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What is the Problem Represented to be in Bike Sharing Policy?

Comparative Case Study of Italian Cities

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Abstract

Bike sharing systems (BSSs) have become a common feature of urban mobility policy, promoted by city officials as tools for advancing sustainable urban mobility. Yet, their effects on modal shift and social and environmental outcomes remain contested, with empirical studies suggesting that many claimed benefits are overstated or unevenly distributed. In this context, this thesis examines the rationales for BSS adoption in medium-sized Italian cities by analysing municipal bike sharing policy.

The research adopts Carol Bacchi's *What is the Problem Represented to be?* framework, which considers policy as a discursive practice that constructs problems rather than merely responding to them. Six case study cities—Verona, Trieste, Brescia, Padova, Parma, and Reggio Emilia—were examined. Empirical material was collected through expert interviews with ten municipal civil servants responsible for BSS planning and implementation, and analysed to identify commonalities, silences, and differences across cases.

Findings show that BSS policy is underpinned by three problem representations: environmental sustainability of mobility systems, car-centric mobility cultures, and inter-city competition. A secondary problematization of financial sustainability also emerged, with some cities switching to dockless BSSs to lower costs. Across cases, BSS policymaking appeared opportunistic, driven by external funding availability and policy replication, with no integration of equity and environmental objectives.

The thesis concludes that BSSs in the case study cities function primarily as symbolic instruments to project eco-consciousness, cycling-friendliness and a modern urban image. While such symbolism can generate political momentum for further pro-cycling policies, without integration into a coherent mobility strategy it is unlikely that BSSs can deliver substantive modal shift or equity outcomes.

Keywords bike sharing, utility cycling, sustainable mobility, transport governance

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Abstract

I sistemi di bike sharing (BSS) sono ormai elementi ricorrenti nelle politiche di mobilità urbana, spesso presentati dalle amministrazioni locali come strumenti per promuovere la mobilità urbana sostenibile. Tuttavia, i loro effetti sul cambio modale e il loro impatto sociale e ambientale restano dubbi: numerosi studi mostrano come molti dei benefici asseriti siano sovrastimati o ripartiti in modo iniquo. A partire da queste considerazioni, questa tesi analizza le motivazioni che hanno portato all'adozione dei BSS in città italiane di medie dimensioni analizzando le politiche municipali di bike sharing.

L'analisi si fonda sul framework *What is the Problem Represented to be?* di Carol Bacchi, secondo cui le politiche non rispondono semplicemente a problemi pre-esistenti, ma contribuiscono a concettualizzare i problemi stessi. Sei casi studio, le città di Verona, Trieste, Brescia, Padova, Parma e Reggio Emilia, sono stati esaminati attraverso interviste a dieci funzionari comunali responsabili della pianificazione e gestione dei BSS, per individuare similitudini, silenzi e differenze.

I risultati evidenziano che i principali problemi sottesi alle politiche di bike sharing sono tre: la sostenibilità ambientale della mobilità, la cultura auto-centrica e la competizione tra città. Una problematizzazione secondaria riguarda la sostenibilità economica, che ha spinto alcune amministrazioni a passare a sistemi free-floating per ridurre i costi. Nel complesso, le politiche di bike sharing appaiono opportunistiche, realizzate sulla spinta di finanziamenti esterni e dell'imitazione delle politiche tra città, senza alcuna integrazione di obiettivi di equità o ambientali.

La tesi conclude che i BSS sono soprattutto strumenti simbolici per proiettare un'immagine di città moderna ed ecologica. Sebbene questo simbolismo possa generare slancio politico a favore della ciclabilità, in assenza di strategie coerenti difficilmente produrrà un effettivo cambio modale o risultati significativi in termini di equità.

Parole chiave bike sharing, ciclabilità urbana, mobilità sostenibile, governance dei trasporti

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Preface and acknowledgements

After living and studying abroad for 5 years, this thesis research has given me the opportunity to engage with mobility in my home country, Italy. This work renews the call to approach planning as a deeply social and political question, not just a technical one. Much remains to be done to make our cities fairer, more accessible, and more liveable, and I look forward to making an impact as a new professional in this field.

I am thankful to TRT Trasporti e Territorio for welcoming me in their team and enabling this research project, and to my colleagues for their crucial support in reaching out to the case studies.

I thank all the civil servants that participated in the interviews for showing interest in my research and trusting me with this topic. It was a privilege for me to learn directly from municipal planners, and our conversations taught me more about mobility planning than could be included in this thesis.

My heartfelt appreciation goes to my supervisor Miloš N. Mladenović who supported this work with interest, and whose advice pointed me forward while encouraging my independent thought.

I wish to thank my friends from the EIT programme and beyond, whose curiosity, diverse perspectives, and passion have been a constant source of inspiration.

To my family–thank you for your continuous support and your unwavering belief in me. Your presence and encouragement made all the difference.

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Abbreviations

BSS	Bike sharing system
FF	Free-floating
HY	Hybrid
ICT	Information and Communication Technologies
IoT	Internet of Things
PIA	Poststructural Interview Analysis
SB	Station-based
WPR	What is the Problem Represented to be?

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1 Introduction

Contemporary cities are faced with pressing transport challenges, including traffic congestion, limited public space, and excessive greenhouse gas emissions. These issues are directly linked to the widespread use of private motor vehicles (Hickman & Banister, 2014). In response, the bicycle has re-emerged as a key component of urban mobility. This resurgence began in the 1970s in pioneering countries such as the Netherlands and Denmark, and has gained momentum globally since the 2000s, particularly in major urban areas. (Fishman et al., 2013; Götschi et al., 2016; Handy et al., 2014; Pucher & Buehler, 2012; Rérat, 2021).

Following decades of neglect in policy support for cycling, bike sharing systems (BSSs) have gained prominence as a response to the challenges of achieving sustainable mobility transitions. This cycling innovation is widely promoted by local governments, operators, and private providers as a tool to support sustainable urban transport goals (Lin & Spinney, 2021; Médard de Chardon, 2019; van Waes et al., 2018; H. Wang et al., 2020). As a result, BSSs have become a common feature of urban mobility in medium- and large-sized cities in the Global North, China, and, increasingly, other regions.

However, empirical analyses have cast doubt on many of the benefits attributed to BSSs, as will be demonstrated in the literature review in Chapter 2. The evidence indicates that the transformative potential of BSSs is often overstated and that their advantages are unevenly distributed. Their ability to achieve significant modal shift in urban travel behaviour remains uncertain, as they primarily serve individuals who are physically able and already willing to cycle, given social norms and despite limitations of existing infrastructure (Bösehans et al., 2024; M. Chen et al., 2020; Fishman et al., 2013, 2014; Kapuku et al., 2022; Ricci, 2015; Saltykova et al., 2022). As such, BSS implementations often disproportionately benefit already privileged individuals and contribute little to advancing utility cycling as a mainstream mode of transport (Böcker et al., 2020; M. Chen et al., 2020; Dill & McNeil, 2021; Fishman et al., 2013; Giuffrida et al., 2023; Hoffman, 2016; B. Wang et al., 2024).

Given these contradictions, this study investigates why local governments implement BSSs despite established concerns regarding their inclusiveness, and limited modal shift potential. By examining how municipalities frame and justify BSS policies, this research aims to uncover the problem representations that shape the decisions to implement these schemes and their effects. In doing so, the thesis will offer insight into the political, symbolic, and strategic functions that BSSs fulfil within urban mobility governance.

1.1 The need to politicize cycling innovation

Mobility systems are not neutral or purely technical constructs; they are shaped by cultural norms, social structures, and politics (Cresswell, 2011; Sheller & Urry, 2006). As such, changes and innovations in transport systems are not merely technical interventions but political acts that reflect specific values and priorities.

As outlined in the Introduction, transport innovations are often presented as advancing sustainability. However, this stated aim contrasts with the practical results they achieve in cities. Mobility innovation is largely driven by economic and technological logics (Kronsell & Mukhtar-Landgren, 2020; Mladenović et al., 2020; Mukhtar-Landgren & Paulsson, 2021), and sustainability and transition narratives frequently appear in policy as empty words, as they rarely reflect actual systemic change (Pel, 2022; Psarikidou, 2020; Westman & Castán Broto, 2022).

Cycling innovations exhibit similar contradictions. Research shows that they often have limited impact on or may even undermine sustainable urban mobility transitions and the mainstreaming of utility cycling. Efforts are mostly directed towards connected bicycles rather than supporting conventional cycling (Cannon et al., 2025; Duarte, 2016; Médard de Chardon, 2019; Spinney & Lin, 2018; van der Meulen et al., 2023), and the integration of ICT and IoT into cycling has been criticized for promoting commodification, and technocentricity that conflict and weaken the core values of cycling such as simplicity, and low environmental impact (Nikolaeva et al., 2019).

Local governments and transport authorities play a central role in shaping urban mobility systems through policy (Audouin & Finger, 2019). Given that not all cycling innovations contribute to sustainability and velomobility, Bruno (2022) calls for the politicization of mobility policy. This involves identifying the value choices and ideological assumptions embedded in how policies are developed and implemented, in order to critically assess the role that cycling innovations play in transition processes.

This thesis seeks to politicize BSSs, which are a policy tool that is promoted by policymakers as advancing sustainability, but whose practical role and effects are contested, as described in the Introduction.

1.2 Post-structuralist policy analysis

This research analyses BSSs as a form of municipal transport policy through the application of Bacchi's (2009) '*What is the Problem Represented to be?*' (WPR) framework.

Bacchi's framework is rooted in post-structuralism, a theoretical approach that challenges the existence of fixed meanings and universal truths. Instead, it posits that meaning and knowledge are constructed and negotiated through discourse and power structures (Bacchi & Goodwin, 2016). Building on this foundation, WPR conceptualizes policymaking as a discursive process that constructs policy problems. Problems do not exist as objective conditions awaiting technical solutions; rather, they are produced through language and practice that define what is seen as problematic and what responses are deemed appropriate.

Post-structuralist approaches, including WPR, have gained growing traction in mobilities research (e.g., Cordeiro & Mello, 2020; Doughty & Murray, 2016; Eriksson et al., 2024; Huber, 2025; Lagendijk & Boertjes, 2013; Stehlin, 2014). WPR has also been applied to BSS policy analysis, as seen in the work of Koglin and Mukhtar-Landgren (2021) in the context of Lund, Sweden.

According to the WPR framework, therefore, the ways in which bike sharing systems are described, and made 'knowable and governable', provides insight into the problems that are being addressed and the effects that are produced (Bacchi & Goodwin, 2016). Furthermore, in addition to analysing what is stated explicitly in policy, the framework also draws attention to what remains unspoken and unquestioned. These omissions –'silences'–reveal underlying assumptions in policymaking (Bacchi & Goodwin, 2016, p. 22). As such, WPR allows for a critical interrogation of dominant discourses by exposing how certain problem representations emerge and what alternatives are marginalized.

Operationally, WPR consist of six guiding questions to be applied the policy under examination (Bacchi & Goodwin, 2016, p. 20):

1. What's the problem represented to be in a specific policy or policies?
2. What deep-seated presuppositions or assumptions underlie this representation of the 'problem' (problem representation)?
3. How has this representation of the 'problem' come about?
4. What is left unproblematic in this problem representation? Where are the silences? Can the 'problem' be conceptualized differently?
5. What effects (discursive, subjectification, lived) are produced by this representation of the 'problem'?
6. How and where has this representation of the 'problem' been produced, disseminated and defended? How has it been and/or how can it be disrupted and replaced?

1.3 Thesis aim and structure

This research analyses bike sharing policy through interviews with civil servants in medium-sized Italian cities. It adopts a comparative case study approach across six cities to investigate the problem representations that underpin municipal decisions to implement BSSs, as well as their effects. Furthermore, the study analyses the problem representations and effects of the shift from station-based to dockless BSSs, which took place in three of the six case studies.

The research question is the first question of Bacchi's (2009) WPR framework, as introduced in Section 1.2: 'What is the problem represented to be in bike sharing policy?' The remaining five WPR questions are sub-research questions and support the policy analysis.

This study aims to address three research gaps in the literature on BSS policy. First, it intends to contribute to the understanding of the rationales behind BSS implementation, a topic that has received limited attention in existing literature, and especially in qualitative research based on interviews with municipal planners (Mora & Moran, 2020). Second, while most academic work on BSS policy and regulatory innovations have focused on large cities (e.g. Coenegrachts et al., 2024), this research focuses on smaller municipalities. Third, the policy rationales behind municipal-led shifts from SB to dockless BSSs are largely unexplored (Lin & Spinney, 2021), a gap this study aims to address.

The thesis is structured as follows. Chapter 2 presents a literature review on the historical developments of BSSs, their stated and contested benefits, and their governance. Chapter 3 outlines the research method, including the selection of case studies and the process of conducting qualitative interviews with civil servants. Chapter 4 presents the empirical findings from the interviews. Chapter 5 interprets these findings using the six WPR questions, offers policy recommendations for municipalities, and discusses the limitations of the study and possibilities for future research. Chapter 6 concludes the thesis by summarising the main findings.

2 Background

To guide the analysis of municipal bike sharing policy, this chapter presents a literature review on the historical developments of BSSs (Section 2.1), their stated and contested benefits according to local decision makers and empirical studies (Section 2.2), and their governance (Section 2.3).

2.1 Introduction to BSSs: characteristics and brief history

Bike sharing systems are a form of mobility service that allows users to rent bicycles located in the public space on an as-needed basis for short periods of time (DeMaio, 2009; Fishman & Allan, 2019; Shaheen et al., 2010, 2014). These systems have evolved through successive generations, each characterized by distinctive technological and organizational features. The main characteristics of each BSS generation are discussed in this section and summarized in Table 1.

Table 1: Overview of BSS generations
Source: Author's synthesis based on DeMaio (2009); Fishman & Allan (2019); Lin & Spinney (2021); Shaheen et al. (2010, 2014); van Waes et al. (2018).

