for environmental topics.*]

The blurriness of private and public space becomes noticeable in many of the suggestions. For example, in the proposition to create temporarily private spaces within shared, public space:

Schließfach statt Kofferraum: Wie praktisch ist ein KFZ-Kofferraum und wie schön wäre es, wenn man seine Einkäufe oder sonstigen 7 Sachen wo zwischenlagen könnte, z.B. an Öffi-Knotenpunkten oder am Beginn von Stadtwanderwegen (z.B. in Schließfächern). [*Locker instead of trunk: How practical is a vehicle trunk and how nice would it be if you could store your shopping or other things somewhere, e.g. at public transport hubs or at the start of city hiking trails (e.g. in lockers)*]

Not only does this present an idea for an additional use of existing public space, but also

3. CASE STUDY: 5ER KLIMATEAM

therein suggests the replacement of privatized space that cars intrinsically demand.



Figure 3.5: Example showing that themed codes can easily be backtracked to the submissions from which they originate. In this case, all codes under the umbrella of *more-than-human design* (shown at the bottom) are grouped using their *more-than-human design* tag. Their connection lines can then easily be selected and highlighted. At the top, arrows point to submissions which had one or more of the *more-than-human design* codes.

Interestingly, approximately 31 submissions (see Figure 3.5) mention some sort of more-than-human design, taking into account insects, birds, other wild animals, and biodiversity in general. These posts recognize the city as home to more than just humans, for example:

Die Bäume sollten durch weitere, biodiversitätsfördernde Maßnahmen ergänzt werden: z.B. Blühstreifen, Nisthilfen, Insektenhotels, Wasserstellen (Nebelduschen sind keine Wasserstellen für Tiere) etc. *[The trees should be supplemented with other biodiversity-promoting measures: e.g. flowering strips, nesting aids, insect hotels, watering holes (mist showers are not watering holes for animals), etc.]*

(b) sustainability through convenience, sharing, and resource management

Perhaps unsurprisingly in a public idea submission for the Vienna Climate Team, there were lots of suggestions that included different forms of resource conservation/management. Water collection, sustainable food/drink, clean air and energy, low-footprint mobility, noise pollution, and the reduction of waste were all among the considerations. One observable theme was the request to make sustainability convenient - whether that be by increasing the frequency of garbage pickups to avoid littering, reducing the price of public transport tickets, or making it easy to identify regional food:

Lebensmittel bzw alle Konsumgüter sollten mit dem Ampelsystem gekennzeichnet werden, um auf einen Blick ein Bewusstsein über die Herkunft und den CO2 Ausstoß zu schaffen. Gleichzeitig sollten die Produkte mit hohem CO2 Ausstoß wesentlich teurer sein als jene, mit geringem CO2 Ausstoß. So könnten sich auch Menschen mit geringerem Einkommen regionale und biologische Produkte leisten. Dies erfordert natürlich eine entsprechende Förderung. Zb: (sollte man noch genauer durchdenken) Grün: bio und regional, wenig CO2 Ausstoß. Gelb: bio oder regional Orange: aus EU Ländern, egal ob bio oder nicht. Rot: musste bspw. mehr als 1000km reisen, egal ob bio oder nicht. Könnte aber zb auch bio Rind aus Österreich sein. *[Food and all consumer goods should be labeled with the traffic light system to create awareness of their origin and CO2 emissions at a glance. At the same time, products with high CO2 emissions should be significantly more expensive than those with low CO2 emissions. This would enable people with lower incomes to afford regional and organic products. This of course requires appropriate support. For example: (should be thought through more carefully) Green: organic and regional, low CO2 emissions. Yellow: organic or regional Orange: from EU countries, whether organic or not. Red: had to travel more than 1000km, for example, regardless of whether organic or not. But it could also be organic beef from Austria, for example.]*

In another example of this, one citizen believes that the transportation infrastructure currently enables cars the most and that people would quickly follow if the city switched its prioritization to public transportation:

Damit die heilige Kuh MIV ja nicht gestört wird, sind die Ampelschaltungen meist so eingerichtet, dass der ÖPNV benachteiligt wird und obwohl pro Fläche viel mehr Personen damit transportiert werden unnötige Wartezeiten in Kauf nehmen muss. Man braucht nur nach Linz zu schauen, von Paris will ich gar nicht reden, dort sind die Ampeln so geschaltet, dass die Strassenbahnen keine oder nur einen geringe Wartezeit brauchen um eine Grünphase zu bekommen um eine Kreuzung zu übersetzen. Die damit sicherlich steigende Frustration des MIVs durch längere Wartezeiten wird zu einer geringeren Nachfrage nach dem MIV, zu einer besseren

Nutzung des OPNVs und damit zu CO2 Einsparungen führen und gehört daher dringsten umgesetzt. *[In order to avoid disturbing the sacred cow of private transport, traffic lights are usually set up in such a way that public transport is disadvantaged and, although it can transport many more people per area, it has to accept unnecessary waiting times. You only have to look at Linz, and I don't even want to talk about Paris, where the traffic lights are set up in such a way that the trams need little or no waiting time to get a green phase to cross an intersection. The resulting increase in frustration among private transport due to longer waiting times will lead to lower demand for private transport, better use of public transport and thus to CO2 savings, and therefore needs to be implemented as a matter of urgency.]*

The idea of shared space is also extended here to resources in general, with frequent calls which model or explicitly mention a circular economy. From composting to public libraries, public exchanges of used items, clothing rental services, reusable container drop offs for takeaway, repair cafes, surplus food collection, etc.; upcycling as a community is a popular topic. The idea of a neighborhood-wide worm hotel came up multiple times:

Unser Biomüll hält es im Restmüll nimmer länger aus. Es braucht für Margareten eine gute Lösung um sinnvoll Kompostieren zu können. Da gibt es z.B. die Möglichkeit gemeinsam in einem Wurmhotel zu Kompostieren. Man kann dieses auf der Straße oder in Wohnhausanlagen aufstellen und so, ca. 50 Haushalten ermöglichen ihren Kompost gemeinsam zu Kompostieren. Diese Lösung ermöglicht nicht nur ein klimafreundliches und nachhaltiges Kompostieren, es bringt auch die Leute zusammen und schafft Gemeinschaft. Außerdem spart sich die Gemeinde auch Geld weil Biomüll nicht mehr entsorgt werden muss sondern an Ort und Stelle Kompostiert wird. Einen weiteren Vorteil bringt die Ernte von Nährstoffreichem Wurmhumus mit dem Kunstdünger erset *[Our organic waste can no longer survive in the residual waste. Margareten needs a good solution to be able to compost sensibly. For example, there is the option of composting together in a worm hotel. You can set this up on the street or in residential complexes and so around 50 households can compost their compost together. This solution not only enables climate-friendly and sustainable composting, it also brings people together and creates a community. In addition, the community also saves money because organic waste no longer has to be disposed of but is composted on site. Another advantage is the harvest of nutrient-rich worm humus, which replaces artificial fertilizers.]*

Many posts made economic and accessibility-related remarks when referencing shared resources:

Bücher- und andere Regale: Sowohl für Margareten wie für jeden anderen Bezirk kommt es mir in Hinblick auf das Thema "Teilen und wiederverwenden" günstig vor, regengeschützte Regale aufzustellen, die jede/r mit Büchern, Kleidung, Werkzeug etc., das sie/er nicht mehr braucht, bestücken bzw. von dort entnehmen kann. So werden Gegenstände des Alltags recycelt, was Ressourcen spart, auch die der/des Einzelnen, die gratis lesen, sich einkleiden etc. können. *[In terms of the "sharing and reusing" theme, both for Margareten and for any other district, I think it would be a good idea to set up rain-protected shelves that everyone can fill with or take from books, clothing, tools, etc. that they no longer need. In this way, everyday objects are recycled, which saves resources, including those of individuals who can read, buy clothes, etc. for free.]*

Quite a few submissions mentioned energy communities, where neighborhoods collect renewable sources of energy and send the excess back to the grid. Resources created through private infrastructure, such as solar panels, are publicly shared. Creative ideas came up for capturing existing sources of energy such as that created by the use of fitness equipment and even geothermal energy in the subway systems:

U2-Bau = Kraftwerksbau: Soferne technisch möglich, wäre es doch naheliegend, den U-Bahnbau für den Ausbau von Erdwärme-Gewinnung zu nutzen, indem Erdwärmekollektoren entlang der U-Bahntunnel verlegt werden. [*U2 construction = power plant construction: If technically possible, it would be obvious to use the subway construction to expand geothermal energy generation by laying geothermal collectors along the subway tunnels.*]

Wärme aus der U-Bahn: Meine Idee wäre in den Wiener U-Bahnrohren ein Wärmetauschsystem zu installieren und die Wärme zum Heizen und Beleuchten zu verwenden. [Heat from the subway: My idea would be to install a heat exchange system in the Vienna subway tubes and use the heat for heating and lighting.]

Sustainability efforts came from a place of observable need. Overall, it is visible that participants are especially concerned about increasing heat and CO₂ levels among other things, and are making a concerted effort to extend the longevity of city life. Planning for disaster and retaining a certain degree of quality of life was on the minds of many.

(c) community building, knowledge sharing, and social inclusion

As some of the above-mentioned examples already demonstrate, community was another one of the main focuses. Building and engaging the community as well as collective learning within it was mentioned in many of the submissions, not only for the sake of shared space and resources, but also as necessary in itself. Events open to the public such as concerts were suggested often. One submission title reads "Klimatag im Bezirk" [*Climate day in the district*], proposing a community event that unifies the entire district around sustainable transportation, education, and recreation for a day. Food seems to be a popular topic in this theme as well, with many suggesting community events centered around cooking and eating:

Bei regelmäßig stattfinden Kochabenden im Nachbarschaftszentrum oder anderen Räumlichkeiten im 5. Bezirk wollen wir gemeinsam Produkte verarbeiten, die lokal, biologisch bzw. fair hergestellt wurden. [...] Es soll ein Austausch von alt & jung zu diesem Thema stattfinden und viele Generationen dadurch angesprochen werden. [*At regular cooking evenings in the neighborhood center or other spaces in the 5th district, we want to work together to use products that have been produced locally, organically or fairly. [...] There should be an exchange between old and young on this topic and many generations should be addressed.*]

This idea of cross-generational information exchange comes up again in a post about knowledge sharing:

Grätzelanwohner*innen aus verschiedenen Generationen vernetzen sich mit Kaufleuten aus dem Bezirk, teilen ihr Wissen und Ressourcen. [...] Die Kernbotschaft soll sein: Gemeinsam einen ressourcenschonenden Umgang mit Lebensmitteln im Alltag

schaffen! Sozial: Die PensionistInnenklubs der Stadt Wien im 5. Wiener Gemeindebezirk werden zu Dreh- und Angelpunkten des Projekts. Hier treffen sich Menschen zwischen 20 und 60+. Einerseits agieren die Klublokale als Verteiler für „gerettete“ Lebensmittel der umliegenden Betriebe, andererseits werden Erfahrungen und Wissen geteilt. Junge lernen von den Älteren (z. B. in Workshops und Gesprächen über nachhaltige Nutzung/Konservierung von Lebensmitteln) und die Jungen erklären, wie Social Media zum Austausch und zum „Fair“-netzen (Foodsharing Plattform) genutzt werden. Das „Buddy-Prinzip“ wird gelebt! Man ist füreinander da und lernt voneinander. - Vernetzung über: Social Media Kanäle, Grätzelzeitungen, Aushänge in Lokalen des Bezirks. - Vernetzung mit: Betrieben, Kindergärten, Schulen, Nachbar*innen. - Mögliches Ergebnis: Gemeinsames Kochbuch mit vergessenen Rezepten. *[Neighborhood residents from different generations network with merchants from the district, sharing their knowledge and resources. [...] The core message should be: Together, create a resource-saving approach to food in everyday life! Social: The pensioners' clubs of the city of Vienna in the 5th district of Vienna will be the hub of the project. People between 20 and 60+ meet here. On the one hand, the club premises act as distributors for "rescued" food from surrounding businesses, and on the other hand, experiences and knowledge are shared. Young people learn from older people (e.g. in workshops and discussions about sustainable use/preservation of food) and the young people explain how social media can be used for exchange and "fair" networking (food sharing platform). The "buddy principle" is put into practice! People are there for each other and learn from each other. - Networking via: social media channels, neighborhood newspapers, notices in bars in the district. - Networking with: companies, kindergartens, schools, neighbors. - Possible result: shared cookbook with forgotten recipes.]*

One idea to counteract the anonymity that tends to occur in densely populated cities suggests humanizing public spaces by bringing citizen stories and art to the streets:

"TIP" Trees in Public (Bäume in der Öffentlichkeit) ist ein gemeinschaftsbildendes und bewusstseinsförderndes Projekt, das darauf abzielt, die Menschen mit der Natur in unseren lokalen Gebieten zu verbinden. Es identifiziert einzelne Bäume und Baumgruppen und verbindet sie mit den individuellen Geschichten der lokalen Bevölkerung. TIP verwendet Kunstaktionen und Interventionen an Ort und Stelle, um Gespräche vor Ort, online und in den lokalen Medien (online, Print, Gemeindeforum) auszulösen. Es schärft das Bewusstsein für die Rolle der Bäume im Zusammenhang mit dem CO₂-Ökosystem und verbindet uns über die Geschichten, die jeder Einzelne hat, mit dem Ort und miteinander. Diese Geschichten sollen die Vielfalt der Bevölkerung und unsere unterschiedlichen Perspektiven auf unsere öffentlichen und natürlichen Räume zum Ausdruck bringen. Das Projekt bietet Raum für öffentliche kreative Antworten, gemeinsame Visionen und eine künstlerische Würdigung des Baumes und unserer lebendigen Beziehung zu ihm durch Kunstwerke, Fotos und Geschichten in öffentlichen Raum. In diesem Sinne bietet dieser Prozess die Entwicklung einer neuen Plattform für öffentliche kollektive Kreation von Ideen und Visionen mit Bezug auf Gesellschaft Natur und Klima. *["TIP" Trees in Public is a community building and awareness raising project that aims to connect people with nature in our local areas. It identifies individual trees and groups of trees and connects them with the individual stories of the local people. TIP uses art actions and interventions in place to trigger conversations locally, online and in the local media (online, print, community forum). It raises awareness of the role of trees in the carbon ecosystem and connects us to the*

place and each other through the stories that each individual has. These stories are intended to express the diversity of the population and our different perspectives on our public and natural spaces. The project offers space for public creative responses, shared visions and an artistic appreciation of the tree and our living relationship with it through artworks, photos and stories in public space. In this sense, this process offers the development of a new platform for public collective creation of ideas and visions related to society, nature and climate.]

