

Public Transport and Spatial Inequality in Post-Conflict Sarajevo: Governance Challenges and Inclusive Mobility

JASMIN ADEMOVIĆ¹

*Centre for Interdisciplinary Studies of the
University of Sarajevo – Prof. Dr. Zdravko Grebo (CIS)
Bosna i Hercegovina*

Abstract: The public transport system of Sarajevo embodies pronounced spatial and socio-economic inequalities shaped by its post-socialist and post-conflict trajectory. This article investigates how fragmented governance and uneven service provision contribute to exclusion, particularly in peripheral urban areas. Based on a mixed-methods research design, including the survey of 150 residents, approximately 40 interviews, participatory mapping, and policy analysis, the study reveals marked disparities between well-connected central districts and inadequately served outskirts. Respondents report prolonged commuting times, unreliable services and economic barriers such as unaffordable fares. Institutional fragmentation across municipal, cantonal and entity levels hinders coordinated planning. Public transport also possesses symbolic significance, with recent tram and trolleybus projects perceived as expressions of reintegration. The article argues for the development of inclusive mobility policies that enhance equity, cohesion and opportunity.

Keywords: Public transport; Social inclusion; Spatial inequality; Urban governance; Sarajevo

Introduction

The urban mobility system of Sarajevo is not only about of moving people from one place to another; it is deeply intertwined with the city's social fabric and post-conflict recovery. In the decades since Bosnia and Herzegovina's ('BiH') 1990s war and the transition from socialism, Sarajevo has experienced growing socio-economic inequalities and increasingly fragmented urban development. Public transport, once a robust public

¹ jasmin_a.j@live.com

good under former Yugoslavia, has deteriorated due to underinvestment, wartime damage, and a surge in private car use (Stanilov 2007; Tsenkova 2014; Hrustemović 2020). The result has been clear spatial disparities: residents of well-serviced central districts enjoy relatively easy mobility, whereas those in peripheral neighbourhoods face limited transport options and longer, more difficult commutes. These mobility gaps mirror broader patterns of economic inequality and social exclusion across the city. Where one lives and by extension, and, by extensions, how one travels, can significantly influence access to jobs, education, and urban life. A lack of reliable and affordable public transport effectively marginalizes certain communities, reinforcing poverty and unemployment in those areas.

The governance structure of Sarajevo has further complicated efforts to ensure equitable transport. The post-war administrative setup has divided the metropolitan area between the Federation of BiH (Sarajevo Canton) and Republika Srpska (Istočno Sarajevo/East Sarajevo), and even within the Canton the city is split among multiple municipalities. This fragmented governance has often hindered coherent transport planning. For example, bus or trolleybus lines historically terminated at municipal or entity borders due to jurisdictional mismatches, leaving would-be passengers at the edge of service areas. Such gaps are not merely inconveniences; they effectively isolate certain suburban communities from the city core, undermining their economic opportunities and sense of belonging. The Academy of Sciences and Arts of BiH has noted that better coordination across municipalities and between Sarajevo Canton and East Sarajevo is a necessary precondition for effective transport reform (ANUBiH 2020). Without a unified vision and governance framework, investments tend to be piecemeal and uneven, further exacerbating the institutional causes of spatial exclusion.

Compounding these structural challenges is identity of Sarajevo as a post-conflict city. The 1992–1995 siege and subsequent ethnic-administrative divisions have left physical and psychological scars on urban mobility. Even today, some residents carry “mental maps” of the city that reflect wartime memories, and certain routes or areas are avoided due to past traumas or perceived ethnic territories. This means that mobility in Sarajevo involves not just navigating space and infrastructure but also negotiating collective memory and identity. Anthropological research (Halilovich 2013) has shown that traversing the city, for instance, taking a tram across

what was once a frontline, can be an emotional act of reclaiming urban unity and healing war-torn community bonds. Thus, the stakes of public transport extend beyond economics: improving mobility for marginalized areas is also about “stitching back together a city that has been physically and socially torn apart” (Halilovich 2013). Every new bus line or tram extension carries symbolic significance in signalling the reintegration of a neighbourhood into the civic fold.