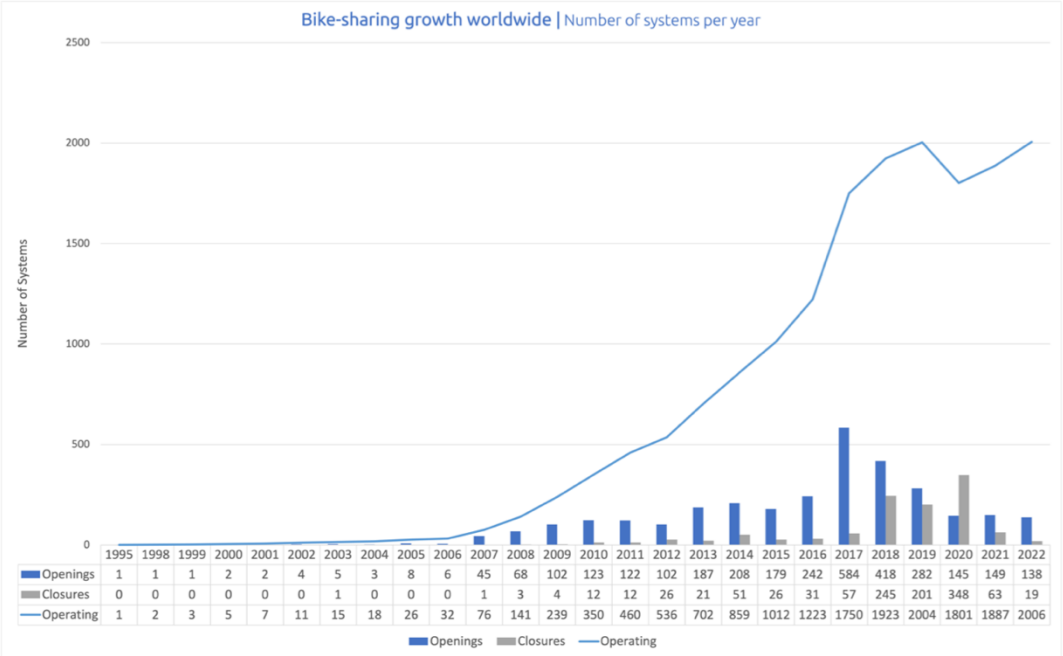
Generation	Period	Features	Technology	Examples
Gen 1: Free, unregulated systems	1960s–1990s	Bikes freely available in public No user tracking No docking or locking infrastructure	Bikes	*Witte Fietsen* (Amsterdam)
Gen 2: Docked coin-deposit-based systems	1990s–early 2000s	Coin-operated bike release Fixed stations Basic user accountability	Docking stations, coin deposit	*Bycyklen* (Copenhagen)
Gen 3: Docked IT-based systems	Early 2000s–present	Docking stations User registration Real-time tracking Smartcards and apps	Connected docks, RFID, mobile apps	*Vélib'* (Paris), *Bicing* (Barcelona), *CitiBike* (NYC)
Gen 4: Dockless and hybrid systems	2016–present	GPS-enabled bikes No docking stations required App-based access	GPS, IoT, mobile apps	*Mobike*, *Lime*, *Tier*

The first recorded bike sharing system was launched in Amsterdam in 1965 through the *Witte Fietsen* initiative, promoted by anarchist group Provo, providing free, untracked bicycles for public use (DeMaio, 2009; Shaheen et al., 2010). This system was short-lived due to the absence of user accountability, which led to widespread theft and vandalism. The second generation of BSSs, introduced in the mid-1990s with schemes such as Copenhagen's *Bycyklen* (1995), implemented coin-deposit mechanisms and fixed docking

stations (Shaheen et al., 2010). Since the mid 2000s, first- and second-generation systems have become increasingly rare, and virtually no operational examples exist today.

The systems currently in operation belong predominantly to the third and fourth generations. Third-generation systems represent a technological upgrade to dock-based models through the integration of ICT. The first of such BSSs was implemented on the campus of the University of Portsmouth in 1996 (DeMaio, 2009). These systems include internet-connected docking stations and require user registration, initially via smartcards and later, with the emergence of smartphones, through mobile apps. These technological advancements improved system control and operations management. In this thesis, third-generation systems are referred to as station-based bike sharing systems (SB BSSs). The fourth generation emerged in China in 2016, consisting of dockless bike sharing services (Lin & Spinney, 2021; van Waes et al., 2018). These free-floating (FF) systems allow users to locate, unlock, and park bicycles without physical stations, using smartphone apps. In some cities, digital geo-fencing is used to create virtual parking zones to regulate parking in select areas, such as crowded city centres. Such systems are referred to as hybrid (HY) BSSs. Both third- and fourth-generation BSSs can feature mechanical bicycles, e-bikes—introduced to bike sharing programs in the early 2010s—or mixed fleets (Galatoulas et al., 2020).

The third generation of BSSs drove the first rapid global expansion of bike sharing following the visibility of early programs such as Vélo'v in Lyon and Vélib' in Paris, launched in 2005 and 2007, respectively (DeMaio, 2009; Fishman & Allan, 2019; The Meddin Bike-sharing World Map, 2022). The rise of dockless systems has then accounted for most of the growth beginning in 2016, and as of December 2022, dockless BSSs represented around 40% all the systems worldwide (The Meddin Bike-sharing World Map, 2022). Over the past two decades, the number of cities with operational bike sharing programs has increased from 13 in 2004 to over 1,500 by 2022, as shown in Figure 1 (Fishman & Allan, 2019; The Meddin Bike-sharing World Map, 2022). Many cities operate multiple programs, resulting in a global total of approximately 2,080 systems and around 9 million bicycles.



	1995	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Openings	1	1	1	2	2	4	5	3	8	6	45	68	102	123	122	102	187	208	179	242	584	418	282	145	149	138
Closures	0	0	0	0	0	0	1	0	0	0	1	3	4	12	12	26	21	51	26	31	57	245	201	348	63	19
Operating	1	2	3	5	7	11	15	18	26	32	76	141	239	350	460	536	702	859	1012	1223	1750	1923	2004	1801	1887	2006

Figure 1: Number of BSSs per year worldwide: openings, closures, and total operating
Source: The Meddin Bike-sharing World Map (2022)

Italy represents a notable example in BSS adoption, ranking third globally in the number of active systems, following China and the United States (The Meddin Bike-sharing World Map, 2022). According to Asperti et al. (2024), at the beginning of 2024, Italy had 41 operational BSSs, of which 26 dockless and 15 station-based systems. As shown in Figure 2, the number of dockless BSSs has steadily increased since 2017, while the number of SB systems decreased by ten starting in 2021. Station-based systems predominantly provide mechanical bicycles, while dockless BSSs mostly deploy electric bikes, as shown in Figure 3.

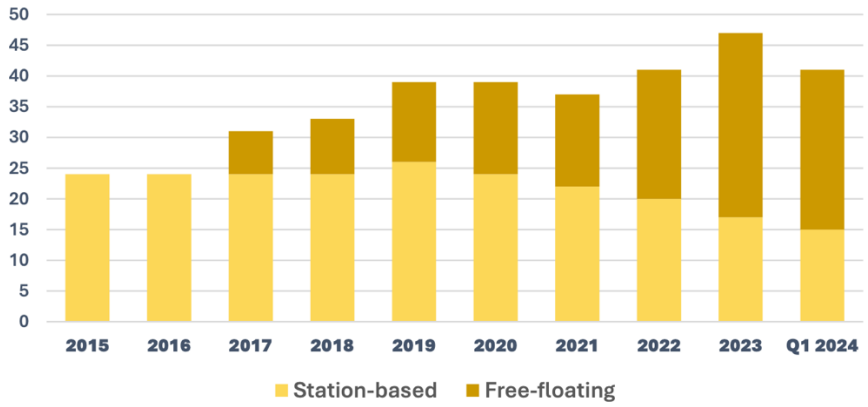


Figure 2: BSSs in Italy by type, 2015-2024
Source: Asperti et al. (2024)

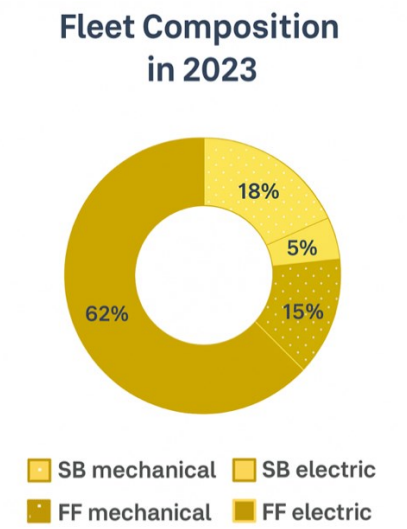


Figure 3: Composition of total BSS fleet in Italy in 2023
Source: Asperti et al. (2024)

2.2 Contested BSS rationales

As discussed in the Introduction, BSSs are a municipal policy tool that is promoted by policymakers as advancing sustainability. However, their actual contribution to sustainable mobility transitions remains contested within academic literature.

This section investigates the rationales behind BSS policies by drawing on the limited body of research consisting of qualitative studies based on interviews with municipal planners. Furthermore, it explores the documented effects of BSSs on mobility, public health, social inclusion, cycling culture, and urban politics. This aims to critically assess the extent to which policymaker-stated reasons for BSS implementation are supported by empirical evidence, and to identify effects of BSSs beyond those presented in policy narratives.

2.2.1 BSSs as a healthy and environmentally sustainable mode

Bike sharing systems are frequently framed by local policymakers as tools for promoting sustainable urban mobility. Wang et al. (2020), van Waes et al. (2020), and Lin and Spinney (2021), found that BSSs are portrayed in policy discourse as solutions to excessive car use, capable of reducing traffic congestion and improving public health.

BSSs support sustainable urban mobility transitions by facilitating the adoption of cycling. They are convenient and flexible, reduce the financial barrier to cycling, and mitigate concerns regarding bicycle theft, storage and maintenance (Bartling, 2022; Bieliński & Ważna, 2020; M. Chen et al., 2020; Politis et al., 2020; Ricci, 2015). Analyses from BSS providers (Wu et al., 2019) and

some academic sources (Hamilton & Wichman, 2018; Qiu & He, 2018) found that BSSs reduce greenhouse gas emissions and congestion while increasing physical activity by shifting trips from other modes to cycling. However, these claims rely on modal substitution assumptions that 75 to 100 percent of BSS trips replace trips previously made by car.

A growing body of empirical research contests these optimistic assumptions and finds that the environmental and public health benefits of BSSs are, in fact, limited. The extent of the benefits of BSSs depends largely on whether they replace car trips (Saltykova et al., 2022), and studies consistently report that only 0 to 20 percent of BSS trips substitute for driving (Bösehans et al., 2024; Z. Chen et al., 2020; Fishman et al., 2013, 2014; Fishman & Allan, 2019; Kapuku et al., 2022; Ricci, 2015; Sun, 2018). Instead, BSSs more often replace trips previously made by walking, public transport, or private cycling, therefore resulting in only limited environmental and health benefits.

The net environmental impact of BSSs is also contested due to emissions associated with operating the systems, particularly the rebalancing of bikes across stations (in SB systems) and service areas (dockless BSSs). These activities typically rely on motorized vans and are a non-negligible source of emissions (M. Chen et al., 2023; Luo et al., 2020). Impact assessments found that net environmental benefits of BSSs are, at best, questionable, and can be easily offset by emissions linked to rebalancing operations in systems with low levels of car substitution (Fishman et al., 2014; Zheng et al., 2019).

2.2.2 BSS as an integration of public transport

Bike sharing systems are also promoted by policymakers as last-mile solutions to integrate public transport. In Chinese policy, BSSs are portrayed as efficient last-mile options, especially in newly developed districts located far from metro stations (Lin & Spinney, 2021; van Waes et al., 2020; H. Wang et al., 2020). Similarly, in the Swedish city of Lund, Koglin and Mukhtar-Landgren (2021) found that the local administration adopted a BSS as an extension of the public transport network to improve access to workplaces from public transport hubs, such as the train station.

BSSs have the potential to foster multimodality, and system designs often locate (virtual) stations in proximity of public transport interchanges, stops and stations. As a result, BSSs can address the last-mile challenge and fill gaps in public transport networks, providing a cost-effective option for connecting outer residential areas to mass transportation (Conrow et al., 2018; Fishman et al., 2013). In some implementations, BSSs demonstrate strong intermodality; for example, in Oslo, 50% of BSS trips start or end at a public transport stop (Böcker et al., 2020).

In many contexts, however, BSSs tend to act more as substitutes than complements to public transport. Empirical studies from Budapest and Seoul report that only around 20% of BSS trips are intermodal, i.e., connected to public transport (Földes & Přibyl, 2023; Kim, 2023), and between 50% and 62% of BSS trips in New York City and Budapest replaced journeys that could have otherwise been made by public transport (Cui et al., 2022; Földes & Přibyl, 2023). These substitution effects are attributed to the fact that in urban cores BSSs often offer faster travel times than public transport, while in peripheral areas they provide greater flexibility than low-frequency services and eliminate waiting times (Kapuku et al., 2022). The relative proximity of bike stations to trip origins and destinations, compared to fixed-route public transport stops, further enhances the competitiveness of BSSs. In small and medium cities, Audikana et al. (2017) point out that BSS potential to complement public transport is especially dubious due to stronger car cultures, limited public transport networks, and short intra-urban distances that render cycling an effective standalone mode.

2.2.3 BSSs as social inclusion tool

Literature suggests that bike sharing systems have the potential to foster social inclusion by expanding mobility options for groups with limited access to transportation. By providing an additional mobility option, BSSs can increase the resilience and flexibility of transport systems (Fishman et al., 2013). Furthermore, they offer a cost-effective option to provide mobility in sparse, public transport-deprived outskirts, enabling lower-income residents to access mass transit networks at a significantly lower cost than car ownership (Conrow et al., 2018; Fishman et al., 2013).