This creative approach not only fosters a sense of community but also illustrates how art and storytelling can be powerful tools for promoting sustainability and social connection. Another example calling for coexistence, proposes opening ‘living’ spaces to the public:

GRETA - Das Grätzlwohnzimmer setzt sich mit der sozialen Nachhaltigkeit auseinander. Es geht, neben den in Folge erklärten Problemen, vor allem um Bewusstseinsbildung, Gemeinschaftsbildung und dem entgegenwirken der Gentrifizierung. Konzept: Die Idee beschäftigt sich mit dem zunehmenden Nutzungsdruck auf die Ressource Raum. Den Bewohner:innen der Städte steht bei steigenden Preisen immer weniger Wohnraum zur Verfügung. Damit rückt vor allem ein Aspekt der Nachhaltigkeit immer weiter in den Hintergrund - der Soziale. Urbane Verdichtung schreitet schneller voran als wir öffentlichen Raum schaffen bzw. aktivieren können. Mit daraus resultierenden Gefahren wie der steigenden Anonymität und Vereinsamung der (städtischen) Gesellschaft sowie der Exklusion von vulnerablen Bevölkerungsgruppen muss sich auseinandergesetzt werden. [...] Unser Motiv ist es, leerstehende Erdgeschosszonen umzunutzen und die neu gewonnenen Räume in einem partizipativen und ergebnisoffenen Prozess an die Gesellschaft zurückzugeben, um neben Sicherheit und Schutz das Potenzial für neue und benötigte Qualitäten zu schaffen. Greta denkt somit die Grenzen von öffentlichem Raum neu und erweitert ihn erstmals um den Innenbereich. Durch den partizipativen und ergebnisoffenen Ansatz können Räume mit unterschiedlichen Nutzungsschwerpunkten entstehen. Diese werden gemeinsam mit den Bewohner:innen vor Ort erarbeitet und richten sich nach ihren Bedürfnissen. Dadurch unterscheidet sich das Nutzungsprofil in den Erdgeschosszonen komplett von der bisherigen. Es wird zum Verweilen und nicht zum Konsumieren eingeladen. Diese Aktivierung des Leerstandes kann somit ein Aufleben der gesamten Umgebung erfahren. *[GRETA - The neighborhood living room deals with social sustainability. In addition to the problems explained below, it is primarily about raising awareness, building community and counteracting gentrification. Concept: The idea deals with the increasing pressure on the resource of space. As prices rise, city residents have less and less living space available. This means that one aspect of sustainability in particular is becoming increasingly less important - the social aspect. Urban densification is progressing faster than we can create or activate public space. The resulting dangers, such as the increasing anonymity and isolation of (urban) society and the exclusion of vulnerable population groups, must be addressed. [...] Our motive is to repurpose vacant ground floor zones and to return the newly gained spaces to society in a participatory and open-ended process in order to create the potential for new and needed qualities in addition to security and protection. Greta is thus rethinking the boundaries of public space and expanding it to include indoor spaces for the first time. The participatory and open-ended approach can create spaces with different usage focuses. These are developed together with the local residents and are based on their needs. This means that the usage profile in the ground floor zones is completely different from the previous one. People are invited*

to linger and not to consume. This activation of the vacant space can thus experience a revival of the entire environment.]

GRETA was not alone in addressing concerns of social isolation and a lack of enabling infrastructure. Accessibility and inclusivity were considered at differing degrees in many of the submissions. Recognizing the diverse population of the district, some proposals emphasized the importance of multilingual communications:

Mein Vorschlag ist eine Biomüllinitiative die alle Haushalte des 5. Bezirks mit einem mehrsprachigen Schreiben anspricht *[My suggestion is an organic waste initiative that addresses all households in the 5th district with a multilingual letter]*

Others focused on physical accessibility, for example by ensuring that public spaces could be navigated by all residents:

Sicherstellung, dass alle Gehsteige (auch in Zeiten von Schanigärten) im 05. Bezirk eine Mindestbreite von 2,0 m haben *[Ensuring that all sidewalks (even in times of outdoor seating) in the 5th district have a minimum width of 2.0 m].*

Collectively, these diverse proposals emphasize the multifaceted nature of community building in urban environments. They demonstrate a recognition that sustainable, resilient communities require more than just environmental initiatives; they need spaces and opportunities for connection, knowledge sharing, and inclusive participation. By addressing these social aspects alongside environmental concerns, the submissions paint a picture of a holistic approach to urban sustainability that places community at its core.

Approaches to urban intervention

Only a few submission explicitly mention terms like DIY- and Tactical Urbanism, but many of them reflect the spirit of these concepts by showcasing a desire to actively participate in shaping the urban environment. These proposals closely align with the concepts of bottom-up design and citizen-led interventions. For example, one submission offers a kit for DIY multi-purpose benches in the city, with corresponding instructions freely available online:

DIY Bankerl/Pflanzentrog mit automatischer Bewässerung: [...] Die Idee dahinter ist die, dass sich interessierte bei Finanzierung des Prototypen im Anschluss auf der HP der Stadt Wien den genauen Einkaufsplan (Obi/Hornbach/ etc.) inkl. genauer Beschreibung aller erforderlichen Teile und Materialien (Holzlatten, Winkel/Schrauben /Wasserspeicher/Solarbewässerung) etc. downloaden können. Die Montage via HP oder Youtube "nachschaun" können. Gemeinsam mit Mitbewohner*innen und Anrainer*innen die Bankerl bauen und pflegen können. *[DIY bench/plant trough with automatic watering: [...] The idea behind it is that if interested parties finance the prototype, they can then download the exact purchase plan (Obi/Hornbach/etc.) including a precise description of all the necessary parts and materials (wooden slats, angles/screws/water storage/solar irrigation) etc. from the City of Vienna website. They can "look up" the assembly via the website or YouTube. They can build and maintain the bench together with fellow residents and neighbors.]*

One citizen imagines tactical urbanism workshops to collaboratively transform familiar spaces into new, engaging environments, while pointing out that hesitant people may be

more accepting of changes that they are involved in bringing about:

Die Bürger*innen (von Kindern bis hin zu älteren Menschen) malen und bauen Straßenmöbel, jeder bringt eine Pflanze mit, um die Straßen zu gestalten, als wären es unsere gemeinsam Terrassen. Selbst die ablehnendsten Bürger *innen (z.B. autofreundlichen Bürger*innen) sind in der Lage, das Projekt zu akzeptieren, weil sie an der Umgestaltung der Stadt beteiligt sind. Es wird nicht als ein Projekt „top down“ betrachtet. Das Projekt wird nicht nur von der Verwaltung verwaltet. Alle Vereine, Geschäfte, Bürger*innen und kleinen Unternehmen könnten auch etwas tun, um den Prozess in Gang zu bringen. *[Citizens (from children to the elderly) paint and build street furniture, each one brings a plant to decorate the streets as if they were our shared terraces. Even the most reluctant citizens (e.g. car-friendly citizens) are able to accept the project because they are involved in the transformation of the city. It is not considered a "top down" project. The project is not only managed by the administration. All associations, shops, citizens and small businesses could also do something to get the process going.]*

Another demonstrates the idea of temporary interventions by suggesting pop-up bike lanes in the summer:

Klimafreundliche Mobilität: Pop up Radwege (spätere Umsetzung?) Straßen für Autofahrer*innen sperren und den Radverkehr vor allem im Sommer sicherer und attraktiver machen. [...] Der Sommer ist die perfekte Zeit um den Leuten zu zeigen wie toll es sein kann mit dem Rad klimafreundlich unterwegs zu sein. *[Climate-friendly mobility: Pop-up bike lanes (later implementation?) Closing streets to motorists and making cycling safer and more attractive, especially in summer. [...] Summer is the perfect time to show people how great it can be to travel in a climate-friendly way by bike.]*

Several submissions focused on community gardening, one of which exemplifies the approach of making quick, reversible changes to underutilized spaces.

Es stehen immer wieder im 5. Bezirk Grundstücke leer, wo Häuser abgerissen wurden und erst in ein paar Jahren wieder neu gebaut wird, man könnte diese zur Zwischenutzung als Gemeinschaftsgärten begrünen & bepflanzen & ernten. *[There are always empty plots of land in the 5th district where houses have been demolished and will only be rebuilt in a few years. These could be greened & planted & harvested for interim use as community gardens]*

Lasly, the analysis of submissions also revealed an interest in citizen-driven data collection and mapping initiatives, particularly in the context of climate awareness and action. These proposals aim to engage residents directly in understanding and documenting environmental changes in their neighborhoods. For example, one proposes an app for citizen-driven climate mapping:

Klimawandel sichtbar machen: Wo wirkt sich der Klimawandel ganz konkret auf Wien (Margareten) aus? Was sind "Klima Hotspots" also Orte an denen es schon jetzt unerträglich heiß werden kann? Wo sind resiliente Regionen, die den Effekt von zunehmender Erwärmung in der Stadt abmildern können? [...] Das würde über eine einfaches App funktionieren auf der man per Smartphone Bilder inklusive Standort und kurzer Beschreibung hochladen kann. Diese erscheinen dann auf

einer interaktiven Klimakarte von Wien. Interessant wäre es noch die Möglichkeit zu haben sich für einen Tag eine Wärmebildkamera auszuborgen um damit auf Spurensuche zu gehen. Die Karte könnte auch Grundlage von "Klimaführungen" durch Wien sein in denen Vorzeigeprojekte und Problemstellen vorgestellt und erklärt werden. Letztlich ist das Ziel auch damit eine Grundlage für die Stadt zu schaffen wo besonders dringend Handlungsbedarf besteht und wie Bürger*innen ganz persönlich den Klimawandel in Wien erleben und wahrnehmen. *[Making climate change visible: Where exactly is climate change affecting Vienna (Margareten)? What are "climate hotspots", i.e. places where it can already get unbearably hot? Where are resilient regions that can mitigate the effect of increasing warming in the city? [...] This would work via a simple app to which you can upload pictures including the location and a short description using your smartphone. These then appear on an interactive climate map of Vienna. It would also be interesting to have the option of borrowing a thermal imaging camera for a day to use it to search for clues. The map could also be the basis for "climate tours" through Vienna in which showcase projects and problem areas are presented and explained. Ultimately, the aim is to create a basis for the city where there is a particularly urgent need for action and how citizens personally experience and perceive climate change in Vienna.]*

The submissions showcase a desire for hands-on, citizen-involved approaches to urban interventions that value local knowledge, lived experiences, and changing needs. They propose that citizens can act as more than sources of ideas to also being active participators in the implementation, upkeep and monitoring of their environment.

Technology and digitization concepts

While technology was mentioned in some submissions, it was rarely the central focus. Rather than proposing futuristic or complex technological solutions, participants tended to view digital tools pragmatically - as means to enable or enhance other goals related to sustainability, community engagement, and urban improvements. Mobile applications were suggested most frequently, primarily in an effort to facilitate various existing community initiatives. For instance, one proposal outlined an app to help with waste sorting:

Clean Waste: eine App die Menschen hilft Müll zu trennen *[Clean Waste: an app that helps people separate waste]*

Another sees the potential to connect neighborhoods through an app:

App zur Nachbarschaftsvernetzung - Hilfe für ältere Leute, tauschen von Lebensmitteln (vermeiden von Müll,..) *[App for neighborhood networking - help for older people, exchanging food (avoiding waste, ...)]*

Interestingly, both of these suggestions (and technology-related ones at large) came from students at a local high school. This could imply that the younger generation has technologies like mobile apps more top-of-mind. Besides apps, there were also ideas for integrating newer technologies into the physical infrastructure of the cities. Multiple submissions propose creative technology-driven additions, alterations, or automations of

existing resources, for example the cooling of the city through trams fitted with ‘smart’ misting and capabilities:

Wiener NebelBim: Nebelduschen sind in Wien in den letzten Jahren immer beliebter geworden. Doch sie kühlen immer nur den Ort, an dem sie stehen. Was wäre, wenn sie fahren würden? Dann könnten sie ganze Straßen kühlen. Und damit ganze Stadtviertel. Das bringt an Hitzetagen mehr Lebensqualität und Gesundheit für alle. Etwas, das regelmäßig die großen und oft heißen Straßen entlang fährt, sind unsere Bims (Straßenbahnen). Sie wären groß und stark genug, um größere Wassermengen zu transportieren. Zum Beispiel in einem Tank auf dem Dach? Die Nebelbims versprühen hinter sich einen feinen Wassernebel. Er befeuchtet die Fahrbahn und kühlt sie dadurch. An ihren Endhaltestellen würden die Tanks bei einem kurzen Halt wieder befüllt. Ganz ähnlich den neuen Elektrobussen, die an der Endstation ihre Batterien auffüllen. Man könnte auch überlegen, ob Busse dasselbe leisten können. Dann würden an den Hitzetagen noch mehr Wiener Straßen gekühlt. Eine Sensor- und GPS-basierte Steuerung könnte außerdem den Nebelausstoß regulieren. Das spart Wasser an Stellen, die ohnehin immer kühler sind. Wenn beispielsweise eine Bim die Donaubrücke überquert, könnten die Nebeldüsen pausieren. Oder wenn sie durch eine schattige Allee fährt. Genauso könnte damit der Nebel auf die am jeweiligen Tag besonders von Hitze betroffenen Bezirke begrenzt werden. *[Vienna mist tram: Mist showers have become increasingly popular in Vienna in recent years. But they only cool the place where they are standing. What if they were running? Then they could cool entire streets. And thus entire city districts. That would bring more quality of life and health for everyone on hot days. Something that regularly drives along the large and often hot streets are our trams. They would be large and strong enough to transport large quantities of water. For example in a tank on the roof? The mist trams spray a fine mist behind them. It moistens the road and thus cools it. At their end stops, the tanks would be refilled during a short stop. Very similar to the new electric buses that fill up their batteries at the end station. One could also consider whether buses could do the same. Then even more of Vienna’s streets would be cooled on hot days. A sensor and GPS-based control system could also regulate the mist output. This saves water in places that are always cooler anyway. For example, when a tram crosses the Danube bridge, the mist nozzles could pause. Or when it drives through a shady avenue. This could also limit the mist to only the districts that are particularly affected by the heat on a given day.]*

Another citizen suggests equipping street lights with sensors to detect their need:

Licht aus! Strom sparen: Die Laternen im öffentlichen Raum mit Dämmerungschalter versehen, damit sie erst bei / nach Einbruch der Dunkelheit leuchten! also besser anpassen! und Strom sparen *[Lights out! Save electricity: Fit street lamps in public spaces with twilight switches so that they only light up at / after dark! So adapt better! and save electricity]*

In a way, the lack of futuristic technology in citizen submissions is an observation in itself. This suggests participants are not concerning themselves with convoluted, high-tech, ‘solutions.’ They are focused on spaces and the inhabitants of these spaces. Rather than jumping to asking themselves ‘What could be?’, participants are concerning themselves with ‘What is?’ and ‘How can it be improved?’, leveraging technologies available to them in this process. Technology implementations do not appear in the submissions as a

goal in and of itself. This aligns with the ideas of small-scale, iterative alterations over mass-implementation and technology as a tool rather than a cure-all.