In this context, understanding the role of public transport in fostering (or hindering) social inclusion is critically important. Globally, scholars have emphasized that the ability to move freely and accessibly within a city is a form of urban citizenship and a prerequisite for equity (Sheller 2018; Lefebvre 1996; Harvey 2008). Lack of mobility can trap disadvantaged groups in a cycle of exclusion, limiting their access to employment, services, and social networks (Lucas 2012). Sarajevo offers a vivid case where these dynamics manifest under the compounded influences of post-socialist transition, post-conflict division, and constrained public finances. The city’s experience raises key questions: How have public transport policies and investments shaped patterns of inclusion or exclusion? What are the main barriers, physical, economic, and institutional, that different groups face in accessing urban mobility? And how can policy interventions mitigate these inequalities?

This article addresses these questions by focusing on the intersection of public transport, spatial inequality, and governance in Sarajevo. Drawing on a recent mixed-methods study of everyday mobility in the city, we explore how transport infrastructure and policy can either mitigate or exacerbate socio-economic divides. The analysis emphasizes Sarajevo as a post-socialist, post-conflict urban case, where typical transition challenges (e.g. privatization, car-oriented development) are interwoven with the legacies of war (e.g. fragmented governance structures and pronounced social cleavages). After reviewing relevant literature on transport exclusion and urban inequality (Section 2), we outline the study’s methodology (Section 3). We then present key findings (Section 4) on how unequal access to transport is experienced by Sarajevo’s residents, from peripheral communities rendered “cut off” to low-income households struggling with transit costs and discuss these considering urban inclusion theories. Finally, Section 5 offers conclusions and practical recommendations for policy measures to promote a more equitable and inclusive mobility system in Sarajevo.

Literature Review

Access to transportation is widely recognized as a crucial factor in social inclusion and economic opportunity. Research on transport disadvantage shows that when mobility is unevenly distributed, it often reinforces pre-existing social and spatial inequalities (Lucas 2012). Transport and social exclusion are tightly linked: people who cannot afford transit fares or who live in areas poorly served by public transport are effectively precluded from full participation in urban life (Lucas 2012; Stanley & Vella-Brodrick 2009). Lucas (2012) argues that a lack of affordable, reliable transportation can perpetuate poverty among low-income populations by limiting their access to jobs, education, healthcare, and other resources. This perspective aligns with the concept of mobility justice, which calls for examining “who benefits and who is left behind” in transportation systems. Sheller (2018) situates mobility as a fundamental dimension of justice, noting that the freedom to move safely and comfortably is unevenly distributed across lines of class, gender, race, and, in certain contexts, ethnicity or citizenship status. A mobility justice framework therefore extends the traditional policy focus beyond aggregate improvements (like overall ridership or travel speeds), urging planners to ask how benefits are allocated across different social groups and neighbourhoods (Sheller 2018). In practical terms, this means evaluating, for example, whether new transport investments primarily serve affluent districts while marginalizing low-income or minority areas, or whether innovations like app-based micromobility are accessible to all users or restricted to the technologically advantaged.

Another relevant body of literature concerns the politics of mobility. Cresswell (2010) and others have argued that mobility is not merely a neutral technical phenomenon but is imbued with social meaning and power. Decisions about whose movement is prioritized (cars vs. public transit vs. pedestrians), what infrastructure is built where, and how mobility is regulated all reflect political choices about whose needs matter in the city. In many transitional and developing cities, these choices have favoured certain groups over others, for instance, notably car owners and urban core residents over transit-dependent populations in peripheral areas. As Cresswell (2010) notes, mobility entitlements can be seen as a form of citizenship: those who enjoy greater ease of movement effectively command a larger share of the city’s space and opportunities, whereas those facing mobility barriers experience a constrained form of urban

citizenship. The idea of the “right to the city” (Lefebvre 1996; Harvey 2008) is closely related, asserting that all urban inhabitants, not just the affluent or powerful, should have equitable access to the benefits of urban life, including transportation networks. In the Sarajevo context, where certain communities feel effectively “left out” of the transit network, these concepts underscore the normative imperative of addressing mobility gaps.