In practice, however, station-based BSSs are primarily concentrated in urban cores, with limited extension into peripheral areas (M. Chen et al., 2020; Fishman et al., 2013; Giuffrida et al., 2023; B. Wang et al., 2024). This spatial inequality restricts access for lower-income individuals, who are more likely to reside in underserved areas (Dill & McNeil, 2021; Hoffman, 2016). Dockless systems partly address this issue by enabling broader service areas and larger fleets due to lower capital costs from the absence of fixed infrastructure (Meng & Brown, 2021). However, several structural barriers remain, including high user fees and credit card and smartphone requirements. Furthermore, Meng and Brown (2021) found that expanded service areas do not necessarily ensure vehicle availability in peripheral zones, as lower socioeconomic status neighbourhoods tend to experience less frequent rebalancing compared to wealthier areas due to lower profitability for operators.

Lastly, evidence indicates that even when bikeshare is nearby, people of colour, lower-income individuals, women, and older adults are less likely to use BSSs due to risk-aversity, physical capability, digital literacy and cultural

factors (Böcker et al., 2020; Dill & McNeil, 2021). These disparities are amplified when BSSs are introduced without contextual investment in safe cycling infrastructure. In such contexts, the systems tend to favour users who are already confident in urban cycling (Médard de Chardon, 2019). In sum, BSSs disproportionately benefit white, young, healthy, highly educated and wealthier men who live and frequent urban cores.

2.2.4 BSSs as a cultural and political tool

BSSs can promote cycling cultures and provide political consensus for the development of further cycling infrastructure and policy. Goodman et al., (2014) and Maas et al. (2022) argue that BSSs may help normalizing cycling and build a cycling culture by increasing the visibility and social acceptance of utility cyclists. In 'starter' cycling cities, BSSs are often the first pro-cycling policy adopted by local governments, serving as a symbolic and practical precursor to further cycling initiatives (Goodman et al., 2014; Maas et al., 2022). Furthermore, BSS users are perceived more positively by other road users than private cyclists (Curto et al., 2016; Nikitas, 2018), and the distinctive, colourful, and uniform design of shared bicycle fleets enhances the visibility of cyclists in traffic and draws public attention to cycling (Murphy & Usher, 2015; van Waes et al., 2018).

However, BSSs have also been criticized for their politically uncontroversial nature. In a German case study, Nitschke (2015) found that BSSs were adopted as a more politically palatable alternative to more effective but contentious cycling infrastructure projects, which would require reallocating road space from private vehicles. Médard de Chardon (2019), based on interviews with officials in ten large cities across Europe and North America, similarly concluded that political support for BSSs often stems from their perceived neutrality, ease of implementation, and broad public acceptance—both among users and non-users (Médard de Chardon, 2019; Nikitas, 2018; Ricci, 2015).

BSSs can hinder the deployment of stronger cycling policy by advancing apparent sustainability without disrupting the mobility and economic status-quo. Médard de Chardon (2019) argues that BSSs can divert public investment away from more impactful and equitable cycling initiatives, while simultaneously satisfying political and public demand for visible action, thus reducing momentum for further change. Koglin and Mukhtar-Landgren (2021) found that Lund's BSS provides the city with a 'win-win' solution, as it enables the municipality to pursue both sustainability and economic growth by supporting tourism, enhancing city branding, and improving access to employment. Similarly, Duarte (2016) and Tironi (2015) emphasize the inherent tension between sustainability and commodification in BSSs, noting that

while the systems are framed as sustainability initiatives, they often act as billboards, providing advertising space to private companies.

Lastly, BSSs can also serve as instruments of inter-city competition and personal political gain. Cities leverage BSSs to advance their image as modern, progressive, and sustainable, catering to contemporary and cosmopolitan lifestyles and fostering pride among residents, as found by Mora and Moran (2020) in Santiago de Chile and Lin and Spinney (2021) in Shanghai. Mora & Moran (2020) note that free-floating BSSs take this further, as they portray an even more flexible and dynamic urban image. H. Wang et al. (2020) highlight competition logics in BSS implementation, as similar cities imitate each other's policy for economic and political gain. Médard de Chardon (2019) also note that in some cases, the adoption of BSSs has been driven by the personal ambitions of mayors, who use these systems as symbols to portray themselves as champions of innovation and sustainability.

2.3 BSS governance

After examining system characteristics and the rationales for BSS implementation as found in both policy and academic literature, this section discusses BSS governance, providing insight into how municipalities plan and finance these systems.

BSSs can be understood as a municipal transport policy which is initiated by local governments—often in response to promotion by BSS providers (Gao & Li, 2020; Shaheen et al., 2010). In Europe, this applies to both station-based and dockless models. This contrasts with other regulatory environments, such as China, the United States and Australia, where dockless BSSs have often been launched by private companies without prior coordination with local authorities, due to lenient or absent regulations on the use of public space (Cao et al., 2022; Docherty et al., 2018; Lin & Spinney, 2021; Ma et al., 2018; H. Wang et al., 2020).

2.3.1 BSS business models and funding

The cost structures and funding mechanisms of BSSs differ between station-based and dockless models.

For station-based BSSs, capital costs consist of acquiring the bikes and the docking stations from a BSS provider company, while operational costs are incurred to redistribute bikes across stations, and for maintenance (Hensher et al., 2021; Nikitas, 2019). Operations are usually performed by a BSS operator company, which can be a branch of the BSS provider, another private company, or a publicly owned company (Shaheen et al., 2014). BSSs do not recover their costs through fares alone and thus depend on public funding (Hensher et al., 2021; Nikitas, 2019; van Waes et al., 2018). Subsidies

commonly consist of the local government covering capital expenditure and part of the operating costs (van Waes et al., 2018). In some cases, subsidies to BSSs can also consist of granting advertising space in the city or at the BSSs stations and on the bikes as part of the BSS operating contract. This type of agreement results from the fact that major BSS providers and operators are outdoor advertising companies (Cohen & Kietzmann, 2014; Shaheen et al., 2010; Winslow & Mont, 2019). Lastly, subsidies can come from higher levels of government, as in the case study of Spain by Anaya-Boig (2021), where the national government funded the acquisition of the systems and operational costs for an initial period. They found that in smaller cities, after the first years of operations covered by those national funds, BSSs were shut down once operational costs were to be borne by the municipalities.

Station-based BSSs can be difficult to scale for local governments due to the substantial investments required for additional docking stations (van Waes et al., 2018). When local authorities are unable to commit sufficient resources to achieve adequate station density and large service areas, SB BSSs result in suboptimal service quality. This creates favourable conditions for the introduction of dockless BSSs and is particularly the case in smaller cities, which often have more limited budgets (Coenegrachts et al., 2024; Lin & Spinney, 2021).

Dockless BSSs eliminate the need for infrastructure investments, as the systems consist solely of connected bikes (van Waes et al., 2018). Costs are therefore limited to purchasing the bikes, maintenance and redistribution. By eliminating docking stations, these systems reduce capital requirements, allowing instead for larger fleets and service areas. Combined with higher per-minute fares, they do not require public subsidies (Hauf & Douma, 2019; Meng & Brown, 2021; Power, 2018). Indeed, dockless BSSs first emerged in China as market-driven initiatives launched with minimal coordination with local authorities (Lin & Spinney, 2021; Ma et al., 2018; H. Wang et al., 2020). In Europe, due to regulation on the use of public space, dockless BSSs are regulated by local governments, who can influence fares and fleet sizes (Z. Chen et al., 2020; Gao & Li, 2020) Unlike SB BSSs whose infrastructure and bikes are purchased by the city, dockless BSSs remain owned by their operating company (Cao et al., 2022; Hauf & Douma, 2019; H. Wang et al., 2020).

2.3.2 Planning for BSSs

Most literature has focused on how municipal planners design and implement SB BSSs, while dockless systems have largely been examined in terms of their business model innovation when entering European markets, compared to the Chinese model, due to stricter public space regulations in Europe (e.g., Gao & Li, 2020; van Waes et al., 2020). Apart from the minor regulation discussed in Section 2.3.1, dockless BSSs appear to remain predominantly

autonomous market initiatives, leaving limited room for municipal involvement.

Concerning the tactical planning of SB BSSs, such as defining system requirements for procurement and locating stations, Cao et al. (2022) and Willnat et al. (2024) found little to no personal or institutionalized expertise among public planners. Planning processes are predominantly intuition-driven, shaped by local knowledge and "trial-and-error" approaches. For example, in station siting decisions, only about half of the civil servants in Willnat et al. (2024) reported using any form of data evidence, and potential network effects of BSSs were found to be largely disregarded. Planning assumptions and system requirements are typically determined a priori and top-down, with limited and tokenized citizen engagement in North American and European BSSs (Médard de Chardon, 2019; Sadik-Khan & Solomonow, 2016).

Concerning strategic planning, literature finds that integration of BSSs with broader mobility policy is limited (Cannon et al., 2025). Public subsidies are an opportunity for public authorities to influence service design (e.g., spatial coverage, pricing) to benefit the public interest, for example, by addressing issues like transport poverty and pollutants reduction. In practice, however, the role of the state in regulating shared bikes has often been only loosely defined (Médard de Chardon, 2019), and in both Europe and North America, strategic planning from a social equity perspective and the integration of BSSs into transport and cycling policy are largely absent. Anaya-Boig (2021) in their case study of Spain found that limited BSS and cycling strategic planning is due to resource shortages among planners. As such, BSSs often have no explicit or measurable goal, and few agencies explicitly evaluate BSS outcomes on equity and mobility (Hauf & Douma, 2019; Palm et al., 2021). This is a missed opportunity, since complementary pro-cycling measures, such as cycling infrastructure, would foster stronger BSS adoption by those who do not currently cycle (Buehler & Dill, 2016; Ricci, 2015). BSS can help lowering the barrier to utility cycling for those who do not cycle, but the quality of the experience must be adequate in terms of the perception of safety, travel times and enjoyment to secure durable modal shift.

3 Methods

This chapter outlines the method of the thesis. The study analyses bike sharing policy across six case studies selected from medium-sized Italian cities, and the research method used is qualitative expert interviews. Section 3.1 explains the criteria for selecting the case studies and introduces the cities chosen, while Section 0 discusses the research method.

3.1 Italian cities as case studies

This thesis conducts a comparative case study of six Italian cities: Verona, Trieste, Brescia, Padova, Parma, and Reggio Emilia. This section outlines the criteria used to select the case studies and provides an overview of the selected cities.

3.1.1 Case studies selection process

Italy was chosen as the research context due to the researcher's native proficiency in Italian, which facilitated the conduct of qualitative expert interviews. Within Italy, the researcher selected cities comparable on some relevant characteristics to enable meaningful cross-case comparisons and allow for a robust analysis.

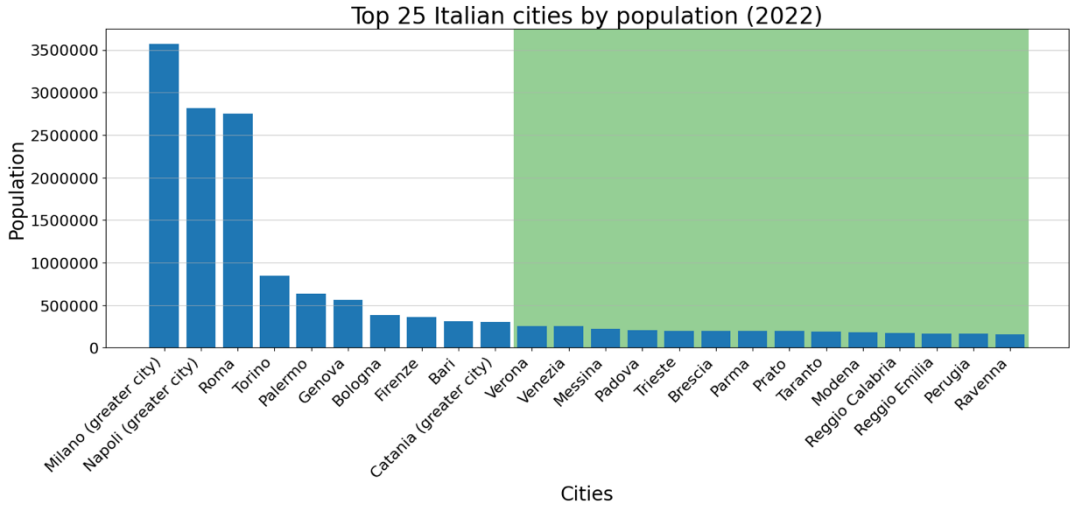


Figure 4: Top 25 Italian cities and metropolitan areas by population. Highlighted in green: 11th to 25th most populous cities
Source: Eurostat (2022)

As shown in Figure 4, the ten largest Italian cities and metropolitan areas by population differ significantly in size, ranging from 3.5 million in Milan to 300,000 in Catania. To obtain a more homogeneous sample, attention was directed toward the 11th to 25th most populous cities, which exhibit more comparable population sizes, as shown in Table 2.

Table 2: 11th to 25th most populous Italian cities
Source: Eurostat (2022)

City	Population
Verona	255,985
Venezia	251,944
Messina	221,246
Padova	206,651
Trieste	199,015
Brescia	195,906
Parma	195,436
Prato	195,213
Taranto	189,461
Modena	184,971
Reggio Calabria	172,479
Reggio Emilia	169,908
Perugia	162,362
Ravenna	155,836

From this list, seven cities were excluded based on specific criteria. Prato, Taranto, Modena, and Ravenna were excluded due to the absence of an active 3rd- or 4th-generation bike sharing system (The Meddin Bike-sharing World Map, 2025). Reggio Calabria and Perugia were excluded because they operate small station-based systems with fewer than 20 stations (The Meddin Bike-sharing World Map, 2025), providing only partial coverage of the urban area and therefore having a limited impact on the cities' mobility systems (Anaya-Boig et al., 2021). Finally, Messina was excluded because, unlike the remaining candidate case studies, it has only ever had a dockless system, with no prior station-based model (The Meddin Bike-sharing World Map, 2025). In addition, its per-capita GDP is approximately half that of the remaining cities in the sample (Eurostat, 2022a).