Stakeholder Identification

The submissions revealed a diverse range of stakeholders considered in the proposed climate action initiatives for Vienna. These can be broadly categorized into several groups, denoted in bold.

Many submissions focused on improving the quality of life for **local residents**. The submissions frequently referred to specific user groups such as families, students, athletes, cyclists, and dog owners. For example:

Es wäre doch schön, vor allem im Zuge des Radwegeausbaus der Stadt, auch Lastenräder in der Organisationsform des City Bikes von der Stadt Wien angeboten zu bekommen. Das würde die Bereitschaft erhöhen für größere Besorgungen in der Stadt das Rad statt dem Auto zu benutzen, Familien mit Kindern wären mobiler, etc. [It would be nice, especially as part of the city's expansion of cycle paths, for the City of Vienna to offer cargo bikes in the form of City Bikes. This would increase the willingness to use a bike instead of a car for larger errands in the city, families with children would be more mobile, etc.]

Views from car-users were noticeably absent, which could relate to a lack of contributions from people who live outside of Vienna who commute to the city by car for work.

Several proposals specifically addressed (often safety-related) concerns or needs of **vulnerable populations**. These included specific mentions of children, elderly or retired residents, people with disabilities, low-income individuals, immigrant minorities, and unhoused people, and those who are unemployed:

zb könnte man dazu Arbeitslose einsetzen, die dafür geringfügig bei der Stadt Wien angestellt werden oder auch ehrenamtliche Anrainern, Asylanten mit Sozialstunden, bzw könnte sogar eine Schulklasse so etwas betreuen.. Damit wäre allen geholfen. [For example, you could offer unemployed people employment on a part-time basis by the City of Vienna, or also volunteers from local residents, asylum seekers who have community service hours, or even a school class could look after something like this. This would help everyone]

It is worth mentioning, that, while difficult to know without personally being able to discuss with the participants, most of the submissions in this category seemed to address these needs in the third-person. Rather than saying, for example, 'As an elderly resident I experience ... and therefore need ...' submissions seemed to format their comments as, for example, 'My idea provides the added benefit of increasing the safety of [xyz group].' This would suggest that marginalized needs are still being largely overlooked in this sort of submission format.

Property owners, including landlords, homeowners, and property management companies were mentioned as stakeholders quite frequently, especially in relation to initiatives involving building modifications, such as solar panel installations and facade greening:

Die Stadt Wien / Wiener Stadtgärten kommt mit Angeboten für eine Fassadenbegrünung auf die Hausverwaltungen zu. Bei Zustimmung übernimmt die Hausgemeinschaft die Kosten, die Stadt Wien die Organisation. *[The City of Vienna / Vienna City Gardens approaches property management companies with offers for facade greening. If they agree, the occupants covers the costs and the City of Vienna covers the organization.]*

While some **private businesses** also submitted ideas of their own, for example:

Das Unverblümt vom Verein Lok ist Blumengeschäft und Tagesstruktur für Menschen mit psychischen Erkrankungen. Unsere Idee für ein klimafreundliches Margareten ist: Ein Gemeinschaftsgarten in der Krongasse. Wir würden die Pflege mindestens eines Beets in diesem Garten mit unseren KlientInnen übernehmen. *[The Unverblümt from Lok is a flower shop and day-care facility for people with mental illnesses. Our idea for a climate-friendly Margareten is: a community garden in Krongasse. We would take care of at least one bed in this garden with our clients.]*

most submissions mentioning local private businesses (often speaking of the retail and gastronomy sectors) were presenting them as the target location of their sustainability ideas, such as the submission titled "Keine Heizstrahler in Gastgärten!" *[No patio heaters in outdoor dining areas!]*

The **public sector** was mentioned as a key stakeholders in implementing climate action initiatives, with participants also often placing public buildings at the center of their sustainability infrastructure goals, such as that titled "Auf/An allen öffentlichen Gebäuden bis 2024 Photovoltaik installieren" *[Install photovoltaics on all public buildings by 2024]*. There were explicit references to municipal departments MA22, MA28, MA31, MA42, and MA48, as well as other city bodies and services, for example:

Generell soll mehr darüber informiert werden, welche Möglichkeiten und Optionen es gibt, das Energiesystem im Bestand von fossil auf erneuerbar umzustellen. Die Wien Energie hat hier ein sehr gutes Beratungsangebot, das auch in den 5. Bezirk geholt werden könnte. [...] Auch weitere Angebote der Wiener Stadtwerke könnten im 5. Bezirk umgesetzt werden, wie z.B. eine Wien Mobil Station, Wien Mobil Bikes etc. *[In general, more information should be provided about the possibilities and options available for converting the existing energy system from fossil fuels to renewables. Wien Energie has a very good advisory service in this area, which could also be brought to the 5th district. [...] Other services from Wiener Stadtwerke could also be implemented in the 5th district, such as a Wien Mobil station, Wien Mobil bikes, etc.]*

Schools were frequently mentioned as both locations for implementation and as stakeholders in educating future generations about climate action:

Essgewohnheiten werden schon im Kindesalter geprägt. Im Sinne des Klimaschutzes und der Gesundheit der nachfolgenden Generationen schlage ich vor, dass in städtischen oder von der Stadt Wien mitfinanzierten Kindergärten, Horten und Schulen ausschließlich vegetarische Speisen angeboten werden. *[Eating habits are formed in childhood. In the interests of climate protection and the health of future generations, I propose that only vegetarian meals be offered in municipal kindergartens, day-care centres and schools or those co-financed by the City of Vienna.]*

Furthermore, many students were themselves among the participants, as one school seems to have had a climate event, as part of which, they brainstormed ideas specifically for submission to the climate action team, denoted by the signing of these submissions with:

[...] anonyme Idee, HTL Spengergasse, Aktionstag Klimafit in/an der Spengergasse.
[[...] *anonymous idea, HTL Spengergasse, Climate Fit Action Day in/at Spengergasse*]

City- and Expert-Citizen Collaboration

While there were a handful of explicit comments about the relationships between citizens and the triple-helix - for example this note about a lack of communication from the city:

Ich habe diesen Vorschlag übrigens vor Jahren bereits der damals grünen Bezirkschefin gemacht und niemals eine Antwort auf mein E-Mail erhalten *[By the way, I made this suggestion years ago to the then Green district leader and never received a reply to my email]*

- most submissions demonstrated their view of the relationship in more indirect ways. In reviewing them, it became apparent that various levels of collaboration between citizens, city officials, and experts in urban planning and sustainability were envisioned. Some clearly outlined complete instructions for how their idea should be enacted, sometimes even having started the implementation of their project themselves:

Die Kriehubergasse vor dem Rainergymnasium im 5. Bezirk befindet sich in einer sehr schmalen, tristen und lauten Zone. Daher soll der Gehsteig der Kriehubergasse (Schulseite) beginnend vom Rainergymnasium bis zum Ende des Sportplatzes um die Größe eines Längsparkplatzes verbreitert und im Zuge dessen mit Bäumen begrünt werden. [...] Schüler:innen haben bereits zusammen mit einem Bauingenieur der Firma Steiner Bau die betroffene Zone vermessen (Plan kann gerne gesendet werden). *[Kriehubergasse in front of the Rainergymnasium in the 5th district is in a very narrow, dreary and noisy zone. Therefore, the sidewalk of Kriehubergasse (school side) starting from the Rainergymnasium to the end of the sports field is to be widened by the size of a parallel parking space and planted with trees. [...] Students have already surveyed the affected area together with a civil engineer from Steiner Bau (a plan can be sent on request).]*

while others left it at a vague first brainstorm, to everything in between. Participants set out ways to achieve their visions in different ways, for example by proposing rules to be introduced in the form of bans or mandates, setting an explicit goal or deadline, making estimations about the costs or resource needs, and even making plans to finance their own plans:

Es ist teilweise sehr lästig, Mehrweggebinde wieder in das richtige Geschäft zu bringen, da es viel zu wenige Normgebinde gibt. Und Mehrweg soll mehr werden, z.B. für Coffee to Go oder Take Away und Foodboxen. Mehrweg-Hubs (Mehrweg-Rückgabestellen) in leeren Geschäftslokalen aber auch an mobilen Fahrrad-Boxen bei Märkten und Öffi-Knotenpunkten wären eine super Sache. [...] Finanzieren könnte man das über Müllgebühren (MA 48, ARA), mittelfristig könnte ggf. der Bund auch Lebensmittelketten und Take-Away-Betriebe besteuern. *[It is sometimes very annoying to return reusable containers to the right shop, as there are far too few*

standard containers. And reusable containers should become more common, e.g. for coffee to go or take away and food boxes. Reusable hubs (reusable return points) in empty shops but also at mobile bicycle boxes at markets and public transport hubs would be a great idea. [...] This could be financed through garbage fees (MA 48, ARA), and in the medium term the federal government could also tax food chains and take away businesses.]

They also came up with various ways to motivate others to take part in their initiatives, such as setting up competitions, creating incentives and reward systems, and imposing fees:

Ich wünsche mir eine Auto-Park-Platz-Abgabe, für Autoabstellplätze, die nicht mehrfach genutzt werden können [...]. [I would like to see a parking fee for parking spaces that cannot be multipurposed [...].]

Many also considered potential barriers to their ideas, with some offering workaround solutions:

Nachdem darunter eine Tiefgarage liegt, können freilich keine Bäume gepflanzt werden, aber vllt. kann man, in Abstimmung mit den Eigentümern und dem unmittelbar angrenzenden Spar eine Bestückung des Areals mit Kästen für Sträucher und Büsche ermöglichen (oder anderen kreativen Formen moderner Begrünung und Aufenthaltserleichterung). Ggf. steht dem noch eine freie Feuerwehrezufahrt tlw. entgegen, das wäre wohl abzuklären. [Since there is an underground car park underneath, no trees can be planted, but perhaps, in consultation with the owners and the immediately adjacent Spar, the area can be equipped with boxes for shrubs and bushes (or other creative forms of modern greenery and amenities). This may be partially prevented by a cleared fire access zone, which would need to be clarified.]

Participants used various tactics to communicate their ideas, with some closely referencing the submission criteria to express the validity of their submission, and others turning to illustrations, employing their humor, or providing personal anecdotes:

P.S.: wenn unser Auto dann nicht mehr vor der Haustür parkt ist es uns egal, wir nutzen es dank Klimaticket sowieso sehr wenig. [P.S.: if our car is no longer parked in front of the house, we don't care; thanks to the climate ticket, we use it very little anyway.]

There were also different expectations for what roles each stakeholder would/should play in these interactions. Some saw the city as a resource - for funding and other support, for the enforcement of existing or new rules, for the promotion and provision of services, or for education and advice:

Firmen zum Umstieg auf erneuerbare Energie beraten (kostenlos) und den Umstieg auch fördern. Als Beispiel: Förderung für Nutzung solarer Energie [Advise companies on switching to renewable energy (free of charge) and also promote the switch. For example: Funding for the use of solar energy]

while other saw it's role as managing resources, where various methods for its decision-making were suggested such as basing them on petitions, conducting studies and surveys,

rolling out ideas at an incremental or trial-based level, and creating simulations and models:

Strategisch 1 oder 2 Frischluftschneisen planen und umsetzen (anstatt einzelne Bäume zu pflanzen). Einerseits schaut man, wo es große Hitzeinseln im Bezirk gibt, und andererseits, wo ggf. schon Bäume und auch entsprechende windklimatische Bedingungen vorhanden sind, die man zu einer größeren Frischluftschneise vernetzen kann. Die MA 22 kann Mikroklimaanalysen beauftragen, bei der mit Modellen simuliert wird (auf $4m^2$ genau), wo trotz Frischluft Hitzeinseln bleiben und es weitere Maßnahmen braucht (z.B. Begrünung, Wasser). [...] Dazu braucht es ggf. vorab eine Studie. *[Strategically plan and implement 1 or 2 fresh air corridors (instead of planting individual trees). On the one hand, you look to see where there are large heat islands in the district, and on the other hand, where there may already be trees and corresponding wind-climate conditions that can be linked to form a larger fresh air corridor. MA 22 can commission microclimate analyses, which use models to simulate (accurate to $4m^2$) where heat islands remain despite fresh air and where further measures are needed (e.g. greening, water). [...] This may require a study in advance.]*

Participants not only acted as sources of inspiration but often also provided their own expertise by making specific observations of the city, sharing their expertise (e.g. by providing technical instructions), referencing laws/facts/research, or (very commonly) demonstrating their idea by pointing to an existing implementation as inspiration, for example that in another city:

Wie in Würzburg bereits in Restaurants getestet wurde, kann die Speisenwahl von Gästen durch Angabe der CO₂-Bilanz in Richtung klimafreundlicheres Essen positiv beeinflusst werden. *[As has already been tested in restaurants in Würzburg, guests' choice of food can be positively influenced towards more climate-friendly food by indicating the CO₂ footprint.]*

Overall, the submissions paint a picture of citizens being open to collaborations with city officials and experts, but also confident in their own knowledge and capabilities. They demonstrate a sophisticated understanding of urban planning challenges - in their own lived experiences and beyond - and a willingness to engage deeply in the process of improving their city.

3.3.2 Translation of Submissions into Projects

The analysis of the 27 refined projects sheds light on the collaboration that took place in this step between citizens and the city. For the most part, projects consistently stay more in-line with their cited submission than they differ. Sometimes, sentences are even copied over directly from the submission description to the project description with small or no modifications. Where there was change (omissions/additions/adaptations/etc.), the final projects often tried to add more detail, provide specific examples, or broaden the scope of initial proposals. This elaboration process appears to aim at making the projects more comprehensive and potentially more feasible for implementation.