This process yielded a shortlist of seven candidate cities: Verona, Venezia, Padova, Trieste, Brescia, Parma, and Reggio Emilia. Invites were sent to the mobility planning departments of each city to participate in an interview on their bike sharing policy. All cities responded and participated in the study, except for Venezia.

3.1.2 Case studies description

The six selected case study cities are all located in Northern Italy and are comparable across a range of variables known to influence the availability

and use of BSSs, as identified by Coenegrachts et al. (2024). These variables include socio-demographic factors and the presence of select target groups such as tourists and students, features of the built environment, weather and topography.

Figure 5: Case study cities on a physical map of Italy

Concerning socio-demographics, the cities display similar levels of car ownership, age distribution, and per capita GDP, as shown in Table 3. However, Verona and Padova have a distinctly more touristic profile than the other cities, and Padova is also a university town with a notably large student population, as presented in Table 4.

Table 3: Summary of case studies–socio-demographics
Sources: [1]Eurostat (2022b); [2]Eurostat (2022c); [3]Eurostat (2022a)

City	Population[1]	Car Ownership[2] [veh/1000 inh.]	Residents aged 15-34[1] [%]	Residents aged 35-54[1] [%]	Per Capita GDP[3] [$]
Verona	255,985	659	20%	27%	38,900
Padova	206,651	615	20%	27%	39,100
Trieste	199,015	548	19%	26%	39,100
Brescia	195,906	623	21%	27%	40,500
Parma	195,436	629	21%	30%	42,700
Reggio Emilia	169,908	703	22%	30%	42,000

Table 4: Summary of case studies–select target groups
Sources: [1]Eurostat (2021); [2]Eurostat (2023)

City	Students in higher education[1] [%]	Nights spent at tourist accommodation establishments[2] [nights/inh.]
Verona	10%	11.1
Padova	28%	8
Trieste	8%	6.3
Brescia	12%	3.9
Parma	15%	3.8
Reggio Emilia	7%	1.8

All case study cities are dense, featuring historic city centres and compact residential outer neighbourhoods. However, notable differences emerge in cycling infrastructure and modal share, as displayed in Table 5. Padova, Parma, and Reggio Emilia record cycling modal shares of 18–25%, whereas Trieste, Brescia, and Verona range between 0.5 and 5%. The three cities with higher shares of trips by bicycle also have more extensive cycling networks relative to their urban area. Within this group, Reggio Emilia exhibits an infrastructure density approximately three times greater than that of Parma, the second highest. Conversely, Trieste has a very limited cycling network; according to its SUMP, the city's topography, which extends from the waterfront to hills reaching 330 m in elevation, creates unfavourable conditions for cycling and as such, little infrastructural investments have been made (Comune di Trieste, 2021a). In contrast, all other cities are located in the Po Valley and feature flat topographies, as shown in Table 6.

Table 5: Summary of case studies–built environment features and cycling modal share

Sources: [1]European Commission Joint Research Centre (2024); [2]Own elaboration based on *Urban area* column and *Population* column in Table 3; [3]Own elaboration based on Comune di Brescia (2018), Comune di Padova (2020), Comune di Parma (2025), Comune di Reggio Emilia (2019), Comune di Trieste (2021b), Comune di Verona, (2023), and *Urban area* column. [4]Comune di Brescia (2018), Comune di Padova (2020), Comune di Parma (2025), Comune di Reggio Emilia (2019), Comune di Trieste (2021b), Comune di Verona, (2023)

City	Urban area[1] [km²]	Population density[2] [inh./km²]	Cycling network density[3] [km/km²]	Cycling modal share[4] [%]
Verona	49	4,420	2.0	5%
Padova	89	2,747	1.9	25%
Trieste	47	3,801	0.3	0.5%
Brescia	82	2,967	1.8	2%
Parma	33	4,501	4.9	18%
Reggio Emilia	26	4,606	14.7	23%

Table 6: Summary of case studies–weather and topography

Sources: [1]Google Earth (2025); [2]European Commission Joint Research Centre (2024)

City	Elevation range[1] [m]	Mean Temperature[2] [°C]	Mean rainfall[2] [mm/year]
Verona	50–120	15	1,039
Padova	10–15	15	1,050
Trieste	0–330	14	1,244
Brescia	100–200	15	1,143
Parma	40–70	14	989
Reggio Emilia	35–85	11	1,417

Across the case study cities, all either currently operate or have previously operated a station-based BSS. Parma's system was the earliest to open (2006), while Trieste's is the most recent, launched in 2020, as presented in Table 7. Three cities—Reggio Emilia, Parma, and Padova—have since closed their SB systems, replacing them with dockless models following transition periods during which both systems operated in parallel. The dockless systems in Reggio Emilia and Parma are hybrid, featuring virtual stations within the historic urban core, whereas Padova's is fully free-floating.

Table 7: Summary of case studies–BSS attributes

Source: The Meddin Bike-sharing World Map (2025). Bike fleet sizes for Padova, Parma, and Reggio Emilia provided by respective municipal mobility departments (2025)

City	Active?	Opened	Closed	Type	Bikes	Stations
Trieste	Yes	2020	-	SB	145	25
Verona	Yes	2012	-	SB	501	40
Brescia	Yes	2008	-	SB	433	100
Padova	No	2013	2023	SB	279	24
	Yes	2019	-	FF	1900[1]	-
Parma	No	2006	2024	SB	173	46
	Yes	2024	-	HY	550[2]	-
Reggio Emilia	No	2008	2018	SB	65	13
	Yes	2018	-	HY	500[3]	-

BSSs across the case study cities vary in size: station-based schemes range from 13 to 100 stations and from 65 to 501 bicycles. Nonetheless, station density is low in all case studies, at 0.3–1.4 stations/km² (Table 8). This is markedly lower than the 300–500 m BSS station catchment area commonly found in in literature (Bachand-Marleau et al., 2012; Ethier et al., 2024; Fan & Harper, 2024; Fuller et al., 2011; Kabra et al., 2018). Across all cities, this is due to coverage being concentrated in the central area and outer neighbourhoods being underserved, as exemplified by the locations of BSS stations in Verona, shown in Figure 6. Dockless systems range from 500 to 1,900 bicycles, and cities that transitioned from SB schemes have dockless fleets at least three times larger than their former docked systems. Concerning bike types, all station-based systems in the case studies comprise exclusively of mechanical bicycles, while dockless systems have mixed fleets, with electric bicycles representing approximately 60% of the total.

[1] 800 mechanical bikes and 1100 electric bikes.
[2] 200 mechanical bikes and 350 electric bikes.
[3] Fleet includes both mechanical and electric bicycles; exact proportion is unknown.

Table 8: Summary of case studies–SB BSS station densities
Sources: Own elaboration based on SB BSS stations by city (The Meddin Bike-sharing World Map, 2025) and urban area extent (European Commission Joint Research Centre, 2024)

City	SB bike sharing station density [stations/km²]
Verona	0.8
Padova	0.3
Trieste	0.5
Brescia	1.2
Parma	1.4
Reggio Emilia	0.5

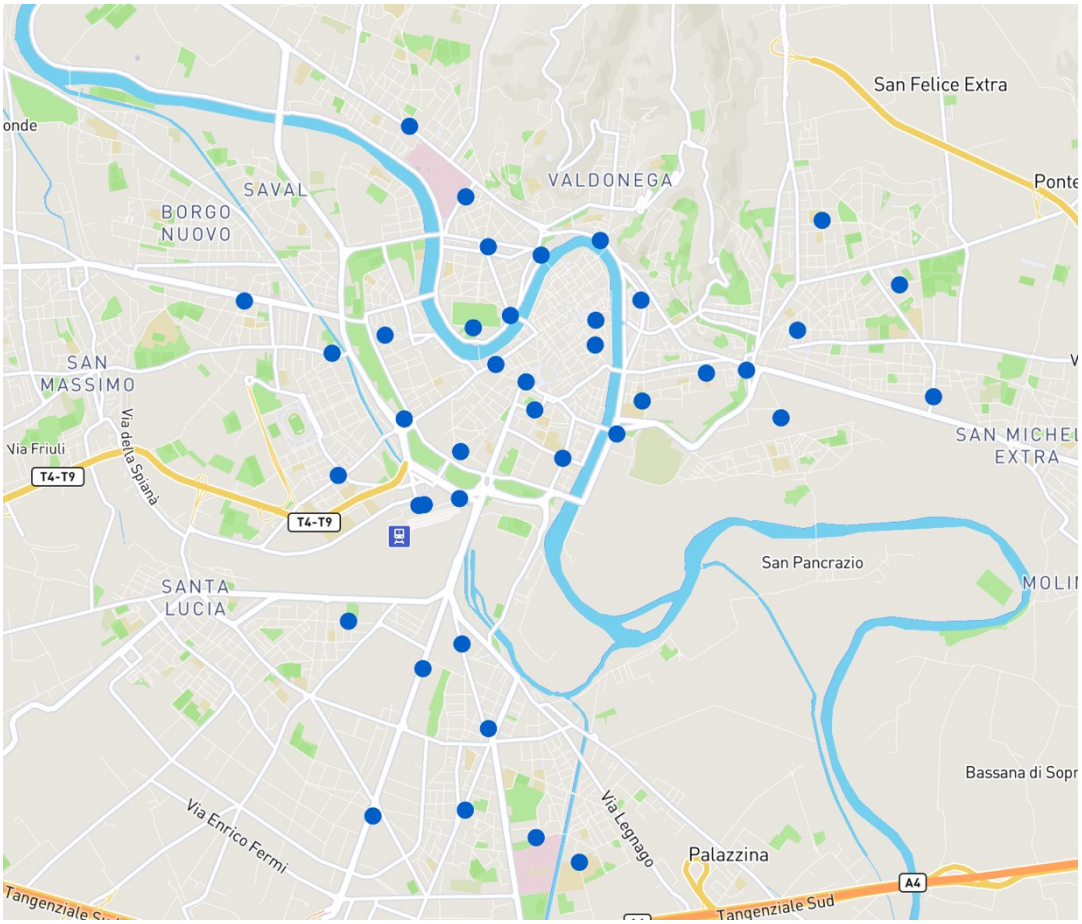


Figure 6: Locations of BSS stations in Verona
Source: Verona Bike (2025)

3.2 Expert Interviews

The research method of this thesis is qualitative expert interviews with municipal civil servants. This section outlines the principles of qualitative expert interviews and examines their application within Bacchi's (2009) poststructural '*What is the Problem Represented to Be?*' framework. It then describes the interview process and discusses the approach used to analyse the findings in accordance with WPR.

3.2.1 Principles of expert interviews

Qualitative research aims to explore and understand the meaning and experiential dimensions of human life and social contexts (Fossey et al., 2002). It intends to shed light on how research participants interpret their own actions, meanings, and the social environments in which they are embedded. As such, expert interviews are a commonly used method in qualitative research to investigate the internal dynamics of political processes (von Soest, 2023).

The research method of this thesis is semi-structured expert interviews. In semi-structured interviews, the topics of interest are defined by the researcher in advance, but the specific order and depth of the questions are guided by the dialogue that unfolds during the interview between the researcher and the participant (Meuser & Nagel, 2009; Pfadenhauer, 2009), with the researcher allowing the participant considerable freedom to shape the conversation.

Preparing for semi-structured interviews involves the development of an interview guide containing a list of questions and topics aligned with the research objectives (Meuser & Nagel, 2009; Pfadenhauer, 2009). Typically, interviews begin with broader questions and gradually move toward more specific ones. Closed questions are avoided in favour of open-ended ones that encourage participants to elaborate on their perspectives. The interview guide serves as a tool to ensure that all relevant topics are addressed and to help the interviewer steer the conversation when necessary. Interviewing requires the researcher to engage in active and attentive listening, to show respect for the participant, and to respond flexibly to the direction of the conversation. Follow-up questions should be short, clear, and designed to support participants in telling their stories fully.

The ethical implications of research and interviewing must be addressed both during the planning phase and in the analysis of findings (DiCicco-Bloom & Crabtree, 2006; Husband, 2020). Interviewees should be informed in advance about the aims and scope of the study to enable them to make an informed decision regarding their participation. When developing the interview guide, researchers should consider that eliciting personal reflection may

trigger unforeseen emotional responses. Participants may be exposed to discomfort or harm if sensitive topics are raised. Ethical interviewing also requires that interviews are not treated as purely extractive processes. Participants should not be regarded solely as sources of data but as co-constructors of knowledge, and their contributions must be acknowledged throughout the research process.

In this study, interviewees were initially contacted via email. The message described the objectives of the research and the intended topics of discussion. The research does not pose a significant risk of harm to participants, as the study focuses on bike sharing policy, a professional topic that does not involve personal or sensitive matters. To allow interviewees to speak openly and without concern for potential repercussions within their organisations, their identities are not disclosed. This document reports the names of the participating cities and the professional roles of the interviewees, but it does not match the cities to the professional role of the participants. Lastly, the contributions of all interviewees are explicitly acknowledged and valued.

3.2.2 Poststructural expert interviews

This thesis uses Bacchi's (2009) WPR theoretical framework for policy analysis. This approach considers policy making is not as a mere reaction to a predetermined, neatly formulated policy problems; instead, problems and policies are believed to continuously constructed and negotiated by those involved in the policy process. The way in which BSSs are described, and made 'knowable and governable', informs us about the problems that are being addressed and the subjects that are created.

The material that can be adopted for WPR analysis must be prescriptive. This means that it can be understood as a form of proposal and a guide to conduct. According to Bacchi, the choices in policy measures reveal the underlying problem representations that policies intend to address. Prescriptive materials include policy documents, legislation, judicial decisions and speeches.

Some poststructuralists reject interviews as research method (e.g., Fadyl & Nicholls, 2013; St Pierre, 2011), as interviewing risks assuming a foundational subject, that is, a coherent, self-knowing individual with privileged access to their experience. This humanist assumption is fundamentally at odds with poststructural thinking, which sees subjects as constructed, fluid, and relational. In contrast, Bacchi and Goodwin (2016) do not discard interviews. Instead, they define the Poststructural Interview Analysis (PIA), which does not aim to uncover individual 'truths' but to analyse how discourse shapes what can be said and thought, what subjects are created, and how power operates. As such, interviews produce prescriptive material for policy analysis, because 'what is done' is in fact telling 'what ought to be done'.

This thesis applies Bacchi and Goodwin's PIA prescriptions in designing and planning for interviews and analysing the results. The transcripts are thus treated as prescriptive and political material and poststructural policy analysis is applied. Operationally, PIA consists of seven 'processes' (Bacchi & Goodwin, 2016, p. 113):

1. identifying the problem representations in a policy or practice.
2. exploring the underlying assumptions and presuppositions behind these representations.
3. examining how these representations came to dominate over alternatives.
4. analysing the silences—what is left unproblematized or unaddressed.
5. assessing the effects produced by these representations, including discursive, subjectification, and lived effects.
6. considering how the representations are produced, disseminated, and defended; and
7. exploring how they could be contested and replaced. This framework pushes for a deeper, sceptical examination of what is taken for granted in policy discourse, exposing the power dynamics at play.

3.2.3 Interviewees

Civil servants responsible for bike sharing policy across the case study cities were selected as the targets of this study. The researcher contacted municipal mobility departments and the professional email addresses of relevant officials working on cycling or shared mobility services as found on the website of each municipality. Within each municipality, the specific interviewees for the study were identified by the civil servants themselves. In all cases, these were either officials directly involved in bike-sharing policy or the head of the mobility department.

In four cities, group interviews were conducted with two or three participants. In one of these cases, the interview included both a civil servant and employees of the municipally owned transport operator, which is responsible for managing the bike sharing system. In the remaining two cities, the interview involved a single civil servant.

In total, 10 individuals were interviewed. Their professional roles were as follows:

- Mobility department official (7 interviewees)
- Head of the mobility department (1 interviewee)
- Public BSS operator official (2 interviewee)

3.2.4 Interview process

Interviews were scheduled via email, and participants were informed about the topic of the research. Five out of six interviews were conducted online via Microsoft Teams, recorded with the participants' consent, and fully transcribed afterwards. One interview was conducted over the phone, during which the interviewer took notes. The duration of the interviews ranged from 40 minutes to 1 hour and 43 minutes, with a total of 7 hours and 18 minutes of interview material collected. Interview length varied depending on the availability of the interviewees and the topics discussed.

At the beginning of each interview, the researcher introduced themselves and the purpose of the study, asked for permission to record the conversation, and clarified how the data would be handled for publication. Interviewees were invited to ask questions or raise concerns before proceeding.

The interviews followed a semi-structured format based on a prepared guide, as presented in Appendix A. Interviewees were first asked to introduce themselves, and then to provide an overview of the city's experience with bike sharing systems, both current and past ("*To begin, could you give an overview of your city's experience with bike sharing systems*?"). This opening question allowed interviewees to frame the topic freely. The interviewer then asked relevant follow-up questions based on the initial information provided.

The primary aim of the interviews was to investigate what problems the BSS policy in each city aimed to address and what types of urban citizens are envisioned by bike sharing policy. As such, follow-up questions covered the reasons behind the adoption of a BSS, the objectives that the administration intended to achieve, and the technical characteristics of the system, such as the types of bicycles, the location of stations, and the rationale behind these design choices. Furthermore, the interviews covered financing arrangements, user profiles, and how the BSS fits into broader cycling and mobility planning. In three cities that have implemented both station-based and dockless systems, interviewees were also asked about the reasons for and outcomes of switching between system types.

Each interview concluded with the interviewer inviting the interviewee to reflect on lessons learned and to identify both perceived successes and areas for improvement. Lastly, the researcher thanked the participants for their time and contribution.

3.2.5 Analysis of interview results

The interview transcripts and notes were read and analysed after all interviews had been completed. The material was thematically mapped according

to the six questions in the WPR framework (Bacchi & Goodwin, 2016), as discussed in Section 1.2.

First, each case study was analysed individually and coded according to the six WPR questions. The data were organised in a 6 × 6 matrix, with cities on the vertical axis and WPR questions on the horizontal axis, as shown in Figure 7. This mapping included both the themes emerging from the interviews and those identified in the literature that remained unaddressed in the interviews; WPR accounts for 'silences', that is, what remains unspoken and unquestioned, to reveal underlying assumptions and normative logics in policymaking (Bacchi & Goodwin, 2016).

The coded results of the case studies were then compared to achieve convergence in terminology and structure. Background literature was also accounted for in the structuring and phrasing of results, to facilitate the identification of similarities and divergences between cases and with literature.

City/Question	What is the problem represented to be?	What presuppositions or assumptions underlie this representation of the problem?	How has this representation of the problem come about?	What is left unproblematic in the problem representation?	What effects are produced by this representation of the problem?			How and where has this representation of the problem been produced? How has it been disrupted?
					Discursive	Subjectification	Lived	
Verona	Representation 1a	Topic 1, 3, 4	…	…	…	…	…	…
Trieste	Representation 1b	Topic 3, 5, 6	…	…	…	…	…	…
Brescia	Representation 1c	…	…	…	…	…	…	…
Padova	Representation 2a	…	…	…	…	…	…	…
Parma	Representation 2b	…	…	…	…	…	…	…
Reggio Emilia	Representation 2c	…	…	…	…	…	…	…

Figure 7: Sample matrix for coding and analysis of expert interview results

4 Results

This chapter presents the findings from the expert interviews, organized by city. For each city, the analysis is structured into two sections. The sections titled *'Problem representation, origins, and assumptions'* address WPR questions 1 to 3, and the sections titled '*Representation effects, challenges, and gaps'* cover WPR questions 4 to 6.

4.1 Verona

Problem representation, origins, and assumptions

No clear problematization is found in Verona's BSS policy. The city aimed to '*provide residents with a sustainable mobility option, in addition to public transport'*. The interviewee reports that, until the current political term, local administrations had no political willingness to develop cycling infrastructure. Some 13 years ago the BSS was implemented due to a political choice made by City Council, and the system was the main component of Verona's cycling policy for the following 10 years. This frames the city's BSS was a non-controversial starter cycling policy for Verona, as the system was provided on top of the existing mobility landscape without disrupting it.

The civil servant describes Verona as a city "suitable for cycling" due to its mostly flat terrain. The policy assumes that cycling uptake can be stimulated by simply offering a BSS, without tackling the infrastructural and cultural dominance of automobility.

Initial funding for the BSS came from municipal resources, enabling the installation of 20 stations. A subsequent national government grant financed an additional 20 stations. Operating costs are partially offset by advertising revenue.

The civil servant further reports that system costs have recently become a secondary problematization. Although the city recognises that the current 40-station BSS offers insufficient coverage outside of central areas, funding an expansion '*to achieve 500 m station spacing'* is considered unfeasible.

Representation effects, challenges, and gaps

The absence of a clearly articulated mobility problem underpinning Verona's BSS policy produces discursive, subjectification, and lived effects.

BSS discourse focuses on operational effectiveness, including efficient rebalancing, timely maintenance, and the quality of bikes and the app. Success is defined in quantitative terms, primarily through increasing monthly rental figures. This technical framing marginalizes the political dimensions of cycling policy. Furthermore, the interviewee reports with some satisfaction that

vandalism and misuse are rare. This emphasis on user responsibility reinforces a depoliticized approach to cycling policy.

The physical environment has not been changed to support increased cycling. The BSS functions as a standalone initiative, implemented without accompanying spatial interventions and does not enter strategic cycling planning. The municipality mainly acts as a contract manager, outsourcing operations to a private BSS provider and exercising limited oversight. As stations are concentrated in central areas, outer residential neighbourhoods remain largely unserved. Users are constructed as urban-core residents and tourists, since these are the groups who live in or frequent the zones where stations are located.

Despite being positioned as a sustainable mobility measure, the civil servant acknowledges that Verona's cycling rates remain low, and the perception of safety while cycling is poor. These realities challenge the assumption that bike sharing, in its current form, can by itself generate a modal shift toward active mobility.

Equity considerations, including spatial justice, gender inclusion, and accessibility for people of all ages and abilities, are absent from BSS planning in Verona. The system remains disconnected from the broader mobility strategy and there is no clear articulation of how it contributes to modal shift, accessibility, or climate goals. It is taken for granted that the BSS has a positive environmental impact, and the impacts associated with system maintenance and rebalancing are ignored. Lastly, the contradiction between sustainability goals and the growth-oriented use of the BSS as advertising space is left unaddressed.

Lastly, in the interview the civil servant reported that the municipality plans to address the limited spatial coverage of the current BSS, whose expansion is deemed financially unfeasible, by trialling a dockless system for a year. This future system is expected to increase the number of shared bicycles and extend the service area to cover the entire city. At the time of the interview, the process was in its early stages, and no further details on its effects were available.

4.2 Trieste

Problem representation, origins, and assumptions

According to the expert interview, the problematization found in Trieste's BSSs policy is to create a material representation of cycling in a city that virtually has none, due to the negligible cycling modal share.

'The objective was to experiment with a new sustainable system in a city that has never been a place where people cycle. […] We did not expect much from the bike sharing system. We just thought we should take advantage of the funding opportunities and pave the way for cycling.'

The civil servants presented Trieste as a city where almost no cycling takes place, due to the lack of cycling infrastructure, the unsuitable topography, the high average age of residents, and '*one of the most developed public transport systems in Italy*, w*hich sees high ridership*'. The city has very few cycle paths, and there is no political willingness to develop more.

'If adding a bike lane means removing parking along a main street, politicians currently want us to preserve parking.'

The availability of national, regional and European funds provided the municipality with the opportunity to set up the BSS. The experts point out that the BSS infrastructure was purchased and installed through three different external funding opportunities. The locations of the stations ought to match the funding purpose set by the funding institutions. The experts also report that implementation was loosely strategized, and operational choices were driven by intuition and largely improvised; the municipality has limited planning and monitoring capacity, both in terms of staffing and expertise.

Trieste's BSS policy is grounded in the assumption that the system increases the visibility of cycling, and BSS is not expected to have a significant impact on the number of people who cycle in the city.

'*I would not say the system is niche, but it is mostly those who were already cycling who make the shift to bike sharing. Some new users may join, but not a significant number.*'

Representation effects, challenges, and gaps

The problem representation in Trieste's BSS policy produces discursive, subjectification, and lived impacts.

Cycling is framed as a niche activity for bike-savvy individuals: the policy does not intend to convince those who currently do not cycle to do so, as the introduction of the BSS is not paired with improvements in cycling

infrastructure. BSS stations are located in the city centre and along the waterfront, and the service does not cover outer residential neighbourhoods. As such, the system targets residents of the urban core and tourists, as confirmed by the interviewees.

Trieste's BSS is not integrated into broader mobility planning. It operates in isolation, rather than as part of a multimodal transport system. The municipality mostly acts as a contract manager and does not have a strategic vision for cycling. The civil servants describe the five-year-old BSS as a "pilot project". This long pilot stage seemingly stems from the fact that the system was implemented opportunistically and still exists without defined goals and long-term ambitions.

From the interview, some internal and external challenges to the framing of bike sharing in Trieste as a symbolic cycling initiative emerge. The civil servants note that, despite the existence of the BSS, cycling remains marginal. This raises doubts on the validity of current symbolic approach in fostering an increase in cycling in the city. In addition, the occurrence of vandalism and user disengagement suggests that the system rationale may not resonate with the population. The occurrence of antisocial behaviour and low uptake call into question the system's social legitimacy and effectiveness.

'There's definitely someone who uses it [the BSS], but the number is not high'

'Whether that goal [to increase cycling in the city] was actually achieved... it's hard to say.'

'We are not as satisfied with the service as we would like to. What is frustrating is that users do not take proper care of the service'

Equity considerations are notably absent in BSS planning in Trieste. Interviewees did not report accounting for the inclusion of users across genders, ages, and abilities. Similarly, the civil servants do not problematize the fact that the opportunistic funding logic led to station placement predominantly along the waterfront and in central areas, leaving most residential neighbourhoods unserved. As a result, BSS planning appears disconnected from the city's broader mobility strategy and does not contribute to any specific mobility goals. Although the civil servants describe the system as "*sustainable*" and part of "*sustainable mobility*," they do not critically assess whether the system—which they acknowledge supports only a limited number of trips—has a net positive environmental impact after accounting equipment maintenance and fleet rebalancing.

4.3 Brescia

Problem representation, origins, and assumptions

In Brescia's BSS policy, the problem is represented as the creation of a cycling culture. The bike sharing system is primarily conceived as a symbolic and cultural instrument, with the goal of drawing attention to cycling in a car-centric city. This framing reflects the historical dominance of the private car and a stated political effort by the city's administration to change the narrative around urban mobility.

"Brescia is the city of the Mille Miglia race"

The interviewee refers to an iconic local car race, as emblematic of the city's deeply entrenched automotive culture. The low prevalence of cycling in the city is not attributed primarily to inadequate facilities, but rather to a cultural deficit.

"Because building bike paths alone does not mean making cyclists: promoting a cycling culture means making cyclists."

The BSS is therefore represented as a communication tool that fosters a cycling culture by making bicycles visible and accessible. The assumption is that the BSS helps normalize cycling by making it visible in the urban landscape. As a symbolic measure, the BSS is not expected to directly influence the city's modal split or produce measurable short-term impacts.

'[The BSS] is extremely useful for promoting and pushing cycling, for talking about sustainable mobility, and for being able to show and give examples that there is an alternative to the car. From this perspective, it has become an almost indispensable tool for us.'