Patterns in idea selection and refinement

Many project descriptions enhanced the practicality of original ideas by highlighting or adding specificity to implementation details, locations, or materials. This was particularly noticeable in projects like "Solar – Grün – Pergola," where a standardized, modular design was proposed:

Ein Standard-Modul für eine begrünte Pergola mit PV-Anlage am Dach (z.B. 4 x 4 m) soll entwickelt werden. Dieses kann im öffentlichen Raum und/oder auf öffentlichen Gebäuden (z.B. Einsiedlerbad) installiert werden. Es soll kombinierbar und skalierbar sein. Erzeugter Strom soll ins Netz eingespeist werden und eventuell zum Aufladen von E-Bikes verwendet werden. Das Gestell des PV-Moduls könnte auch begrünt werden und würde somit einen weiteren klimawirksamen Effekt (Abkühlung) erzielen. Die Pergola selbst könnte aus Holz und/oder Metall sein. Die (begrünten) PV-Module spenden einerseits Schatten im öffentlichen Raum und können auch zur Bewusstseinsbildung hinsichtlich erneuerbarer Energie beitragen, indem sie mit Anzeigetafeln versehen werden, die den aktuellen Stand der produzierten kWh anzeigen. *[A standard module for a green pergola with a PV system on the roof (e.g. 4 x 4 m) is to be developed. This can be installed in public spaces and/or on public buildings (e.g. Einsiedlerbad). It should be combinable and scalable. The electricity generated should be fed into the grid and possibly used to charge e-bikes. The frame of the PV module could also be greened and would thus achieve another climate-effective effect (cooling). The pergola itself could be made of wood and/or metal. The (greened) PV modules provide shade in public spaces and can also help to raise awareness of renewable energy by being equipped with display boards that show the current status of the kWh produced.]*

Financial considerations were included or introduced in many projects, for instance, the "Auch Klein-Grün macht mit! In kleinen Schritten klimafit!" *[Even small-green joins in! Climate fit in small steps!]* project proposed:

Financial considerations were introduced in many projects, such as

Auch Klein-Grün macht mit! In kleinen Schritten klimafit!: Ein Maßnahmenpaket soll bei der Planung und Errichtung von überdachten Fahrrad-Abstellplätzen in Hinterhöfen und bei der extensiven Bepflanzung von leicht abgeschrägten Dächern mit Moos o.ä. helfen. [...] Förderpakete sollen einen niederschweligen Anreiz schaffen, um dies umzusetzen. *[Even small green spaces are getting involved! Climate-fit in small steps!: A package of measures is intended to help with the planning and construction of covered bicycle parking spaces in backyards and with the extensive planting of slightly sloping roofs with moss or similar. [...] Funding packages are intended to create a low-threshold incentive to implement this.]*

The "Repair-Café 05" project, for example, outlined specific requirements:

Das Repair-Café 05 soll ein Ort werden, an dem Bezirksbewohner*innen dabei unterstützt und angeleitet werden, wie sie Kaputttes wieder ganz machen bzw. zum Laufen bringen. Dafür braucht es einen Raum, Reparatur-Profis und Werkzeug. *[The Repair Café 05 is intended to be a place where district residents are supported and instructed on how to repair broken things or get them working again. This requires a room, repair professionals and tools.]*

Exact locations were also pinpointed in some of the refined projects. The "Mehr Grün für die Ramperstorffergasse – Grüninsel statt Verkehrsinsel!" [*More green for Ramperstorffergasse – green island instead of traffic island!*] project is one example:

Ausgehend von der Verkehrsinsel in der Ramperstorffergasse, zwischen Castelligasse und Viktor-Christgasse, soll mehr Grünraum für alle entstehen. [*Starting from the traffic island in Ramperstorffergasse, between Castelligasse and Viktor-Christgasse, more green space is to be created for everyone.*]

While some project descriptions tended to enhance the practicality of original ideas, others demonstrate a scope expansion, broadening the initial idea to cover more areas or aspects. e.g. extending from greening of Schulvorplatzes to incorporation of school courtyard into bacherpark / expansion of the park:

Der Vorplatz vor der Mittelschule (Viktor-Christ-Gasse 24) soll durch Begrünungselemente zur Verlängerung des Bacherparks werden. [*The forecourt in front of the middle school (Viktor-Christ-Gasse 24) is to become an extension of Bacherpark through greening elements.*]

Many projects saw the integration of multiple ideas from various submissions into a single aggregated plan. This synthesis often resulted in more comprehensive and multifaceted proposals, as seen in the "Fassadenbegrünung und mehr" [*Facade greening and more*] project which combined four, similarly greening-focused ideas into a more comprehensive plan, trying to incorporate aspects from each:

Das Projekt will Bewusstsein schaffen, dass es Förderungen für Fassadenbegrünung im privaten Bereich gibt. Alle Hauseigentümer*innen in Margareten, die ihre Fassade noch nicht begrünt haben, sollten regelmäßig Informationen über die Vorteile (Klimaschutz, Schaffen von Lebensraum für Insekten und Vögel) bekommen. Ziel ist, dass viele Margaretner*innen ihre Fassaden begrünen. Neben der Förderung von grünen Fassaden wäre es ebenfalls wichtig, mehr Grün in den Stadtraum zu bekommen. So können z.B. hässliche Verkehrsinseln in der Ramperstorffergasse zu Grüneoasen umgestaltet werden. Dies wertet nicht nur das Stadtbild auf, sondern fördert die Biodiversität und wirkt Hitzeinseln im Stadtraum entgegen. Generell sollen die (hauseigenen) Rasenflächen weniger oft gemäht werden. Die Stadt kann hier durch Vorbildwirkung zum Mitmachen anregen. [*The project aims to raise awareness that there are subsidies for greening facades in the private sector. All homeowners in Margareten who have not yet greened their facades should receive regular information about the benefits (climate protection, creating habitats for insects and birds). The aim is for many Margareten residents to green their facades. In addition to promoting green facades, it would also be important to get more greenery into the urban space. For example, ugly traffic islands in Ramperstorffergasse can be transformed into green oases. This not only improves the cityscape, but also promotes biodiversity and counteracts heat islands in the urban space. In general, the (house-owned) lawns should be mowed less often. The city can encourage participation by setting an example here.*]

Changes and adaptations in project development

While project descriptions generally expanded on original ideas, they also demonstrated selective incorporation and detail reduction. Technical details, specific examples, and

personal anecdotes from submissions were often omitted in favor of more generalized statements. For instance, the "Zenta-Garden-Gasse" project presents the idea as a 'begegnungszone' (meeting zone):

Zenta-Garden-Gasse: Die Zentagasse soll zur Zenta-Garden-Gasse werden. Um dies zu erreichen, muss die Gasse verkehrsberuhigt werden. Danach sollen die versiegelten Flächen entsiegelt werden und gleichzeitig diverse Begrünungen (Bäume, Beete etc.) entstehen. Um die Aufenthaltsqualität zu steigern, wären Sitzmöglichkeiten, Trinkwasserbrunnen und ein Bereich zum Gartln ums Eck wunderbare Möglichkeiten. *[Zenta Garden Alley: Zenta Alley is to become Zenta Garden Alley. To achieve this, the alley must be traffic-calmed. After that, the sealed areas will be unsealed and various green areas (trees, flowerbeds, etc.) will be created at the same time. To improve the quality of the stay, seating areas, drinking water fountains and a gardening area around the corner would be wonderful options.]*

However, the two original submissions focused more on flower beds and community gardening:

Zenta-Grün-Garten: Die Zentagasse braucht zumindest pro Abschnitt einen Baum! (+ Baum, - Autos) Darüber hinaus den Zentagarten a la longue! Vor jedes Haus Blumentröge! *[Zenta Green Garden: The Zenta Alley needs at least one tree per section! (+ tree, - cars) And the Zentagarten a la longue! Flower boxes in front of every house!]*

ZentaGarden Gasse: Die Zentagasse ist - und das war sie immer schon - hauptsächlich eine Durchzugsstraße, die allerdings aufgrund der verschiedenen Baustellen, die sich in den letzten Monaten/Jahren rundum aufgetan haben (die Verdichtung im 5. Bezirk scheint enorm), unwirtlicher und unansehnlicher geworden ist und somit durch erhöhtes Verkehrsaufkommen weiter belastet wird. Dieser Betonwüste wollen wir etwas entgegensetzen und die Begrünung der Zentagasse vorantreiben. Unsere Idee und unser Anliegen ist es, die Zentagasse von der Margaretenstraße bis zum Zentaplatz mit grünen Inseln, Staudenpflanzen, Hochstammbäumen und Gräsern zu begrünen. Einige Beete sollen dabei auch durch die Bewohner*innen bepflanzt werden können. Eine Verkehrsentlastung von den vielen LKWs und Überlandbussen die täglich durch unsere Gasse fahren wäre ebenso wünschenswert und würde die Lebensqualität und die Luftverschmutzung im Bezirk erheblich verbessern. *[ZentaGarden Gasse: Zentagasse is, and always has been, mainly a thoroughfare, but due to the various construction sites that have opened up all around in recent months/years (the density in the 5th district seems enormous), it has become more inhospitable and unsightly and is thus further burdened by increased traffic. We want to counteract this concrete desert and promote the greening of Zentagasse. Our idea and our concern is to green Zentagasse from Margaretenstraße to Zentaplatz with green islands, perennial plants, standard trees and grasses. Some of the beds should also be able to be planted by the residents. A reduction in traffic from the many trucks and intercity buses that drive through our street every day would also be desirable and would significantly improve the quality of life and air pollution in the district.]*

Some projects emphasized certain aspects of the original ideas more than others, causing a shift in focus. For example, the "SynEnergie" project reframed three submissions - which were mostly focused on phasing out gas and turning to renewable/clean energy - into a proposal for an advisory board:

Es soll eine zentrale Anlaufstelle entstehen, bei der alle Interessent*innen (Zinshausbesitzer*innen, Mieter*innen, Verwalter*innen, etc.) sich beraten und informieren lassen können, welche Möglichkeit sie haben, erneuerbare Energien an ihrem Standort einzusetzen bzw. zu nutzen (PV, Solarthermie, Wärmepumpen, ...). Weiters soll eine kostenlose Beratung zur Machbarkeit/Umsetzung (Wirtschaftlichkeit, Nutzung, Energiekonzept, etc.), zu den Themen EEG (Erneuerbare Energiegemeinschaften) und GEA (Gemeinschaftliche Erzeugungsanlagen) angeboten werden. Für die Projektumsetzung soll eine kostengünstige bzw. geförderte Projektbegleitung zur Verfügung gestellt werden. Mit dieser Beratungsstelle soll der Ausstieg aus fossilen Energieträgern weiter vorangetrieben werden. *[A central contact point is to be created where all interested parties (tenant property owners, tenants, administrators, etc.) can get advice and information about the options they have for using renewable energies at their location (PV, solar thermal energy, heat pumps, ...). In addition, free advice on feasibility/implementation (economic efficiency, use, energy concept, etc.), on the topics of EEG (renewable energy communities) and GEA (community generation plants) is to be offered. Cost-effective or subsidized project support is to be made available for project implementation. This advisory center is intended to further advance the phase-out of fossil fuels.]*

Projects often went beyond the submissions to highlight the existing infrastructure and emphasize the ways in which the project would interact with (expand/employ) these existing features. A few projects demonstrated their policy alignment by framing ideas in ways that corresponded with existing city initiatives or broader urban planning objectives. This usually did not change the original intent of the underlying submission but rather adapted its terminology. In the same vein, the refined projects used notably more formal and directive language. Projects often use clear, action-oriented language:

Über die Stadt Wien Webseite soll eine Rubrik zur Verfügung gestellt werden, in der stadtweit freie Garagenplätze – von privat Personen und Bauträgern – angeboten werden können. *[A section shall be made available on the City of Vienna website in which free garage spaces can be offered citywide – by private individuals and property developers.]*

This formalization reflects a shift from citizen suggestions to official project proposals. Inclusive language was also more prevalent, as seen in the consistent use of gender-inclusive terms like "Bewohnerinnen" and "Schülerinnen". While this formalization adds clarity and precision to the proposals, it also introduces a more impersonal tone compared to the original citizen submissions.

While the refined projects generally preserved the core ideas from citizen submissions, the translation process involved significant changes. Projects were often expanded to combine multiple ideas, reframed to align with existing city initiatives, and formalized in language and presentation. This refinement process, while potentially making projects more feasible for implementation, also introduced a degree of distance from the original citizen voices. As we move into examining the implementation phase, it will be important to consider how these refined projects ultimately translated into action.

3.3.3 Implementation Processes and Outcomes

The implementation phase of the 5er Klimateam initiative represents the crucial stage where citizen ideas are meant to translate into tangible urban interventions. This section examines the outcomes of the five projects selected for implementation, based on the city's updates as of May 7, 2024. The findings reveal a complex picture of successes and challenges in realizing citizen-driven initiatives. Notably, there are significant variations in progress across projects, with some showing concrete advancements while others appear stalled. The degree of adherence to original proposals also varies, raising questions about the translation of citizen ideas into practice. Throughout the implementation process, a pattern emerges of the city attempting to align new initiatives with existing infrastructure and programs, sometimes at the expense of the original vision. These overarching observations provide context for the detailed examination of each project that follows:

Repair-Café 05 The Repair-Café 05 project demonstrates a partially successful implementation, integrating citizen ideas with existing city infrastructure. However, its execution reveals some limitations in accessibility and citizen involvement. From the description of the implementation, it appears citizens (incl. participants of the idea submissions) didn't play a part in the actual realization of the project, as this process involvement was confined to the district and relevant municipal departments. Interestingly, the project takes place in a thrift store known as "48er-Tandler" [61] in Margareten, which opened in 2015 as an initiative of the MA 48, which is the municipal department responsible for waste management, street cleaning, and vehicle fleet. According to the website, repairs are limited to textiles and small electronics (explicitly excluding phones, laptops, coffee machines, and other larger electronics). Participation is funneled through an online city portal where 15-minute slots between 2-6pm on the above-stated dates are available to book (although textile repairs can be brought without an appointment). Information on both the 48er-Tandler website, and the booking website is exclusively provided in German. It seems that the repairs themselves are done by 'qualified specialists,' and visitors are not necessarily encouraged to take part in/learn from the repair of their items: "Die Wartezeit kann gemütlich mit Shoppen im 48er-Tandler oder Plaudereien bei Kaffee und kalten Getränken verbracht werden" [*The waiting time can be spent comfortably shopping at the 48er-Tandler or chatting over coffee and cold drinks*] [61].

„Superblock“ Vorbereitung, Testphase, Pilot ,temporär‘ There was no further information given (at least from what is documented in the Klimateam website) between December 2022 and this post from May 7th. There is also no other trace of any action on this project since this update. Keeping in mind that the target completion date December 2024, there could still be planning happening around this topic, that is not being shared with the public at this point, especially as they make clear that the current stage is confined to 'city experts' and the district. This lack of progress also contrasts sharply with the Repair-Café project, highlighting inconsistencies in the city's approach to implementation.

Begrünungszone Margaretensstraße As with the Superblock project, the Begrünungszone Margaretensstraße initiative appears to have made little concrete progress. This city update is nearly identical to that above. Similarly, there is no other information to be found on this project - not in the one and a half years between when planning was meant to begin and this city update which provides no concrete information about the status of the project, nor in the time since the update. With four months left at the time of this research until the projects are meant to be completed, it could be that there is more information to come.

Klimatag im Frühjahr (oder 1mal im Monat) The only other information that could be found on this climate day was the facebook post of a city politician which encouraged people to attend the climate day and outlined the afternoon's offerings:

MA 48 mit dem Abfallberatungsbuss – Entdeckt effektives Recycling. [*MA 48 with the waste advice bus – Discover effective recycling.*]

MA 22 – Lernspiele für Kinder rund um den Umweltschutz. [*MA 22 – Educational games for children about environmental protection.*]

MA 20 – Infos über Wiens Sonnenstromoffensive. [*MA 20 – Information about Vienna's solar power initiative.*]

Klimabündnis – Quizrad mit Gewinnen. [*Climate Alliance – Quiz bike with prizes.*]

Mobilitätsagentur – Zeigt euer Können auf dem Fahrradparcours. [*Mobility Agency – Show off your skills on the bike course.*]

GB* – Alles über Fassadenbegrünung. [*GB* – Everything about green facades.*]

Wiener Linien – Neues zur U-Bahn Linie U2. [*Wiener Linien – News about the U2 subway line.*]

Stadtinfo-Bus – Experten antworten auf eure Fragen. [*City information bus – Experts answer your questions.*]

Fairplayteam – Unterhaltsame Spiele. [*Fairplay team – Entertaining games.*]

Für das leibliche Wohl ist ebenso gesorgt. [*Refreshments are also provided.*]

The first of three comments on the post reads: "Donnerstag 13-17h, leider nur für Kinder, Pensionisten und Leute vom AMS, sehr schade sowas" [*Thursday 1-5pm, unfortunately only for children, retirees and people from the AMS, what a pity*].

This implementation, while active, represents a significant departure from the original citizen proposal, raising questions about the fidelity of the city's execution to citizen-generated ideas.

Fassadenbegrünung und mehr MUGLI stands for mobile.urban.green.lively.innovative, and, according to its website [31], concerns itself with informing people about the different possibilities for integrating greening and 'green technologies' into buildings. Their mobile showroom (3.6 is regularly on display in various locations throughout the city and primarily exhibits various forms of greening as well as advertises its various partners which offer related technologies. MUGLI [32] states: "Unsere Aussteller:innen unterstützen MUGLI und präsentieren ihre Begrünungssysteme und innovativen Lösungen für Dach, Fassade und Innenraum auf unserer Roadshow. Nutze auch Du MUGLI's mobile Werbefläche als Ausstellungsfläche für Deine Begrünungslösungen" [*Our exhibitors support MUGLI and*



Figure 3.6: The mobile MUGLI showroom which aims to educate passersby about various aspects of roof, facade, and indoor greening and green technologies. Both municipal and private partner logos are incorporated throughout their various informational displays and demonstrations.

present their greening systems and innovative solutions for roofs, facades and interiors on our roadshow. You too can use MUGLI's mobile advertising space as an exhibition space for your greening solutions]. A handful of pages on their website are available in

3. CASE STUDY: 5ER KLIMATEAM

English as well but seem to contain outdated information when compared to the German versions of the same pages.

The company which owns the MUGLI showroom, GrünStattGrau, is a nonprofit organization which presents itself as the competence center for building greening in Austria, including research and innovation related to building greening and related technologies. It often posts about workshops and networking events directed at private companies involved in this field, as well as the real estate and construction industry, financial sector, and political stakeholders. They demonstrate their own version of the smart city imaginary through some of their content 3.7.

This approach to implementation, focusing on information dissemination rather than direct action, reflects a pattern of the city leveraging existing resources instead of developing new, citizen-inspired solutions.



Figure 3.7: Two examples from GrünStattGrau’s social media posts. These are accompanied by promotions of their events, which they describe as part of creating a better future.

Across these five implementations, several patterns emerge. There appears to be a tendency towards retrofitting existing city initiatives rather than developing entirely new solutions. Citizen involvement in the implementation phase was generally limited. Some projects, particularly the Superblock and Begrünungszone Margaretenstraße, showed little tangible progress. Others, like the Klimatag and Fassadenbegrünung initiatives, diverged significantly from their original proposals. These findings highlight the challenges in translating citizen-driven initiatives into concrete urban interventions within the framework of Vienna’s smart city strategy.

Discussion

When examined alongside learnings from the literature review, the 5er Klimateam initiative reveals both promising aspects and significant shortcomings in Vienna's approach to citizen participation in smart city development. While the process began with considerable potential, receiving 309 diverse and thoughtful submissions from citizens, a noticeable disconnect emerged between the initial citizen input and the final implementations as the initiative progressed through its various phases. This gap between intention and execution highlights the challenges of translating participatory ideals into practical urban interventions.

Holistic Smart City Approach

Vienna's smart city strategy claims to take a holistic approach, prioritizing social inclusion and environmental sustainability alongside technological innovation [17]. The 5er Klimateam's focus on climate action and sustainability directly addresses one of the core pillars of this holistic vision. Many citizen submissions demonstrated a sophisticated understanding of urban sustainability challenges, proposing ideas that addressed complex issues such as urban heat islands, biodiversity, sustainable mobility, and circular economy principles. This breadth of sustainability-focused proposals aligns well with the multifaceted approach advocated by researchers like Andreani et al. [2], who argue for smart city models that balance technological innovation with environmental and social considerations. However, the limited scope of implementation suggests a gap between citizen aspirations and city capabilities or priorities in addressing urgent climate challenges.

It was surprising to see such little focus among the submissions on technological solutions in a smart city initiative. This observation stands in stark contrast to the typical portrayal of smart cities as primarily technology-driven endeavors [54]. Perhaps this is due to the presentation of the 5er Klimateam not as a call for 'smart' interventions but as a call for

ideas for the climate. This framing may have led citizens to think more broadly about urban sustainability rather than focusing on digital or high-tech solutions.

Public Space and Placemaking

The citizen submissions in the 5er Klimateam strongly reflected values regarding the importance of public spaces as sites for democratic engagement, community building, and creative expression [18, 29]. Proposals to transform streets and other public areas into more vibrant, green, and socially inclusive spaces were common. However, the limited implementation of these ideas, particularly the lack of progress on the "Superblock" project, suggests a missed opportunity to realize the full potential of citizen-led placemaking.

Many submissions aligned closely with the concepts of DIY urbanism and tactical urbanism discussed by Pagano [52] and Foth [22]. For instance, proposals for community gardens, street greening initiatives, and the transformation of parking spaces into social areas echo the small-scale, citizen-driven interventions that characterize these movements. These ideas demonstrate citizens' desire to actively shape their urban environment, moving beyond the role of passive consumers of city services to become co-creators of urban space.

Inclusivity and Representation

While the 5er Klimateam received a large number of submissions from various citizens, the case study doesn't provide clear evidence of strategies to ensure representation from all segments of society. The apparent lack of follow-through on ideas targeting vulnerable populations raises questions about the equity of the process and its outcomes, an important consideration highlighted by Heim LaFrombois [33]. Perhaps the digital nature of the submission and subsequent process partly plays into this. It probably also doesn't help that websites are usually only provided in German in such a diverse city. There were mentions of in-person workshops and idea gathering portals taking place alongside the Wien Mitgestalten website, however these are out of scope in this research.

On the other hand, the potential of digital tools to enhance citizen engagement is considered by [34]. The 5er Klimateam process made limited use of such technologies beyond the initial submission platform. The lack of ongoing digital engagement throughout the process, especially during the implementation phase, may have contributed to the apparent disconnect between citizen ideas and final outcomes. This gap suggests a need for more integrated digital strategies that support continuous citizen involvement, as proposed by Szarek-Iwaniuk and Senetra [71].

Citizen Engagement and Collaboration

The literature review emphasized the importance of moving beyond tokenistic participation to true collaboration between citizens and city authorities [22, 49]. The 5er Klimateam initiative shows an attempt to involve citizens in the early stages of idea generation, aligning with the concept of citizens as "developers" rather than mere "testers" or "reporters" [49]. However, the case study reveals a significant drop-off in citizen involvement as the process progressed, particularly in the implementation phase. This

disconnect echoes the findings of [56], who noted a gap between rhetoric and reality in Vienna's smart city implementation.

It is unclear, for example, why so many submissions were rejected in Phase 2. The city describes this phase as a review of ideas in respect to their feasibility and impact. They rejected more than three quarters of the submissions, many of which could be considered impactful and practical according to the guidelines they outlined. This high rejection rate raises questions about the criteria used and the potential loss of valuable citizen input early in the process. Furthermore, the transition from submissions to projects did not seem to drastically enhance or structure the ideas in any significant way. Most obvious was the rewording into a more detached language and some adding of detail here and there, as described in Section 3.3.2. Overall, the project descriptions were often shorter/more succinct in their presentation than the original submission(s), and they lost focus or detail especially when combining more than one submission. The purpose of this step of the process is unclear without having more information about the workshops that hosted these refinements.

Discussion of Implementations

The implementation phase (Phase 5) revealed significant issues in translating citizen ideas into concrete actions:

1. **Repair Café 05:** I think the city demonstrates its potential to be a valuable resource by making the connection between the repair cafe idea and the existing municipal thrift store. While it's commendable that the city found a fitting place for the repair cafe within existing infrastructure, the limited operating hours (6 out of 7 dates take place on weekdays, all between 2 and 6 pm) may restrict accessibility for many working residents. Furthermore, the lack of citizen engagement in the actual repair process seems like a missed opportunity for knowledge sharing and empowerment, especially since one electronic device repair or a few textile repairs every month don't seem to have a significant impact in the bigger picture of wasted resources. Lastly, thrift store culture is in some ways gentrifying in itself, raising questions about who is accessing and utilizing this service.
2. **„Superblock" Vorbereitung, Testphase, Pilot ,temporär':** It is interesting that - although perhaps the most citizen-involved of the chosen projects - there is no significant sign of any progress on the „Superblock“ Vorbereitung, Testphase, Pilot ,temporär', especially since it was proposed as a gradual implementation or more of a pop-up/temporary intervention that heavily involved citizens. As said, it could still be that in the few months left, the city elaborates on it's supposed planning, but even so it seems completely opposite to how the project proposed the implementation, so it's a shame that there doesn't seem to be any citizen involvement taking place in this opportunity for it to.

3. **Begrünungszone Margaretenstraße:** The city gives a nearly identical ‘update’ for the project "Begrünungszone Margaretenstraße." After one and a half years, one would imagine there was more progress made, at least enough to give a unique update to each of the five projects. This leads me to make the assumption that these two projects have not been pursued by the city, possibly opening a third "selection" round of the Klimateam. With only five projects out of the original 309 idea submissions making it to the implementation phase, it is quite disappointing that at least 2 seem to have fallen through the cracks at this last stage. At the very least, there seems to have been a real breakdown in communication on behalf of the city in this final stage.
4. **Klimatag im Frühjar:** As for the "Klimatag im Frühjar" project, the implementation seems to have drifted quite far from the initial submission and project intentions. There was, for example, no mention of the car-free aspect of the climate day that was originally proposed (and was the primary focus of the original submission). It seems to have focused on a completely different version of a climate day than was originally described. The original idea for a city-wide climate day was also further reduced to one street in the district. It is also interesting that the climate day was scheduled for a Thursday afternoon - not even giving the project a full day - rather than a Saturday as proposed in the project description. This would have made more sense to match the car-free nature of the idea, as there are significantly less people commuting to work by car on Saturdays, and it would have been able to engage much more people. There seems to be a complete mismatch between the first citizen idea that was submitted and the resulting ‘climate day,’ perhaps made slightly fuzzier by the intermediate project translation. Ultimately it points to a lack of citizen engagement in the implementation.
5. **Fassadenbegrünung und mehr:** Unfortunately, the implementation of the final project, "Fassadenbegrünung und mehr" seems just as superficial. It is, again, inauthentic to the citizen submissions and project it stems from. Rather than actively promoting and facilitating facade greening, the city essentially redirected citizens to an existing company to get information for themselves if they are interested. While this would be potentially great for someone who has been wanting to green their building’s facade and just doesn’t know how to get started and somehow stumbles upon this Climate Action Project (which is a big assumption to make), it is completely insufficient in meeting people where they are. The project describes the need to raise awareness about the existence of these advisory bodies and possible subsidies for some greening initiatives. With this solution, the issue is not at all addressed. Residents are still not getting information unless they already know it exists. Furthermore, the city seems to ignore the other facets of this project which touched on greening city-owned property to set an example, including greening traffic islands on specified streets. There, once again, seems to be a lack of understanding or simply a lack of effort to meet the citizens actual concerns and needs.

The overall impression this leaves, is one of the city engaging in a backwards approach to addressing problems, namely by finding existing city-initiatives and either slightly adapting them or just plainly passing them on as *the* solution that these projects need. This retrofitting behaviour is unfortunate as it misses out on an opportunity to deeply engage with citizen ideas, expertise, and creativity. The most effective outcome seems to be that of the Repair Cafe, which still has some of this backwards-solving aspects to it. The others are too much of a miss (or, in the case of two, as of yet nonexistent) to be seriously considered as outcomes of the 5er Klimateam. It is important to consider that this was one of the first Klimateam cycles and that future iterations might be more successful.