Supporting this representation is a continuity in local leadership. The interviewee reports that same councillor has overseen urban mobility through three terms, which has ensured coherent political support. The expansion of the system was also facilitated by availability of external funding, primarily from national and regional programs tied to urban regeneration and sustainable commuting.

The civil servant further reports that financial sustainability has recently emerged as a secondary problematization. The purpose of the BSS to advance a local cycling culture remains valid and sought, but maintaining and expanding the current station-based, hardware-intensive model is now considered financially unsustainable: adding stations in outer neighbourhood results in increased operational expenses for rebalancing, and the system's

technology is aging, with stations requiring increasingly frequent maintenance.

"We have reached the point where every new station is in the periphery, and they are extremely expensive to build and maintain. The system cannot go on like this."

'The system is extremely expensive... the installation costs are very high, and the technology is outdated, with spare parts that are hard to find.

Representation effects, challenges, and gaps

The framing of Brescia's BSS as primarily a symbolic instrument has significant effects on discourse, subjectification and material outcomes. The interviewee acknowledges that the system has minimal impact on overall travel behaviour, yet this is not viewed as a failure. Instead, the BSS is considered successful due to its visibility, recognizability, and public support. Its primary role is symbolic and communicative, while its function as a practical transport service is seen as secondary.

"*Out of a million daily trips in Brescia, if bike sharing gets to [a modal share of] 0.5%, that is already a lot.*"

Another consequence is the use of spatial equity as a political signal: stations placed in low-demand outer neighbourhoods are justified not because they serve significant mobility needs but because excluding these areas would undermine the system's promotional mission. The civil servant emphasizes that peripheral stations are costly to build and maintain and suffer from low utilization. Therefore, spatial coverage of the BSS is full but uneven. Every neighbourhood has at least one station, but station density is heavily skewed toward the city centre, which generates and attracts the most trips.

"We know those stations are useless... but we can't promote cycling and then tell a whole neighbourhood that they do not get the service because it costs too much."

Brescia's approach is sceptical of market-driven innovation. The city has so far avoided dockless systems by private operators and, instead, operates its BSS through a municipally owned mobility provider, maintaining public control and a unified municipal branding of the system. The city has so far opted to offer the service for free, with operational expenses covered by parking revenue. This supports the communicative role of bike sharing, and it is considered to be a key success factor. Free access is therefore seen as essential and non-negotiable. The interviewee believes that even a symbolic fare would drastically reduce uptake and undermine the goal of the BSS.

"The service works because it's free. If we charged even a little, we'd lose people."

"I'm not interested in working with Lime, which charges users €1.50 for a 3-minute ride."

On the level of subjectification, users are framed as occasional and opportunistic riders—individuals who are familiar with urban cycling but do not rely on it as their primary mode of transport. The interviewee stresses that BSS is not a competitor to public transport but rather constitutes a complementary option. BSS users are largely presumed to hold a public transport pass and to choose BSS as a flexible, situational alternative—when it is more pleasant or convenient to cycle.

"Who uses it? All social groups. Young people, adults, Italians, foreigners. Not in huge numbers, but a bit of everyone."

The system is explicitly not intended for regular commuting; the civil servant notes that supply is inadequate for peak-hour demand, and users should not expect to reliably find a bike during rush hours. Regular cyclists are not seen as typical users, since they are assumed to own private bikes. Older adults, meanwhile, are mostly absent in the user base, due to a perceived cultural and technological barrier. This exclusion is treated as self-evident and not problematized.

A weakness of the current scheme is acknowledged but is not considered as a contradiction to the core logic: the civil servant points out that the political mandate to provide coverage in peripheral areas causes financial and environmental inefficiencies, especially related to redistributing vehicles. Despite these shortcomings, the cultural rationale driving the system remains unquestioned.

"In Folzano[4], we're lucky if we get 500 rides per year. But the system must be everywhere, or it loses legitimacy."

[4] Folzano is a peripheral neighbourhood in Brescia, geographically disconnected from the main urban fabric.

4.4 Padova

Problem representation, origins, and assumptions

In Padova, bike sharing policy is framed as a technical response to the objective of reducing reliance on private motorized transport. The city situates the BSS within a broader sustainable mobility agenda that includes tram lines and cycling infrastructure.

"The goal of Padova's municipal administration was to provide an alternative to private motorized transport."

This framing does not stem from a clearly articulated problem that the BSS is meant to address. Rather, the service is assigned general aspirations, namely promoting modal shift and expanding mobility options. This constructs the BSS as a non-controversial technological fix, which intends to support an increase in cycling without confronting the normative foundations of automobility.

The transition to a free-floating BSS is also framed in technical terms: addressing the operational limitation of the SB model, namely the frequent over- or under-supply of bikes at docking stations, while increasing territorial coverage and flexibility in drop-off locations.

'We first trialled free-floating bike sharing because it looked like something modern, simpler, […]. It allowed us to move beyond a more rigid system which had some weaknesses'

The civil servants note that the city's adoption of bike sharing—and later its transition to the free-floating model—was influenced by national and international trends promoting "*smart*" shared mobility. BSSs appealed to the city as an innovative and increasingly popular solution that was gaining momentum across Europe.

'We drew on the experiences of other European cities we had been following from afar. […]. Feedback from users was great, because it was something new—an innovative service'

The interviewees explain that Padova's station-based BSS development has mostly depended on external funding opportunities, as the system was almost entirely financed through European projects and advertising concessions. Meanwhile, the switch to the market-driven free-floating allowed the city to extend spatial coverage and increase the number of bikes without the need for any public subsidy.

The city of Padova is presented as conducive to cycling and, thus, suitable for bike sharing. The civil servants emphasize that Padova has a compact urban form, short trip distances—typically 3–4 km from outer neighborhoods to the center—, an established cycling culture, extensive cycling infrastructure, and active cycling advocacy associations.

The interviewees point out that a key contextual factor shaping BSS uptake is the high prevalence of bicycle theft in the city, with estimates suggesting approximately 2,400 cases per year. As such, the civil servants note that some urban cyclists in Padova may prefer shared bikes over private ownership to avoid theft risk, further framing the BSS as a rational technical solution to the city's mobility challenges.

Padova's bike sharing policy assumes that service will generate a degree of modal shift away from private car use. This presumed effect is believed not to require substantiation through data or formal evaluation but is rather taken as a self-evident outcome of making shared bikes available in a city already conducive to cycling.

Representation effects, challenges, and gaps

The representation of BSS as a practical and innovative mobility solution generates discursive, subjectification, and material effects.

Discursively, the policy is presented as a success primarily because the system registers increasing ridership, with the presence of users providing evidence of the value of the system.

'Both the earlier station-based system and the current free-floating one have been successful, because of their high ridership.'

The interviewees present the effort of the city to adopt a BSS and evolve with technology as proofs of digital innovation and progressive administration. They describe the current free-floating system as "*dynamic*" and "*flexible*", fostering an image of Padova as a modern and competitive city.

In terms of subjectification, the civil servants depict BSS users as inclined to cycling due to personal convictions or attitudes, and as belonging to three main groups: university students, train commuters, and, to a lesser extent, tourists. Affordability is understood to be a key concern for students, informing the local government's decision to keep fares low. Commuters are believed to use BSS to avoid the risk of bike theft near the station. Tourists are acknowledged as occasional users. The interviewees note that city proper residents do not use the system, as they tend to own their own bicycles and cycling is likely already established in their mobility habits.

'First and foremost, we have students—especially university students. Then, there is significant use by those who commute by train, not so much by Padova's residents, because those who live in Padova and cycle usually have their own bike.'

From a lived-experience perspective, the BSS in Padova remains outside of mobility planning. The civil servants describe municipal oversight as largely procedural, with periodic monitoring linked to compliance with funding or other contractual obligations with the central government. With the switch to the free-floating system, the city's role has increasingly shifted from provider to contract manager. While the new system has enhanced service availability and territorial coverage, it has also resulted in a significant increase in user costs: monthly subscriptions have risen from €5 under the station-based model to €13–20. This change is acknowledged by the interviewees but not problematized.

Equity dimensions such as gender, age, and physical ability are not problematized in planning for the BSS. Environmental impacts and modal shift from driving to cycling are assumed rather than measured. Meanwhile, municipal officials express discomfort with the fact that BSS seem to have drawn users away from public transport, especially along some routes such as the train station-university corridor. This shift is attributed to the short distances involved and the low commercial speed of transit.

'I would rather ensure that shared modes and public transport do not compete. The goal should be to make them coexist but always giving priority to collective mobility.'

4.5 Parma

Problem representation, origins and assumptions

Parma's BSS policy is framed as a technical response to the objective of reducing reliance on private motorized transport. Interviewees explain that the earlier SB system had become increasingly faulty, and expensive to maintain, prompting its replacement with a HY model. The civil servants therefore present the city's primary goal as implementing and maintaining a well-functioning, technically adequate bike sharing system.

"The objective of the administration is to keep the bike sharing system."

The current focus of Parma's BSS policy on transitioning to a hybrid dockless BSS to replace the previous, now obsolete, SB systems is shaped by the rising prominence of such dockless models. According to the interviewees, dockless BSSs appealed to the city as an innovative and increasingly popular solution gaining traction across Europe.

'*Over the past twenty years, there's been an incredible evolution in technology and new ways to share bikes* [...]'

In Parma, bike sharing is framed and managed as a technical service provision issue rather than as a politically charged intervention in the city's mobility system. The BSS is presented as a non-controversial sustainable mobility measure, introduced into the existing mobility landscape without disrupting it, despite civil servants acknowledging that Parma faces a high motorization rate and poor air quality. While bike sharing is framed as one of the policy tools to mitigate these issues, it is not paired with redistributive or restrictive interventions on automobility.

Parma's BSS policy assumes that the availability of shared bikes will result in some modal shift from private car use and a reduction in car ownership. The current context is viewed as 'favourable' for BSS uptake: civil servants suggest that younger adults no longer consider car ownership essential, and point to the growing importance of trip chaining, which is thought to require more flexible mobility solutions. Furthermore, Parma is described as 'suitable for cycling' due to its flat topography, density, established cycling culture, and supporting infrastructure.

"Parma is a historic city where cycling is very popular."

Representation effects, challenges, and gaps

The representation of BSSs as a modern and technically reliable transport mode generates discursive, subjectification, and material effects in Parma.

Discursively, civil servants describe the hybrid system as innovative, modern, and smart. This framing implies that adopting such a system signals the city's technological competence and forward-looking orientation. The emphasis is placed on selecting the right operator and ensuring operational reliability. As a result, sustainability is depoliticized and becomes a side effect of using efficient technology. Success is claimed on the grounds of rising usage figures, building on the idea that the BSS is inherently valuable because it is used.

In terms of subjectification, BSS users are depicted as rational actors who adopt the system based on its convenience and efficiency, rather than as targets of a normative intervention. Civil servants identify commuters, both by car and train, as core users. Example users include those who prefer to park outside the city centre and cycle the final stretch of their journey, or those who wish to avoid bike theft, especially prevalent at the train station. The system is also described as popular among students, who are assumed to resonate with its "*smart*" and "*dynamic*" use mode via smartphone apps. BSS use is therefore treated as an individual choice. Furthermore, the service is presented as a fall-back option when public transport fails. Overall, this framing emphasizes personal convenience and efficiency, leaving the question of a broader transformation of the mobility system largely unaddressed.

From a lived-experience perspective, the earlier station-based system had relatively broad spatial coverage, although station density was higher in the city centre. The shift to the hybrid model has increased the number of bikes, improved flexibility in trip start and end locations for users, and further extended the service area. However, the interviewees note that this has come at the cost of affordability. Monthly passes for traditional bikes in the HY system are priced at approximately 2.5 times the cost of those in the earlier model, with HY e-bikes priced even higher and available only at a per-minute rate. The civil servants acknowledge that increased digitalization and higher fares may be responsible for reshaping the user base, but they leave the issue unaddressed.

'[The SB and HY systems] are two completely different things, one doesn't cancel out the need for the other. Ideally, the two systems should coexist, because they serve different types of users. Some will prefer one setup, others the other.'

The interviewees also report that municipal oversight is limited and largely contractual. The city plays a supervisory role, ensuring the operator meets basic service and reporting obligations. Strategic integration of BSS into broader mobility planning is absent, with the system appearing weakly embedded in the city's mobility system. Gender, age, or ability issues are not

problematized in the planning or evaluation of the BSS. Environmental benefits are assumed rather than demonstrated.

4.6 Reggio Emilia

Problem representation, origins, and assumptions

Reggio Emilia's BSS policy aims to maintain the city's established reputation as a 'cycling city'. The interviewees report that, when other Italian cities started setting up bike sharing programs in the late 2000's, Reggio Emilia swiftly followed suit.

'*We had a lot of ongoing innovative projects [to advance utility cycling adoption]—we could not miss out on bike sharing.*'

The civil servants present Reggio Emilia as a 'cycling city', characterized by a strong cycling culture and progressive mobility policy. Since the early 2000s, the city has positioned itself at the forefront of cycling policy in Italy, introducing contraflow bike lanes and advanced stop lines before such measures were codified in national regulation. These early initiatives, combined with an extensive cycling infrastructure network and a relatively high modal share for cycling, earned Reggio Emilia national recognition. The interviewees mentioned that city has been featured in the media as a reference for cycling initiatives and ranked first in multiple NGO-led assessments of cycling infrastructure among Italian cities.

The city experimented with an early bike sharing program in the 1980s, a first-generation system without docking stations, user registration, or locking mechanisms—reminiscent of the Dutch *Witte Fietsen*. The interviewees recalled the symbolic significance of this system, with the 'public bicycle' remembered as a political and cultural statement.

'A latent idea of a 'communist' public bicycle program carried on through the decades. Bike sharing was envisioned as an innovative mobility service that catered to the idea of a shared common good.'

By the civil servants' own admission, the system plays only a marginal role within the broader set of pro-cycling policies in the city. It is seen more as a publicity tool than as a solution to a concrete mobility problem. The civil servants assume that residents have little need for the BSS, given the city's established cycling culture and widespread bike ownership.