4.1 Recommendations

This reflection has led me to the following ideas for how to improve the effectiveness of the Klimateam process:

1. Swap decision making in Phase 2 and 4. The list of initial submissions should perhaps be condensed by citizens rather than the city, possibly by voting for their favorites. There didn't seem to be a clear method by which the city was making these decisions in Phase 2, since a lot of the rejected ideas also met the 'requirements' they had said they were looking for. Instead of eventually merging similar ideas - which often led to generalizations that lost the focus and intention of the original idea - this sort of selection might allow for concentration on the most popular ones. However, it would have to be considered here, that the majority should not always decide, as this has the potential to further marginalize underrepresented groups. In Phase 4 it would then be the city's turn to decide on the final projects. I believe the failure of Phase 5 is partly due to the infeasibility in the eyes of the city of some of the projects that were selected. Therefore, they should be the ones to seriously consider and assess the final set of projects formed in Phase 3 to select the ones where they think they could contribute to the most or provide the most effective impact by taking on.

2. Collaboratively translate submissions into more detailed projects. The current phase 3 of the process does not seem to have a clearly defined purpose other than combining some submission and slightly altering aspects of them. I would think this is the perfect stage at which to elaborate on the citizen submissions in a way that makes future implementation quite clear. The outcome of this phase should be a detailed plan with concisely defined requirements, steps, and outcomes. This would be a great place for close citizen-expert-city collaboration, as the workshops described suggest. The city and experts bring their knowledge about what is possible and what is already available, and the citizens bring their ideas of what the project should achieve and look like. Together, they can create much more detailed plans than what projects currently represent, which would make the implementation phase less prone to losing integrity and focus. It would also make it less likely that projects winding up in the implementation phase turn out to be unfeasible or unapproachable, since the scope and methods have already been defined.

3. Involve citizens in Phase 5 and beyond. It is absolutely clear that the lack of citizen involvement in the final implementation phase very likely hurt the process most of all. There were so many great ideas and fresh perspectives, which ended up being quite lost to the process as it went on. Citizens - at the very least those who were involved in the related submissions - need to be active participants in the realizations of their ideas. Otherwise, you risk losing the vision and most of all the motivation at the root of the project, making its implementation quite pointless. Citizens need to be seen as valuable sources of knowledge and expertise in their own right.

4. Enable more, smaller interventions. Not all projects need to drastically change our way of life. There were many smaller suggestions in the submission pool that could have been easily implemented with a little planning or funding or even just city approval. Perhaps there should be a separate pipeline through which these smaller ideas can be realized, a so called 'office of small things' which would be responsible for enabling citizen interventions that don't need much support.

4.2 Limitations

This study, while offering valuable insights into the 5er Klimateam initiative, is subject to several limitations that should be considered when interpreting the results:

- **Post-hoc analysis of submissions:** As this research examines the submissions of Phase 1 after the fact, there was no opportunity to directly engage with participants or seek clarification on their intentions. This limitation allows for some ambiguity in interpretation, potentially leading to representations that may not fully capture the original submission's intent. For instance, it's challenging to discern whether stated needs are personally experienced by the submitters or assumed on behalf of others.
- **Limited visibility into intermediary processes:** The investigation primarily focuses on the documented stages of the process, leaving gaps in understanding about the intermediary steps. For example, the specifics of how the refinement process (Phase 3) was conducted beyond the city's brief description remain unclear. This lack of insight into the decision-making processes and discussions that occurred during these phases limits our ability to fully assess the evolution of ideas from submission to implementation.
- **Absence of participant feedback:** The study lacks direct feedback from citizens who participated in the initiative. Their perspectives on the process, including their satisfaction with how their ideas were handled and their views on the final implementations, would provide valuable context but are missing from this analysis.
- **Potential bias in available documentation:** The research relies heavily on publicly available information provided by the City of Vienna. There may be a potential

bias in how this information is presented, possibly highlighting successes while downplaying challenges or shortcomings.

- **Limited timeframe:** The study captures a snapshot of the 5er Klimateam process up to a certain point. Given that some projects were still in progress at the time of analysis, the full outcomes and long-term impacts of the initiative cannot be assessed.
- **Lack of comparative context:** While this case study provides an in-depth look at the 5er Klimateam, it doesn't include comparisons with similar initiatives in other cities or previous participatory efforts in Vienna. Such comparisons could offer valuable context for evaluating the relative success or uniqueness of this initiative.
- **Language considerations:** As most of the data was in German, there's a possibility that nuances in language or culturally specific concepts may not have been fully captured in the analysis, despite efforts to ensure accurate interpretation and translation.
- **Limited insight into city operations:** The study lacks insider knowledge of the city's internal processes, resource constraints, or other factors that might have influenced decision-making and implementation. This limitation may result in an incomplete understanding of why certain choices were made or why some projects progressed while others stalled.

These limitations highlight the complexity of studying participatory urban planning processes and suggest areas for potential future research. Despite these constraints, the study still provides valuable insights into the challenges and opportunities of citizen engagement in smart city initiatives, offering a foundation for further investigation and improvement of such processes.

CHAPTER 5

Conclusion

In an era of polarization, driven, in large part, by technology made to confirm our own beliefs and cater to our biases, it is more important than ever to foster "collective wonder" [29] in one of the last strongholds of uncensored information exchange: public space. Especially after the COVID-19 pandemic has left many of us wary of public spaces, participatory placemaking has the potential to draw citizens towards reclaiming the streets around them and can encourage interaction with these spaces, as well as connection with the people in them. The 5er Klimateam initiative represents an attempt to harness this potential, aiming to engage citizens in shaping the future of their urban environment.

The literature review revealed several key concepts relevant to citizen participation in smart city initiatives. Public spaces were identified as crucial sites for democratic engagement, community building, and creative expression. The review highlighted the tension between top-down, expert-driven urban planning approaches and bottom-up, citizen-led interventions such as DIY urbanism. The concept of the "holistic smart city" emerged as an alternative to corporate-driven, technology-centric models, emphasizing the importance of balancing technological innovation with social inclusion and environmental sustainability. Research underscored the potential of digital tools to enhance citizen engagement, while also cautioning against exacerbating existing inequalities. The literature emphasized the need to move beyond tokenistic participation towards genuine collaboration between citizens and city authorities, with citizens viewed as co-creators rather than mere consumers of urban services. These insights provided a critical framework for evaluating the 5er Klimateam initiative, highlighting both its potential to embody participatory ideals and the challenges inherent in translating these principles into practice.

The case study has revealed both the promise and the challenges of implementing citizen participation in smart city development. The initial phase of the 5er Klimateam demonstrated considerable potential, with 309 diverse and thoughtful submissions from

citizens reflecting a unique set of expertise, lived experience, and creativity, as well as a sophisticated understanding of urban sustainability challenges. These submissions aligned closely with the holistic smart city approach advocated by researchers, addressing three core themes: handing over space to people, plants, and the wider ecosystem; sustainability through convenience, sharing, and resource management; community building, knowledge sharing and social inclusion.

However, as the process progressed through its various phases, a noticeable disconnect emerged between the initial citizen input and the final implementations. The reduction from 309 submissions to just 27 refined projects, and ultimately to only 5 (implemented) initiatives, coincided with a significant narrowing of citizen involvement. Moreover, the implemented projects often diverged substantially from their original intentions, with some showing little to no progress and others being reduced to superficial interventions that failed to capture the depth and creativity of the initial proposals. So, while the 5er Klimateam initiative shows promise in its attempt to engage citizens in smart city development, the outcomes of the case study suggests that Vienna has not yet fully met the potential of collaborative city-making as envisioned in the literature on holistic smart cities.

In conclusion, the City of Vienna demonstrates that it recognizes, to a certain extent, that the ‘smart’ city is one which, among other things, relies on its citizens as vital sources of knowledge. However, the case study reveals that there is still considerable room for improvement in how this citizen expertise is integrated into the urban development process. While the city has put in place mechanisms to engage the expertise of citizens in this vain, it can greatly improve the outcomes of these processes through a greater emphasis on the active collaboration between these citizens and the triple helix.

5.1 Future Work

This study of the 5er Klimateam initiative has uncovered several areas that warrant further investigation to enhance our understanding of citizen participation in smart city development.

Future research could focus on conducting real-time, longitudinal studies of similar initiatives. By following the entire process from ideation to implementation, researchers could gain deeper insights into the evolution of ideas and the decision-making processes involved. This could include interviews with participants, city officials, and other stakeholders throughout the project lifecycle, providing a more comprehensive view of the challenges and opportunities at each stage. Furthermore, a closer exploration of how the digital tools affect the participation process could be conducted in order to understand to what degree the incorporation of digitized methods is exclusionary or not as well as how technology can be better leveraged to enhance ongoing citizen engagement, improve transparency, and facilitate more effective collaboration between citizens, experts, and city officials.

Additionally, comparative studies across different timeframes could yield valuable insights. As the 5er Klimateam was part of the first round of the Vienna Climate Team initiative, it is important to examine how the city iterates in similar future projects. It would be highly revealing of the underlying intentions if one could understand how attempts at improvement are/are not being made. Additionally, future studies could delve deeper into the long-term impacts of initiatives like the 5er Klimateam. This could involve tracking implemented projects over time to assess their effectiveness, sustainability, and reception by the community. It would also be valuable to examine whether participation in such initiatives leads to increased civic engagement in other areas or fosters a stronger sense of community ownership over urban development.

By pursuing these areas of research, we can continue to refine our approach to collaborative city-making, working towards more inclusive, effective, and innovative urban development processes that truly harness our collective intelligence.

Appendices

A.1 Detailed View of Miro Codes from Phase 1 Analysis





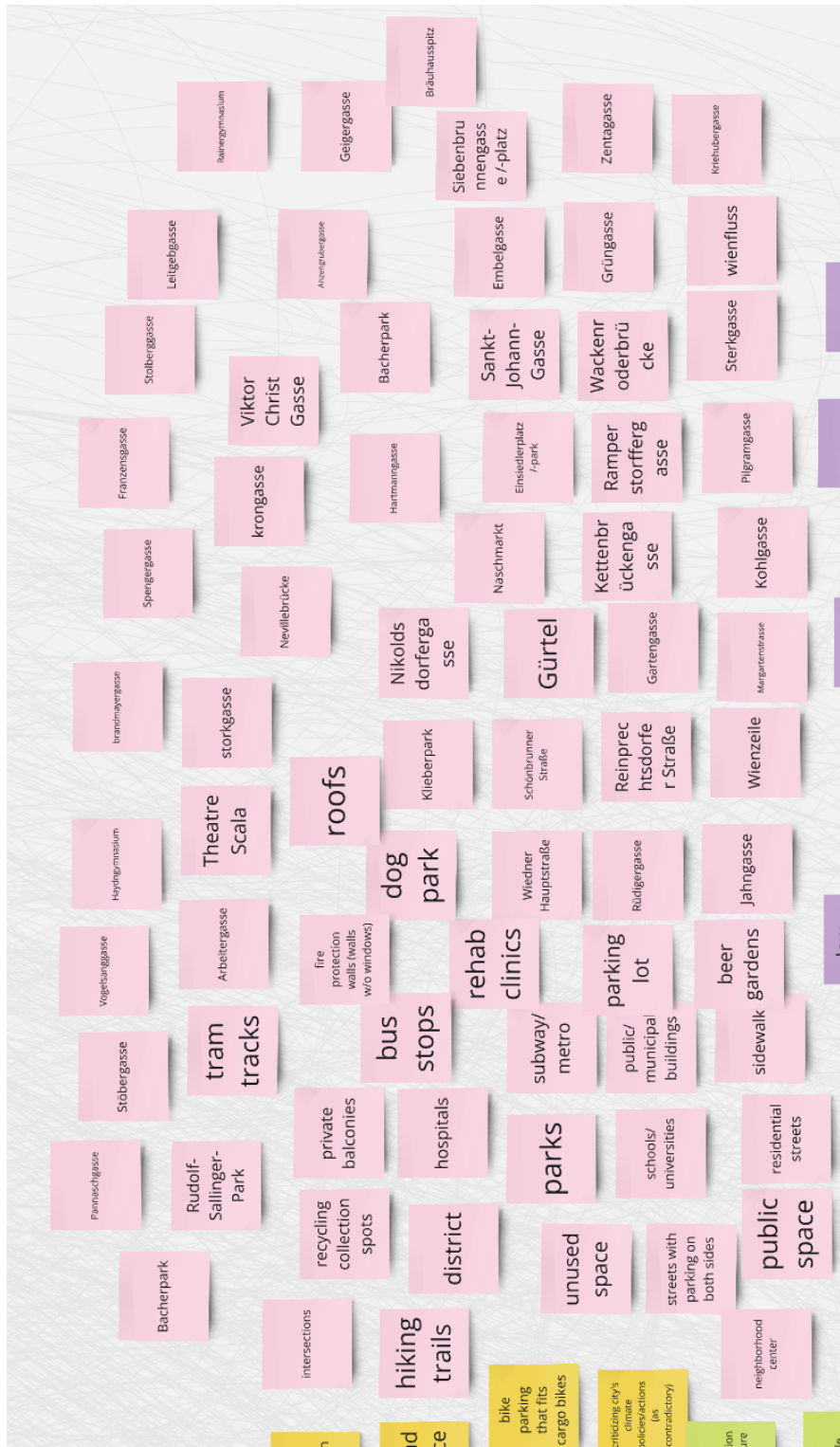
A.1. Detailed View of Miro Codes from Phase 1 Analysis