'Each local resident has at least 4 bikes in their garage.'

'If I were told I had to give up one thing, I would judge the bike sharing system not to be indispensable. It is more important to work, for example, on transforming road space, instead of adding services upon services.'

The interviewees also problematize the cost-efficiency of BSSs, stating that, ideally, the program would not require public subsidy. According to civil servants, this was the main reason behind the transition from a station-based system to a free-floating one: private dockless operators initially offered the service at no cost to the municipality, while providing a larger fleet and broader territorial coverage.

'If the system were to become fully self-funded, [...] we would set the minimum number of vehicles and a fare cap. That would be good for us. Otherwise, we still think that the city needs bike sharing and we would pay for it.'

Representation effects, challenges, and gaps

The problematization of BSS as a low-priority, largely symbolic measure to reinforce Reggio Emilia's 'cycling city' reputation produces discursive, subjectification and lived effects.

Cost-efficiency emerges as the dominant rationale behind BSS planning decisions. This emphasis on minimizing expenses led to the shift from a station-based model to a free-floating system, which was expected to reduce operational costs while increasing fleet size. The BSS remains largely disconnected from Reggio Emilia's broader mobility and cycling strategies. While the city has put forward ambitious cycling measures, bike sharing is framed an initiative the city "*had to*" implement to maintain its reputation. In this context, the BSS functions less as a meaningful mobility intervention and more as a low-cost, symbolic publicity gesture.

'Of course Reggio got a bike sharing system, it would have been absurd if we did not.'

The subjectification of users within Reggio Emilia's BSS policy further limits the transformative potential of the service. Locals are believed not to need the system due to their established cycling culture and widespread bike ownership, and the civil servants do not seem to envision any clear target group for service. The only proposed BSS use case is as a fallback when one's own bike is unavailable or when public transport fails, suggesting that the BSS is not considered a major part of anyone's mobility.

The interviewees note that municipal planning capacity is constrained by the current governance model. In Reggio Emilia, the BSS is bundled into a

broader contract for parking management, which is outsourced to a private company. This operator oversees on- and off-street paid parking as well as the BSS, including system procurement and service design. This contractual structure distances the municipality from the operator, reducing the city's ability to intervene meaningfully in system performance. Regardless, the interviewees report that the city's mobility department lacks both the expertise and resources to plan for the BSS, and their role is limited to regulating fares. Oversight is equally superficial– "*played by ear*" according to the civil servants–involving informal checks around the city to see whether the bikes are being used and appear in good condition.

"As a municipality, we do not have much capacity for planning [for the BSS], nor for monitoring."

The civil servants acknowledge that the initial promises by early dockless operators to provide "free" proved short-lived. Under the current arrangement, the municipality subsidizes the systems to cover part of the operating costs, and the subsidy per bicycle is equivalent to that of the previous station-based model. The interviewees express uncertainty about the value-for-money of the current arrangement and note that they lack technical expertise to critically assess the performance of the system or determine whether the public resources allocated to the BSS are justified.

"We do not know if we are paying too much or too little for this [the BSS]."

Discussions about equity, affordability, long-term modal shift, environmental impacts, and modal integration are absent or superficial. The city does not engage in long-term BSS strategic thinking and planning is primarily aimed at cost reduction. The system is not politicized nor professionalized and, instead, it exists without clearly defined goals nor beneficiaries. The BSS is not situated within a comprehensive vision for urban mobility but treated as a checkbox—something a "cycling city" *ought* to have, regardless of whether it functions well or meets policy goals.

5 Discussion

This chapter discusses the results of the expert interviews. Section 5.1 presents three main problematizations identified in the case study cities' BSS policies and highlights similarities across cases. Section 5.2 addresses a secondary problem representation linked to the transition from station-based to dockless BSSs. Throughout, the empirical findings are compared with the literature on BSS policy discussed in Chapter 2 to identify points of convergence and divergence. Then, Section 5.3 provides policy recommendations, and Section 5.4 presents the limitations of this study and suggests opportunities for future research.

5.1 Three main problematizations in BSS policy

From the WPR analysis of the interview results, it emerges that there are three types of problem representation (WPR question 1) in the BSS policies of the case study cities. The three problem representations result from different assumptions (WPR question 2) and produce different discursive effects (WPR question 5).

The three identified problem representations frame BSSs as solutions to:

1. Environmental sustainability challenges of mobility systems,
2. Auto-centric mobility cultures, and
3. Inter-city competition.

Each problem representation is discussed in Sections 5.1.1–5.1.3, and a summary is provided in Table 9. Other BSS rationales identified in the literature, such as promoting public health, social inclusion, and multimodal integration, are instead absent from these cases.

Furthermore, across all six case studies, commonalities emerged in the origins of problem representations, their underlying assumptions, silences, and effects, corresponding to WPR questions 2 to 5. Regardless of the specific problem representation, these portray BSSs as opportunistic and understrategized policies that signal sustainability and innovation but contribute little to advancing sustainable urban mobility transitions. The systems are small in scale, largely confined to central areas, and do not construct their users as replacing driving. These commonalities across all cases are discussed in Section 5.1.4.

Table 9: WPR analysis of three problem representations in BSS policy and related assumptions and effects

WPR Question	**Summary of Findings**		
	Group 1 Verona, Padova, Parma	**Group 2** Trieste, Brescia	**Group 3** Reggio Emilia
Q1: Problem representation	'*To provide an environmentally sustainable mobility option'.*	Car-centric mobility cultures.	Inter-city competition.
Q2: Assumptions	BSSs enable modal shift.	BSS do not enable significant modal shift.	
Q5a: Discursive effects	'Success' is defined by the number of trips and technical competence.	'Success' is defined by the system's visibility and public support.	No definition of 'success'.

5.1.1 Problem Representation 1: Environmental sustainability

Group 1 consists of Verona, Padova, and Parma. These cities do not articulate a specific problem the BSS is meant to solve. Instead, their policies vaguely frame the BSS as a means to "*provide an environmentally sustainable mobility alternative*." The systems are assigned broad aspirations, such as promoting modal shift and expanding mobility options, based on the assumption that providing bike sharing will induce some shift away from driving.

Success is defined in narrow, technical terms (e.g., increasing usage, well-functioning apps), and the underlying logic is additive rather than transformative: BSSs supplement existing mobility systems without challenging the structural dominance of automobility. Municipal involvement is limited to implementation, with sustainability benefits presumed to follow from the system's mere existence.

These findings align with earlier research noting that while BSSs are often presented as sustainability measures, their implementations lack clear, measurable goals (Anaya-Boig, 2021; Hauf & Douma, 2019; Palm et al., 2021). The literature critiques this governance approach, as BSSs alone rarely achieve substantial environmental gains due to limited modal shift from motorized modes (Buehler & Dill, 2016; Fishman et al., 2013, 2014; Ricci, 2015; Saltykova et al., 2022).

5.1.2 Problem Representation 2: Car-centric mobility cultures

Group 2 consists of Trieste and Brescia. In these cities, the BSS is assigned a symbolic and communicative role aimed at challenging car-centric mobility cultures. In Trieste, where the cycling modal share is negligible, the BSS functions as a visible, physical manifestation of cycling, intended to spark public

discussion and foster political will for further pro-cycling measures. Similarly, Brescia uses the BSS as a cultural and cycling promotional tool. The local administration couples bike sharing with other cultural initiatives to legitimize cycling, and the BSS policy provides that every neighbourhood hosts at least one station, signalling the feasibility of utility cycling for trips throughout the municipality.

In both cases, significant modal shift is not anticipated. Success is defined primarily in terms of raising the visibility of cycling rather than achieving specific transport performance outcomes.

These findings are consistent with Goodman et al. (2014), Maas et al. (2022), and Ricci (2015), who found that BSSs can normalize cycling, foster cycling cultures, and eventually build the political consensus needed to support further cycling infrastructure and policy development.

5.1.3 Problem Representation 3: Inter-city competition

Group 3 consists of Reggio Emilia. The city implemented bike sharing to remain up to date with cycling innovations and maintain its reputation as a 'cycling city'. The system therefore serves a symbolic purpose, aimed at enhancing the city's image. Civil servants acknowledge that the BSS' practical utility is limited: the city considers it unlikely that those who drive will be drawn to switch, and those who cycle will not benefit from the BSS because they already use their own bikes.

This symbolic role aligns with Médard de Chardon (2019), Mora and Moran (2020), and H. Wang et al. (2020), who note that BSSs can be adopted for reasons of inter-city competition and political gains. In this case, BSS 'success' is not defined, as implementation alone is considered sufficient to reap symbolic benefits and prevent the city from appearing behind its peer cities.

5.1.4 Commonalities across all cases

Commonalities across cases emerged in the origins of problem representations, their underlying assumptions, silences, and effects, corresponding to WPR questions 2 to 5. These results are summarised in Table 10.

Table 10: WPR analysis of cross-case commonalities in BSS policy

WPR Question	**Summary of Findings**
Q2: Assumptions	City as 'cycling-ready'.
Q3: Origins	Availability of external funding; Limited planning and monitoring capacity; (Inter)national trends in BSS adoption.
Q4: Silences	Age; Ability; Gender; Net environmental effects; Spatial equity.
Q5a: Discursive effects	City as 'modern'.
Q5b: Subjectification effects	Users' personal responsibility towards sustainability determines BSS adoption; BSS attracts those already inclined to cycle.
Q5c: Lived effects	Stations concentrate in central areas; BSS are not integrated in mobility planning.
Q6: Challenges	*Heterogeneous results*

A common assumption in the BSS discourse is that interviewees consider their cities 'suitable' for cycling, albeit for different reasons—such as favourable topography (Verona, Brescia, Padova, Parma, Reggio Emilia), existing infrastructure (Padova, Parma, Reggio Emilia), or an established cycling culture (Padova, Parma, Reggio Emilia). This framing appears to justify BSS implementation without developing supportive normative or practical interventions. The cities view themselves as "ready" for cycling, requiring only technical facilitation; simply providing the BSS is expected to lead at least 'someone' to use it. This assumption aligns with literature describing the implementation of BSSs without complementary policies or infrastructure, often due to resource constraints and political preference for visible but low-contention measures (Anaya-Boig, 2021; Goodman et al., 2014; Maas et al., 2022; Médard de Chardon, 2019; Nitschke, 2015). The exception is Brescia, which embeds the BSS within broader cultural initiatives to promote cycling.

Concerning problem representation origins, in all case study cities at least half of the stations in station-based systems were funded through regional, national, or European programmes. Civil servants reported adopting intuition-driven, trial-and-error implementation approaches due to their municipalities' limited planning and monitoring capacity in terms of staffing and expertise. Most interviewees also noted that their administrations pursued BSS deployment partly because other cities, nationally and internationally, had done so. This suggests that BSSs have been introduced opportunistically, leveraging external funding and responding to competitive pressures, while municipalities remained largely unprepared to plan and govern the systems. These findings align with Anaya-Boig (2021) on opportunistic BSS adoption in small and medium-sized cities due to external funding; with Médard de Chardon (2019) and H. Wang et al. (2020) on policy replication across cities;

and with Cannon et al. (2025), Cao et al. (2022), Fishman et al. (2014), and Willnat et al. (2024) on limited municipal capacity to operate BSSs.

As for their effects, BSSs enable the case study cities to project an image of being modern, innovative, and forward-looking, consistent with the observations of Lin and Spinney (2021) and van der Meulen et al. (2023). In practice, however, the station-based systems serve only a narrow set of mobility needs, as are largely confined to city centres, with limited coverage of outer neighbourhoods. In the case study municipalities, BSSs are neither integrated into broader mobility planning nor linked to explicit transport objectives, and overall, few transport outcomes appear to be expected of them. These findings align with Anaya-Boig (2021) on the lack of integration of BSSs within cycling policies and with Médard de Chardon et al. (2017) on the frequent absence of municipally defined goals for BSSs.

BSS policies construct their intended users as individuals already predisposed and familiar with cycling, as young, progressive, affluent inner-city residents, and as those who already use sustainable modes such as walking or public transport. This subjectification effect corresponds with findings on typical BSS user profiles, especially in systems concentrated in central areas and lacking equity measures (Fishman et al., 2013; Hoffman, 2016; Médard de Chardon, 2019; Ricci, 2015).

Heterogeneous results emerge regarding how civil servants internally question the problem representations underpinning BSS policy. In Verona and Trieste, concerns are expressed over whether BSSs are in fact succeeding in mainstreaming cycling, as its modal share remains low. The civil servants note that poor perceptions of cycling safety persist due to the absence of complementary infrastructure improvements. In Padova, the interviewees show discomfort over the system's substitution effect on public transport along certain corridors. In Reggio Emilia, doubts are expressed about the system's value for money, alongside an acknowledgement that the municipality lacks the expertise to critically assess its benefits. Together, these concerns reflect the tendency to treat BSS implementation as an end in itself, rather than as a means to achieve defined mobility objectives. The absence of strategic planning and planning capacity is reflected in the limited tangible benefits observed.

Concerning silences, none of the case study cities reported engaging with known social or environmental concerns associated with BSSs in the literature. User demographics are not monitored, and potential inequalities in terms of age, ability, gender, and socio-economic status remain unproblematized (Fishman et al., 2013; Hoffman, 2016; Médard de Chardon, 2019; Ricci, 2015). Likewise, the concentration of stations in central areas is not

framed as a spatial equity issue or as a discriminatory practice favouring those who are already the most connected (Z. Chen et al., 2020; Dill & McNeil, 2021; Fishman et al., 2013; Giuffrida et al., 2023; Hoffman, 2016; B. Wang et al., 2024). As a result, these implementations of BSSs may disproportionately benefit healthy, white, young males living in the urban core. In addition, most cities label their systems as "sustainable" without critically assessing net environmental impacts once modal shifts and operational emissions are accounted for, as recommended by M. Chen et al. (2023), Fishman et al. (2014), Kapuku et al. (2022), Luo et al. (2020), Ricci (2015), Saltykova et al. (2022) and Zheng et al. (2019). Finally, in cities where BSS operations are financed through advertising, there is no acknowledgment of the tension between the growth logic inherent in advertising models and the sustainability objectives promoted by the systems (Duarte, 2016; Tironi, 2015).

In sum, the commonalities across the six case studies show a pattern of opportunistic BSS policymaking driven by external funding availability, policy replication, and limited municipal capacity, grounded in the assumption that cities are inherently "cycling ready." BSSs allow the cities to project a modern and sustainable image, but their practical integration into mobility strategies remains weak, with spatial coverage and imagined users skewed towards already advantaged groups and no clear intention of fostering modal shift from driving. The absence of critical engagement with equity and environmental concerns exemplifies a tendency to treat BSS deployment as a symbolic intervention rather than as a strategically planned instrument to achieve defined mobility and sustainability objectives.

5.2 Financial sustainability as secondary problematization

In addition to the main problem representations discussed in Section 5.1, a secondary, common problematization appears in the BSS policies of five of the six case study cities, namely Verona, Brescia, Padova, Parma, and Reggio Emilia. The interviewees describe station-based BSSs as cost-inefficient. In four of these cities, this is attributed to the high investment cost per station, while in Parma the issue stems from outdated SB hardware, which is frequently faulty and increasingly costly to maintain. The problematization of SB BSSs' financial sustainability is grounded in specific assumptions, shaped by external factors, and generates discursive, subjectification, and lived effects. Table 11 summarises the WPR analysis of this secondary problematization.

Table 11: WPR analysis of system cost as a secondary problem in BSS policy

WPR Question	**Summary of Findings**
Q1: Problem representation	'High' investment cost per station in SB systems.
Q2: Assumptions	BSS costs are disproportionate to their impact.
Q3: Origins	Market-driven innovation: dockless BSSs; (Inter)national trends in dockless BSS adoption.
Q4: Silences	Dockless BSSs are privately owned.
Q5a: Discursive effects	City as 'modern', innovative, and technically competent.
Q5b: Subjectification effects	Users are expected to adopt the new system as it is introduced; They are young, dynamic, and connected.
Q5c: Lived effects	Station-based systems are replaced by dockless BSSs; Dockless BSSs increase spatial coverage and number of bikes at no investment cost for the municipalities and 'reasonable' operating costs.
Q6: Challenges	Dockless BSSs result in fare increases of at least 100%; Not all users of previous SB systems switch to the new dockless BSSs.

BSS expansion beyond central areas is framed by the cities as an inefficient use of resources, based on the assumption that additional stations would not bring mobility benefits that justify the investment required. In this framing, the emergence of dockless BSSs represents a policy solution that enables expanding the spatial coverage of the service without the financial burden of station installation and maintenance—a rationale also identified by Lin and Spinney (2021). Interviewees further indicate that the adoption of dockless models in other municipalities, nationally and internationally, influenced decision-making in their cities.

As a result, Padova, Parma, and Reggio Emilia have replaced their SB systems with dockless BSSs. Verona and Brescia also problematize the cost-effectiveness of SB models but have not yet implemented dockless systems; however, both consider them, with Verona having recently launched a tender for a one-year dockless trial.

In the three cities that switched to dockless BSSs, the new systems expanded coverage to the entire urban area and increased fleet sizes by a factor of 5–7. These changes are consistent with findings from Lin and Spinney (2021), Meng and Brown (2021), and van Waes et al. (2018) on the capacity of

dockless BSSs to affordably expand coverage and scale fleets. In addition to improving financial sustainability of BSSs, dockless systems also fulfil symbolic functions: the app-based use and the flexibility in where to start and terminate the rentals allow the cities to further advance their representation as modern and innovative, and the shift is promoted as the prompt adoption of new technology by a competent municipality.

Unlike SB systems, whose infrastructure and bikes were owned by the municipalities, the dockless BSSs remain the property of the operating companies under service provision contracts with the municipalities. Across the cities that adopted dockless BSSs, the fleet is mixed—about 40% mechanical bikes and 60% e-bikes. In Parma and Reggio Emilia, operators require municipal subsidies to offer monthly passes for mechanical bikes at prices comparable to those of the earlier SB systems, while e-bikes operate on profitable, higher, pay-per-minute fares. These annual subsidies are considered acceptable, being at most equal to the former SB system's operating costs. In Padova, high mechanical bike utilisation renders both bike types financially self-sufficient.

In all cases, the adoption of dockless BSSs resulted in at least a doubling of fares. This is acknowledged but not problematised. The policy assumes that users would adopt the dockless BSS after discontinuing the SB model because it is more flexible and 'better'. This overlooks the possibility that the two user bases may not fully overlap due to differences in pricing and use modes, and, instead, the dockless model reinforces the construction of users as young and digitally literate. The loss of municipal ownership is likewise not problematised, though this is partially offset by the fact that operators are contractually bound to municipally regulated fares and fleet sizes.

Overall, the transition to dockless BSSs is framed primarily as a response to the high capital and maintenance costs of SB systems, while also functioning as a symbolic demonstration of municipal modernity and technological competence. The change results in expanded coverage, larger fleets, and reduced upfront municipal investment, but also higher fares, potential shifts in the user base, and the transfer of ownership to private operators, with these issues remaining unproblematized.

5.3 Recommendations for policymakers

Building on the findings of this research and the literature, this section develops recommendations for BSS policymaking. As the entities responsible for initiating, funding, regulating, and contracting BSSs, municipalities are the principal stakeholders in their implementation and thus the primary recipients of these recommendations.

BSSs have both a practical transportation function and a symbolic meaning. Regarding their transportation function, both the literature and this research indicate that BSSs tend not to be strategized. Strategic planning of BSSs is essential, as the value of BSSs results from materializing their potential to achieve modal shift from motorized modes, enabling environmental and social inclusion benefits. As such, policy should:

1. **Embed BSSs within a broader sustainable mobility strategy aimed at advancing public transport and reducing private car use**. Evidence from literature showed that BSSs rarely replace car trips on their own. Modal shift is instead more likely to be achieved through the expansion of public transport, combined with push measures such as increased costs for driving, and partial restrictions on driving in urban areas. Within these measures, BSSs can complement mass public transport by adding redundancy and increasing flexibility in areas and at times with less scheduled services.
2. **Locate stations and define service areas to connect residents in areas underserved by mass transit with the public transport network.** This can reduce car dependency and expand the number of residents who can meet their urban mobility needs without needing a car.
3. **Pair BSS deployment with investments in cycling infrastructure**. Safe infrastructure is essential for including individuals who may not otherwise feel comfortable or able to cycle in traffic.

Beyond their transport function, both the literature and this research have found that BSSs have a symbolic role. By increasing the visibility of utility cycling in urban areas, they can contribute to advancing cycling cultures and building political momentum for further pro-cycling policies. These **symbolic benefits are most effectively harnessed if BSSs support the mainstreaming of sustainable modes and succeed in materializing non-car mobilities**, rather than remaining confined to theoretical or rhetorical advantages. As such, building on the three recommendations outlined above, BSS policy should aim to make BSSs a viable, attractive, and accessible option for the wider public and reinforce other sustainable modes, such as public transport.

These recommendations on materializing BSS benefits apply to both station-based and dockless systems. However, this research and existing literature have found that the transition to dockless BSSs often result in higher fares and the privatization of the systems**. In dockless BSS policymaking, local governments should ensure to retain planning authority and regulate the systems to 1) serve the city's sustainable urban mobility needs and 2) to ensure that fares do not exclude lower-income users.** When these conditions are met, dockless systems can be broadly

equivalent in function to SB BSSs or even more impactful, as dockless systems generally offer wider spatial coverage and a greater number of bicycles.

5.4 Limitations and possible future research

This research has examined bike sharing policy in medium-sized Italian cities through cross-sectional perspectives of municipal civil servants. This sets the boundaries for interpreting the results and identifying opportunities for future research.

The limitation of this research include:

- **Policy can change over time**: temporal dynamics can shape problem representations and the how respondents make sense of BSS policy. Some systems in this research started 5 years ago, while others have been in operation for over 15 years, potentially going through multiple policy approaches. Interviewing the same cities at earlier stages might have produced different framings, and staff turnover in municipal offices may have contributed to the loss of institutional memory.
- **Understanding local cycling histories and cultures**: Each city's cycling history and culture influence policymaking. While this research considered these factors based on interviews and limited contextual sources, a richer historical perspective would strengthen future studies.

Furthermore, future research could expand on this topic by:

- **Replicating the study in different contexts**: As Anaya-Boig (2021) notes, smaller municipalities face different challenges in BSS policymaking compared to larger cities, while different national contexts may affect institutional frameworks, governance arrangements, and cultural attitudes towards cycling.
- **Examining politicians' perspectives**: While this study focused on civil servants, BSS implementation is often driven by political mandates. Understanding politicians' perspectives on rationales for implementing BSSs would further investigate the political objectives that shape these policies.
- **Examining BSS providers' perspectives**: Providers influence problem representations through the promotion of their services and lobbying. Understanding providers' perspectives would offer insight into how commercial interests shape BSS policymaking.
- **Further analysing the effects of the emergence of dockless BSSs on policy**: This research found that the emergence of dockless BSSs introduced new problem representations in BSS policy. Future

studies expand on this by investigating dockless BSSs from a socio-technical transitions lens (e.g., Multi-Level Perspective framework).

6 Conclusions

This thesis has investigated why medium-sized Italian cities implement bike sharing systems despite evidence questioning their inclusiveness and potential to achieve significant modal shift. BSS policies are widely promoted as advancing sustainable mobility, yet empirical research shows their benefits are often overstated, unevenly distributed, and mainly serve people already comfortable with cycling. Drawing on Bacchi's (2009) "What is the Problem Represented to Be?" framework, the study has treated BSS policymaking as a political and discursive process, examining the problem representations that underpin bike sharing system adoption and the effects they produce.

The research has conducted a comparative case study of six Italian medium-sized cities, and it has identified three main problem representations in their BSS policies:

1. **Environmental sustainability challenges of urban mobility systems**: BSSs framed as an environmentally friendly mobility option, albeit without clearly defined mobility goals. Cities assume that the mere deployment will produce sustainability benefits.
2. **Auto-centric mobility cultures**: BSSs are used symbolically to increase utility cycling's visibility and legitimacy, aiming to challenge car-centric cultures.
3. **Inter-city competition**: BSSs are adopted to maintain a competitive city image, with little expectation of practical mobility impact. Implementation alone is seen as sufficient to obtain symbolic status among peer cities.

In addition, a secondary problematization emerges around the perceived high costs of expanding or maintaining station-based systems, which are considered disproportionate to the benefits they are expected to deliver. This perception has motivated some of the case cities to transition to dockless models to lower capital expenses.

Beyond problem representations, commonalities across the case studies showed a pattern of opportunistic BSS policymaking driven by external funding availability, policy replication, and limited municipal capacity to plan for and strategize BSSs. The systems allow the cities to project a modern and sustainable image, but their practical integration into mobility strategies remains weak. Spatial coverage and imagined users are skewed towards already advantaged groups, and there is no objective of fostering modal shift from private cars. The absence of critical engagement with equity and environmental concerns shows that BSS deployment is treated as a symbolic intervention rather than as a strategically planned instrument to achieve defined mobility and sustainability objectives. While symbolic functions can

create political momentum for cycling, without integration into a coherent mobility strategy they risk reinforcing the depoliticization of sustainability and failing to produce substantive modal shift or equity outcomes.

This thesis is one of the first studies in a European setting on bike sharing policy rationales. Given the proven potential of BSS to advance the social and environmental sustainability of urban mobility, the findings point to the need for their strategic integration into wider cycling and transport policies, supported by clear objectives, equity-oriented planning, and complementary infrastructure investment. Without such alignment, BSS risk remaining isolated, opportunistic measures whose symbolic and political meanings do not translate into practical contributions to sustainable urban mobility transitions.

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A. Expert interview guide

Premise

- **Presentation of the interviewer**.
- **Thesis aim**: the thesis aims to analyse the reasons for implementing BSS policy in medium-size Italian cities, and the effects of introducing such policy.
- **Format**: open questions, conversation.
- **Anonymity**: the thesis document will report on the participating cities and on the roles of the respondents, but it will not be possible to match the two.
- **Duration**: the interview will last up to 90 minutes (or else, depending on previous agreement).
- **Request for consent to record**: the recording will be used to transcribe the interview, then it will be deleted.
- **Invite the respondent to ask any question before starting**

Introduction

- **Presentation of the interviewee(s):** role, experience, relation with municipal bike sharing policy.

- **BSS overview**: *Could you give an overview of your city's experience with bike sharing systems?*

Problem representation in BSS policy + BSS planning:

- **Rationale for BSS implementation**:
    - *Why was/were the BSSs implemented?*
    - *Who took the initiative to implement the system?*
    - *What were the objectives?*

- **Planning for the BSSs**:
    - *How was/were the system(s) planned for?*
    - *How was the operator selected?*
    - *What were the requirements for the system?*

- **Business model and financing**:
    - *How was the system financed?*
    - *What are the costs for the city?*
    - *What are the costs for users?*
    - *What is the operator's business model?*

- **Monitoring**:
    - *What supervision and monitoring do the city perform on the BSSs?*

- **Users**:
    - *Who was the system planned for?*
    - *Who uses the system?*

Context

- **Sustainable Urban Mobility planning**:
    - *What sustainable urban mobility policies are currently in place in the city?*
    - *What sustainable urban mobility goals are currently in place in the city?*
    - *What is the role of the BSS(s) in the city's mobility system?*

Results

- **Results**:
    - *What have been the results of implementing the BSS policy?*
    - *What went well?*
    - *What are some improvement points?*
    - *How will the system develop in the future?*

Conclusion

- Thank the respondent for their participation.
- Repeat that the respondent's experience will be reported on in the thesis.
- Commit to share results after summer.