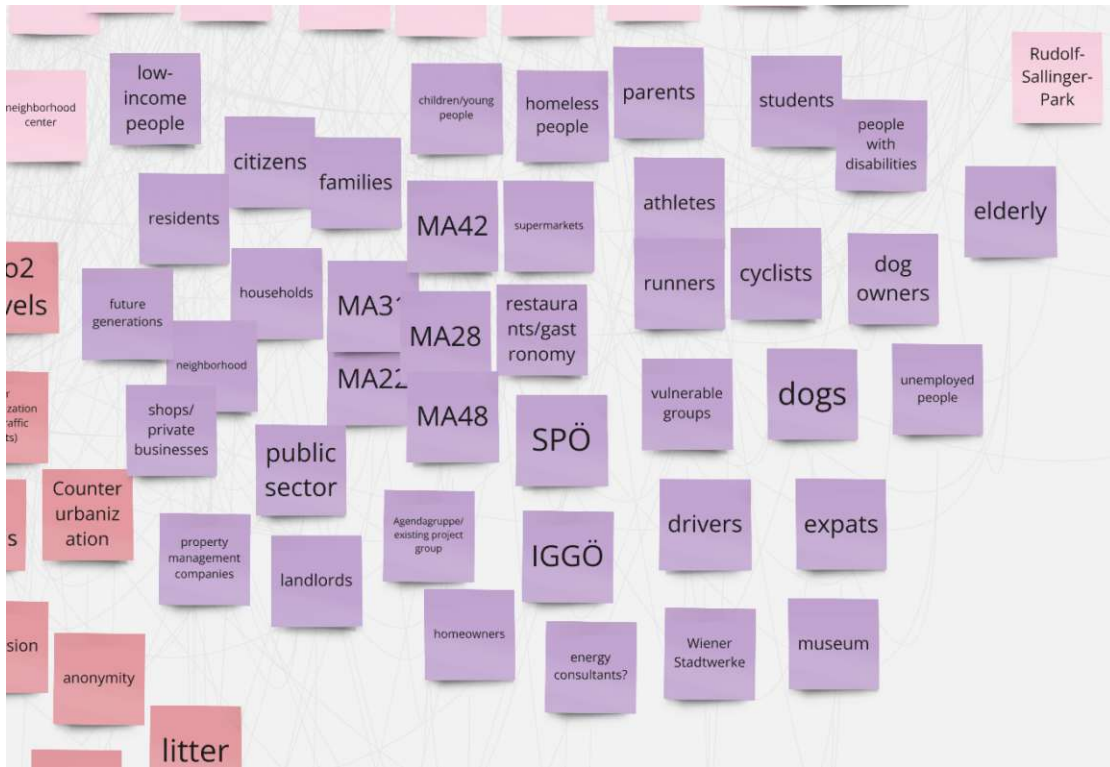


A.1. Detailed View of Miro Codes from Phase 1 Analysis

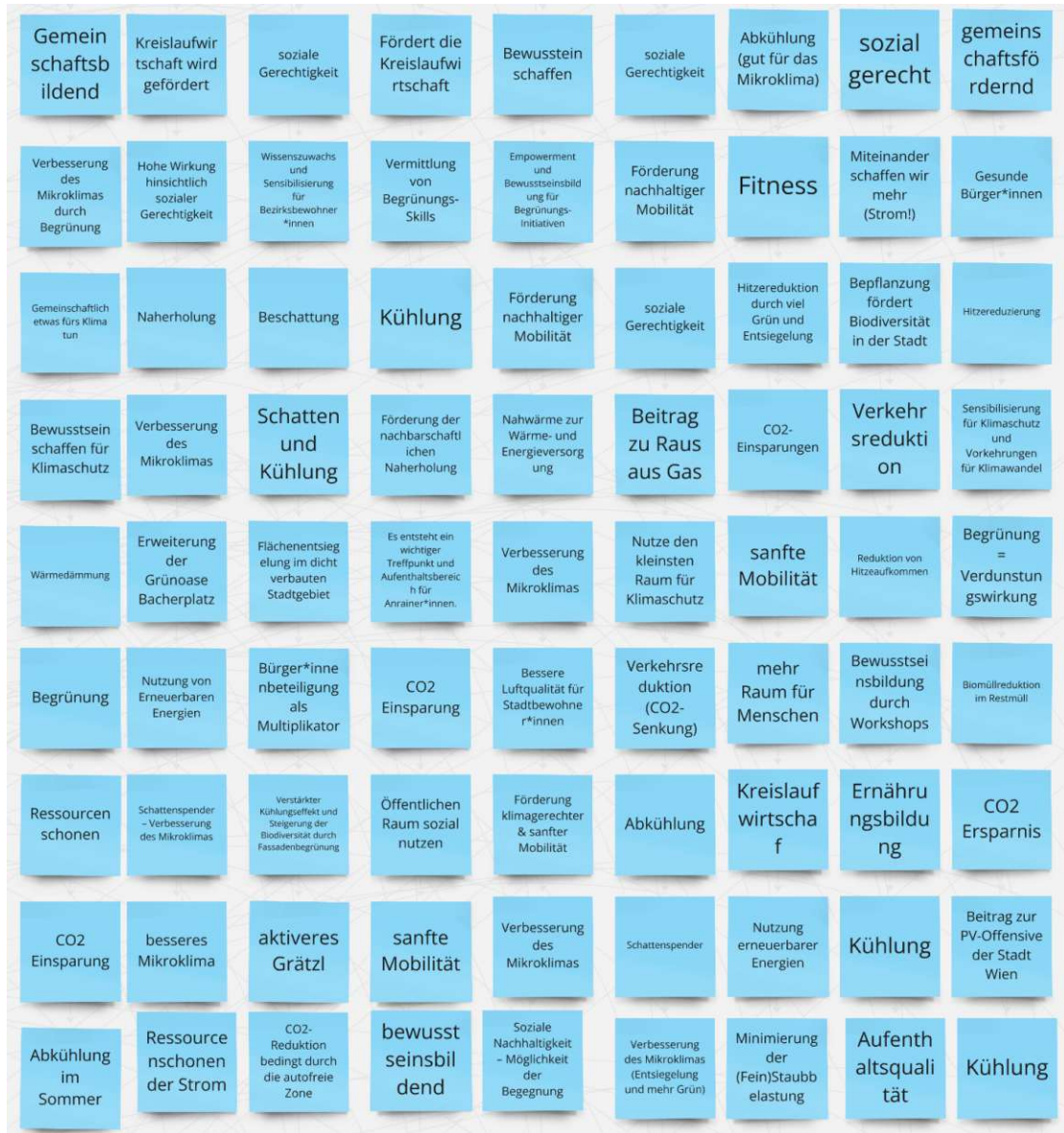




A.1. Detailed View of Miro Codes from Phase 1 Analysis



A.2 Detailed View of Miro Codes from Phase 3 Analysis



A.2. Detailed View of Miro Codes from Phase 3 Analysis





A.3. Author Submission Distribution

Acknowledging existing open bookshelves and proposing to add more exchange shelves.	Specifying additional items like dishes that could be shared.	Detailing the resources needed (space, professionals, tools).	It uses more inclusive language (e.g., "Bewohner*innen" instead of "Bewohner").	Detailing specific topics for knowledge transfer (e.g., water consumption, rainwater management, proper watering techniques).	Removing the mention of "further stages of expansion" to focus on the immediate proposed changes.	Proposing specific interventions such as unsealing surfaces, planting trees and perennial beds.	Adding new elements mentioned in the original submissions, such as fauna greening, seating, and open bookcase.
Emphasizing the goal of promoting sharing and reuse in the district.	Specifying that the repair cafe should be free of charge.	Explaining the rationale behind the concept (extending the life of items).	Emphasizing the goals of waste reduction and resource conservation.	It slightly reorganizes the list of proposed activities.	It reorganizes the information, starting with the proposed service station before describing the organization behind it.	It slightly modifies the wording of the goal, changing "So wollen wir uns gemeinsam für die Mobilitätswende in Margareten und ein besseres Klima für alle Menschen, die in Wien leben, engagieren" to "Für eine gemeinsame Mobilitätswende in Margareten und ein besseres Klima für alle Menschen, die in Wien leben."	
It changes the wording slightly for a larger necessary expansion of bicycle infrastructure in the city.	Providing a specific example (Franzengasse) to illustrate the current problem.	Emphasizing the need for sufficient bicycle parking facilities in addition to bike lanes.	Explicitly linking the proposal to climate-friendly mobility and environmental goals.	Specifying the exact location for the proposed expansion (corner of Kliebergasse/Hauslabgasse).	Specifying key areas of focus for the support (e.g., plant selection, climate-friendly planting, moisture retention).		
Presenting the idea as part of a larger necessary expansion of bicycle infrastructure in the city.	Specifying the exact area for improvement (between Bacherplatz and Gartengasse).	Adding new elements such as perennial plantings and flower beds.	Emphasizing the need for a water toilet, which was mentioned in the original submission but given more prominence in the project description.	Restructuring the information to prioritize the proposed changes before describing the current usage of the park.	Addressing common issues (e.g., gardening without consideration for ecological sustainability).	Presenting both ideas as part of a single, integrated project for energy utilization in the subway system.	It maintains the emphasis on multilingual instructions and 24/7 accessibility.
Emphasizing on two specific interventions: covered bicycle parking in backyards and grass planting on sloped roofs.	Incorporating the idea of seating with greenery.	Proposing a drinking fountain, which was only mentioned as a possibility in one submission.	Suggesting that the school forecourt should become an extension of Bacherpark, which wasn't explicitly stated in the original submissions.	Incorporating the idea of heat exchange systems from the first submission.	Including the proposal for geothermal collectors from the second submission.	Specifying the exact location (between Castellgasse and Viktor-Christgasse).	Introducing the idea of street diversion to reduce traffic speeds, which wasn't part of the original submissions.
Introducing the concept of free consultations on feasibility, implementation, and specific topics like Renewable Energy Communities.	Framing the project as creating a space for people to linger, rather than just improving aesthetics and cooling.	Maintaining the rationale for bicycle parking from the original submission.	Adding emphasis on the biodiversity benefits of the proposed greening.	Introducing the concept of "small green roof islands" to encapsulate the vision.	Maintaining the overall goal of phasing out fossil fuels, which was present in the original submissions.	Proposing funding packages as a means to encourage implementation, which wasn't explicitly mentioned in the original submission.	Proposing a central contact point for renewable energy consultation, which wasn't explicitly mentioned in the original submissions.
Clarifying the target groups for the consultation service (rental building owners, tenants, managers, etc.).	Detailing the types of renewable energy technologies to be considered (PV, solar thermal, heat pumps).	Proposing subsidized project support for implementation, which wasn't mentioned in the original submissions.	Proposing specific improvements, widening the sidewalk, tree plantings, perennial beds, drinking fountain, and seating.	Addressing the need for more scooter and bicycle parking spaces.	Highlighting the potential for traffic calming and improved safety.	Proposing a new name "Zenta-Garden-Gasse" to reflect the transformation.	Emphasizing the need for traffic calming as a first step.
Providing a detailed description of the current situation and its problems.	Specifying the exact area for improvement (from Rainerygymnasium to the end of the sports field).	Specifying the unsealing of surfaces and creation of green areas (trees, beds).	Emphasizing the benefits for both students and residents.	Introducing the concept of a Kiss&Ride zone, which wasn't mentioned in the original submissions.	Adding new elements not explicitly mentioned in the original submissions: seating options, drinking water fountains, and a gardening area.	Focusing on improving the overall quality of stay in the area.	Maintaining the concept of transforming the area into a green, shaded space.
Reducing the idea of an active climate path along Inprechtsdorferstraße, which wasn't mentioned in the original submission.	Focusing on educating young people about healthy, climate-friendly nutrition, which is a new element.	Proposing a feasibility study for detailed implementation, suggesting a more structured approach to the project.	Omitting specific details about the museum's role and history, which were present in the original submission.	It omits the specific details about materials (regional wood and recycled plastic).	It removes the comparison to bicycle lights when explaining the dynamo function.	It doesn't mention the drinking water station that was in the original submission.	The description is more concise, focusing on the core concept and functionality.
It maintains the ideas of free access, 24/7 availability, power generation, and multiple uses for the generated electricity.	Introducing the concept of temporary interventions and workshops to involve citizens.	Mentioning the involvement of local businesses and associations in the process.	Elaborating on the goals and potential benefits of the Superblock concept.	Mentioning the expansion of existing cycling and pedestrian infrastructure.	Incorporating the urban gardening concept from the Krongasse submission and applying it more broadly to Margaretenstraße.	Proposing a phased development approach for better acceptance.	Specifying the focus on residential spaces.
Adding details about how the transformed space could be used by residents.	Proposing a comprehensive "greening zone" concept for the entire Margaretenstraße, which goes beyond the specific locations mentioned in the original submissions.	Including traffic calming and reduction of parking strips, which weren't explicitly mentioned in the provided submissions.	Specifying the unsealing of surfaces and addition of seating options.	Proposing a comprehensive plan for improving the climate and quality of stay at Bräuhausplatz.	Specifying measures like de-sealing surfaces, which weren't mentioned in the original submissions.	Suggesting a redesign of the space layout, with a central square surrounded by greenery.	Introducing the idea of reducing traffic and new considerations present in the original submissions.
Clarifying the concept of "staying" to encourage social interaction.	Introducing the idea of more bicycle stands to promote sustainable mobility.	Providing a rationale for the proposed changes, such as improving pedestrian experience and encouraging social encounters.	Simplifying the concept by not explicitly mentioning the relocation of long-term parking or the creation of mobility points, which were part of the first submission.	The core idea of providing more shade and cooling measures remains intact.	Specifying that the new seating should be "comfortable and inviting", addressing the criticism in the original submission.	Adding the function of providing shade, which wasn't mentioned in the original submission.	Emphasizing that the seating should be greened, which aligns with the suggestion in the original submission but is more explicitly stated.
Providing a specific suggestion for entiation: "Eine begrünte schattung würde die qualitäten deutlich erhöhen, (b) shading would significantly use the quality of stay."	Emphasizing the role of the City of Vienna as the organizer and trustee of this platform, adding credibility to the concept.	Connecting the parking management idea to the potential for greening and climate improvement, which was implied in the first submission's mention of repurposing freed-up surface area.	The description of the Neville Bridge as a beautiful meeting place is kept.	The rationale about benefiting citizens and preparing for heat waves is preserved.	Focusing on the creation of an online platform for listing and managing garage spaces, which was mentioned in the second submission.	Proposing a structured approach with defined groups of residents managing composting facilities.	Focusing on providing more space for non-motorized transport users, which aligns with both submissions.
Proposing a standardized, modular design for a green pergola with PV panels.	Suggesting the use of visualizations to illustrate environmental benefits, which was mentioned in the first submission.	Adding an educational component through workshops for both adults and school children.	Emphasizing the community-building aspect of the project.	Highlighting the financial benefits for the city/district.	Specifying the use of harvested worm humus as an alternative to artificial fertilizer.	Proposing a specific day (Saturday) for the event, with options for frequency (annual or monthly).	Adding the idea of combining car-free days with events on city protection, sustainable food, cultural programs, which were explicitly mentioned in the original submissions.
Incorporating the concept of designed tree pits, which isn't explicitly mentioned in the original submissions.	Adding an awareness-raising component through art actions, local interventions, and on-site conversations, inspired by the "TIP" project idea.	Aiming to create stronger connections between residents and urban trees, fostering a sense of community and environmental consciousness.	Maintaining the concept of display panels to show energy production and raise awareness.	Adding the concept of reducing lawn mowing frequency to promote biodiversity.	Suggesting that the city should lead by example in urban greening efforts.	Proposing a comprehensive tree planting initiative in the alleys of the 5th district, without specifying an exact number of trees.	

A.3 Author Submission Distribution

Distribution of 'author' submissions by status

author	submission status		Total
	'abgelehnt' (% of total)	'in Prüfung' (% of total)	
4D8F077F	49 (62.82%)	29 (37.18%)	78
unknown	17 (100.00%)	0 (00.00%)	17
94C6FD3E	10 (90.91%)	1 (09.09%)	11
C6FD3897	8 (100.00%)	0 (00.00%)	8
402CA668	5 (71.43%)	2 (28.57%)	7
C4E53032	6 (100.00%)	0 (00.00%)	6
633B3023	5 (100.00%)	0 (00.00%)	5
104BF624	2 (50.00%)	2 (50.00%)	4
73A9AD4F	2 (50.00%)	2 (50.00%)	4
EB8C8780	3 (75.00%)	1 (25.00%)	4
480020B8	2 (66.67%)	1 (33.33%)	3
A9CDD567	3 (100.00%)	0 (00.00%)	3
D8E95C7C	3 (100.00%)	0 (00.00%)	3
396CB4BD	3 (100.00%)	0 (00.00%)	3
A6E847C2	3 (100.00%)	0 (00.00%)	3
AEC4E734	3 (100.00%)	0 (00.00%)	3
5DD3AD58	2 (100.00%)	0 (00.00%)	2
D898D671	2 (100.00%)	0 (00.00%)	2
60D72800	1 (50.00%)	1 (50.00%)	2
95C6A8B0	1 (50.00%)	1 (50.00%)	2
52E6FC4B	2 (100.00%)	0 (00.00%)	2
16FCF321	2 (100.00%)	0 (00.00%)	2
2E72D505	1 (50.00%)	1 (50.00%)	2
84C14FBA	2 (100.00%)	0 (00.00%)	2
1EA4E8C7	2 (100.00%)	0 (00.00%)	2
D01EEB47	1 (50.00%)	1 (50.00%)	2
C3F3C6D3	2 (100.00%)	0 (00.00%)	2
9E1E0F41	1 (50.00%)	1 (50.00%)	2
E9EF2FC6	2 (100.00%)	0 (00.00%)	2
561D5DD2	2 (100.00%)	0 (00.00%)	2
A0516E7A	1 (50.00%)	1 (50.00%)	2
600EF800	1 (100.00%)	0 (00.00%)	1
5FB6B7BE	1 (100.00%)	0 (00.00%)	1
3C0C91F7	1 (100.00%)	0 (00.00%)	1
54B2BD4E	1 (100.00%)	0 (00.00%)	1
9F4E9ACC	1 (100.00%)	0 (00.00%)	1
3AFD915A	1 (100.00%)	0 (00.00%)	1
4C7DCEE3	0 (00.00%)	1 (100.00%)	1
343E967F	1 (100.00%)	0 (00.00%)	1
10B4DEE5	0 (00.00%)	1 (100.00%)	1
2841CF99	0 (00.00%)	1 (100.00%)	1
7CE43C8C	1 (100.00%)	0 (00.00%)	1
E0A4F0B8	1 (100.00%)	0 (00.00%)	1
D34A6C63	1 (100.00%)	0 (00.00%)	1
E879EAEB	0 (00.00%)	1 (100.00%)	1
88231A8A	0 (00.00%)	1 (100.00%)	1

FDAE2961	1	(100.00%)	0	(00.00%)	1
8D683D0E	1	(100.00%)	0	(00.00%)	1
2C0DC0D8	1	(100.00%)	0	(00.00%)	1
E5CFA0EC	1	(100.00%)	0	(00.00%)	1
36D17A84	1	(100.00%)	0	(00.00%)	1
C12D9484	1	(100.00%)	0	(00.00%)	1
5DDD19E6	1	(100.00%)	0	(00.00%)	1
40010706	1	(100.00%)	0	(00.00%)	1
627BCAAA	1	(100.00%)	0	(00.00%)	1
27F159C2	0	(00.00%)	1	(100.00%)	1
15C4EDF3	1	(100.00%)	0	(00.00%)	1
87603757	1	(100.00%)	0	(00.00%)	1
372E2BAE	1	(100.00%)	0	(00.00%)	1
5371A61A	1	(100.00%)	0	(00.00%)	1
BFD FE81A	1	(100.00%)	0	(00.00%)	1
EA99BDAA	0	(00.00%)	1	(100.00%)	1
E066E01D	1	(100.00%)	0	(00.00%)	1
8170A278	1	(100.00%)	0	(00.00%)	1
F38447AF	1	(100.00%)	0	(00.00%)	1
BE32CD0C	0	(00.00%)	1	(100.00%)	1
262915C3	1	(100.00%)	0	(00.00%)	1
4F2B3DFE	1	(100.00%)	0	(00.00%)	1
1F991DAA	1	(100.00%)	0	(00.00%)	1
23B0216F	0	(00.00%)	1	(100.00%)	1
E28F63F1	1	(100.00%)	0	(00.00%)	1
DBEB73B8	0	(00.00%)	1	(100.00%)	1
45505197	0	(00.00%)	1	(100.00%)	1
0FC7DA3B	1	(100.00%)	0	(00.00%)	1
A44F5DB4	1	(100.00%)	0	(00.00%)	1
6F03BB20	1	(100.00%)	0	(00.00%)	1
AF816FC1	1	(100.00%)	0	(00.00%)	1
22F32586	1	(100.00%)	0	(00.00%)	1
1271F904	1	(100.00%)	0	(00.00%)	1
9A2393E9	0	(00.00%)	1	(100.00%)	1
48A1D084	0	(00.00%)	1	(100.00%)	1
38BDC64B	1	(100.00%)	0	(00.00%)	1
3E620EC5	1	(100.00%)	0	(00.00%)	1
5CB308D3	1	(100.00%)	0	(00.00%)	1
08B66DF7	1	(100.00%)	0	(00.00%)	1
01D598A6	1	(100.00%)	0	(00.00%)	1
5AD42830	1	(100.00%)	0	(00.00%)	1
D3D52B20	0	(00.00%)	1	(100.00%)	1
56E5A6BF	1	(100.00%)	0	(00.00%)	1
C815863E	1	(100.00%)	0	(00.00%)	1
11148D26	1	(100.00%)	0	(00.00%)	1
35A59C1E	1	(100.00%)	0	(00.00%)	1
E6180AC4	1	(100.00%)	0	(00.00%)	1
30D9A8B5	0	(00.00%)	1	(100.00%)	1
2D01BC18	1	(100.00%)	0	(00.00%)	1
5721939B	1	(100.00%)	0	(00.00%)	1
30CDC43E	0	(00.00%)	1	(100.00%)	1

74C74CAF	1	(100.00%)	0	(00.00%)	1
0191E1DC	0	(00.00%)	1	(100.00%)	1
1CC577C7	1	(100.00%)	0	(00.00%)	1
2DD0C7F6	1	(100.00%)	0	(00.00%)	1
E7AE628B	1	(100.00%)	0	(00.00%)	1
328F8774	0	(00.00%)	1	(100.00%)	1
E61A142F	1	(100.00%)	0	(00.00%)	1
C1C5E0FB	1	(100.00%)	0	(00.00%)	1
81ED0128	1	(100.00%)	0	(00.00%)	1
5207381D	0	(00.00%)	1	(100.00%)	1
5D4F798E	1	(100.00%)	0	(00.00%)	1
92198722	1	(100.00%)	0	(00.00%)	1
3328BC52	1	(100.00%)	0	(00.00%)	1
1FE85164	1	(100.00%)	0	(00.00%)	1
70E2F634	1	(100.00%)	0	(00.00%)	1
AFFC6924	1	(100.00%)	0	(00.00%)	1
2AC992B4	1	(100.00%)	0	(00.00%)	1
363B9FED	1	(100.00%)	0	(00.00%)	1
CF373639	1	(100.00%)	0	(00.00%)	1
D6AC773D	1	(100.00%)	0	(00.00%)	1
8BE83E2A	1	(100.00%)	0	(00.00%)	1
CEDC5757	1	(100.00%)	0	(00.00%)	1
722C8E3A	0	(00.00%)	1	(100.00%)	1
8CF4D793	0	(00.00%)	1	(100.00%)	1
7A614278	1	(100.00%)	0	(00.00%)	1
37237169	1	(100.00%)	0	(00.00%)	1
656327CC	1	(100.00%)	0	(00.00%)	1
DC17159A	1	(100.00%)	0	(00.00%)	1
CD8FED33	1	(100.00%)	0	(00.00%)	1
7C24B848	1	(100.00%)	0	(00.00%)	1
A8922DB8	0	(00.00%)	1	(100.00%)	1
F0D07A58	1	(100.00%)	0	(00.00%)	1
58BF9EBF	1	(100.00%)	0	(00.00%)	1
285FD172	1	(100.00%)	0	(00.00%)	1
3C99F27F	1	(100.00%)	0	(00.00%)	1
7C349BF2	1	(100.00%)	0	(00.00%)	1
B32C05B9	0	(00.00%)	1	(100.00%)	1
B13652AF	1	(100.00%)	0	(00.00%)	1
385892BD	1	(100.00%)	0	(00.00%)	1
FD83719A	0	(00.00%)	1	(100.00%)	1
3BC6CF2F	1	(100.00%)	0	(00.00%)	1
20C00C81	0	(00.00%)	1	(100.00%)	1
0BC3EAAF	0	(00.00%)	1	(100.00%)	1
F6079E88	0	(00.00%)	1	(100.00%)	1
608521D8	0	(00.00%)	1	(100.00%)	1
C599C859	1	(100.00%)	0	(00.00%)	1
C79454B1	1	(100.00%)	0	(00.00%)	1
023DBD20	1	(100.00%)	0	(00.00%)	1
42F64394	0	(00.00%)	1	(100.00%)	1
E865308C	1	(100.00%)	0	(00.00%)	1
Total	235		73		308

A.4 Data Scraping Code

```

import requests
from bs4 import BeautifulSoup

# import pandas as pd
from selenium import webdriver
from selenium.webdriver.chrome.service import Service as ChromeService
from webdriver_manager.chrome import ChromeDriverManager
from datetime import date
from dateparser import parse
import time

HTMLFile = open("data.html", "r") # data.html contains the fully expanded version of
# https://mitgestalten.wien.gv.at/de-DE/projects/5er-klimateam/1
page = HTMLFile.read()
soup = BeautifulSoup(page, "html.parser")
# get the project page links for all individual cards (ideas)
cards = soup.find_all("a", {"class": "e2e-card"})
links = ["https://mitgestalten.wien.gv.at" + card.get("href") for card in cards]

def get_comment_likes(comment):
    try:
        return int(
            comment.find_all("button", class_="e2e-comment-reaction")[0]
            .find_all("div")[0]
            .get_text()
        )
    except:
        return 0

# go through each project idea link to extract more info
ideas = []
i = 0
for URL in links:
    # counter
    i += 1
    print(str(i) + "/" + str(len(links)))

    # load dynamic page using chromedriver
    driver = webdriver.Chrome(service=ChromeService(ChromeDriverManager().install()))
    driver.get(URL)
    time.sleep(5) # add some time for the entire page to load
    html = driver.page_source
    driver.quit()

    # move html to beautifulsoup
    soup = BeautifulSoup(html, "html.parser")

    comments = []
    for comment in soup.find_all("div", class_="e2e-parent-and-childcomments"):

```

```

replies = []
child_comments = comment.find_all(class_="e2e-childcomment")
for child_comment in child_comments:
    replies.append(
        {
            "author": child_comment.find_all("span", class_="e2e-username")[
                0
            ].get_text(),
            "content": child_comment.find_all("div", class_="e2e-comment-body")[
                0
            ].get_text(),
            "likes": get_comment_likes(child_comment),
        }
    )

comments.append(
    {
        "author": comment.find(class_="e2e-parentcomment")
            .find_all("span", class_="e2e-username")[0]
            .get_text(),
        "content": comment.find(class_="e2e-parentcomment")
            .find_all("div", class_="e2e-comment-body")[0]
            .get_text(),
        "likes": get_comment_likes(comment),
        "replies": replies,
    }
)

# get relevant attributes
ideas.append(
    {
        "title": soup.find_all("h1", id="e2e-idea-title")[0].get_text(),
        "author": soup.find_all("div", class_="e2e-idea-author")[0]
            .find_all("span", class_="e2e-username")[0]
            .get_text(),
        "date": parse(
            soup.find_all("div", class_="e2e-idea-author")[0]
                .get_text()
                .split(" am ")[-1]
        ).strftime("%Y-%m-%d"),
        "description": soup.find_all("div", id="e2e-idea-description")[
            0
        ].get_text(),
        "photo": None
        if len(soup.find_all("img", id="e2e-idea-image")) == 0
        else soup.find_all("img", id="e2e-idea-image")[0].get("src"),
        #'location': '',
        "status": soup.find_all("div", id="e2e-idea-status-badge")[0].get_text(),
        "themes": [
            t.get_text() for t in soup.find_all("div", class_="e2e-idea-topic")
        ],
        #'attachments': [],
        "updates": [

```



```
        u.get_text().split("Gepostet am ")
        for u in soup.find_all("div", class_="e2e-official-feedback-post")
    ],
    "likes": int(
        soup.find_all("button", class_="e2e-ideacard-like-button")[0]
        .find_all("div")[1]
        .get_text()
    ),
    "dislikes": int(
        soup.find_all("button", class_="e2e-ideacard-dislike-button")[0]
        .find_all("div")[1]
        .get_text()
    ),
    "comments": comments,
}
)

f = open("output.txt", "w")
f.write(str(ideas))
f.close()
```


List of Figures

3.1	Screenshot of 5er Klimateam page on Wien Mitgestalten. There are tabs for each of the five project phases. Only the ideas relevant to the chosen phase are shown, for example, in the Phase 1 tab, all initially submitted ideas are shown. The outcome of the idea for that phase is shown within the idea card, in this case, Phase 1 is resolved by initial submission either being "in Prüfung" [<i>under Review</i>] or "Abgelehnt" [<i>Rejected</i>].	25
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		99

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