The post-socialist and post-conflict trajectory of Sarajevo adds distinctive layers to these general principles. Post-socialist urban studies highlight how the transition from planned economies to market-oriented governance in the 1990s often produced institutional fragmentation, ambiguous responsibilities, and underfunded public services (Stanilov 2007; Tsenkova 2014). In transport, this frequently manifested as the decline of formerly integrated public transit systems and the rise of private car usage amid weak regulatory environments. Many Eastern European cities saw an exodus from transit and walking towards automobiles, contributing to congestion, pollution, and social stratification between those with cars and those without. Sarajevo followed this pattern to an extent, the late 1990s and 2000s brought increasing car ownership and suburban sprawl, while the public transit authority struggled with aging vehicles and budgetary shortfalls. Crucially, however, Sarajevo’s governance became exceptionally fragmented because of the Dayton Peace Agreement (1995). Unlike a typical city which might have one metropolitan government, Sarajevo’s metropolitan region was split between two entities (the Federation of BiH - FBiH and the Republika Srpska - RS), and within the FBiH side into a canton with multiple municipalities. Scholars have noted that such a setup poses serious challenges for infrastructure planning and service delivery (Bose 2017; Murawski 2009). In terms of transport, fragmented governance meant that strategic planning and investment often lacked coherent direction. Hrustemović (2020) observes that Sarajevo’s transit lines historically did not extend seamlessly across municipal boundaries, leading to “last-stop” effects where neighbourhoods at jurisdictional edges were underserved, a clear structural driver of spatial inequality.

Urban and regional planners in post-conflict cities also emphasize the role of infrastructure in promoting social cohesion. Public transport can be seen as a form of social infrastructure that facilitates interactions and connections among diverse groups (Kavanaugh *et al.* 2020). In socially divided landscape of Sarajevo, improving connectivity has an almost

therapeutic or peacebuilding function, in addition to its economic rationale. Halilovich (2013) notes that when Sarajevans traverse former front-line zones in their daily routines, it symbolizes a reclamation of the city as a unified space of everyday life, counteracting the wartime legacy of physical and mental fragmentation. However, if infrastructure remains uneven, if certain suburbs remain isolated or associated with a particular ethnic group, the risk emerges that divisions solidify and feelings of exclusion persist. Thus, inclusive mobility is part of the broader project of post-conflict reconstruction and reconciliation (Phillips *et al.* 2016). This resonates with the concept of “urban belonging”, which Antonsich (2010) describes as the sense of being at home in the city’s spaces and rhythms. Inequitable transport can erode that sense for those marginalized, whereas accessible mobility for all can foster a more inclusive urban identity.

In summary, the literature attending to questions of who can move is critical for understanding urban inequalities. Key themes include transport affordability and accessibility as factors in social exclusion (Lucas 2012), the political and justice dimensions of mobility (Sheller 2018; Cresswell 2010), and particular challenges faced by cities such as Sarajevo, with complex governance structures and post-conflict legacies. These perspectives will inform our analysis of public transport in Sarajevo, helping to interpret the empirical findings on mobility gaps and to frame recommendations that are consistent with principles of equity and inclusion.

Methodology

This study is guided by the central research question: How do public transport policies and infrastructure in post-conflict Sarajevo shape patterns of spatial inequality and social inclusion among residents? To address this question, the research employs a mixed-methods design that integrate quantitative and qualitative techniques. This integration allows for both statistical identification of inequality patterns and a nuanced understanding of residents’ lived experience. The study utilises a convergent mixed-methods approach, where quantitative (survey) and qualitative (interviews, observation, mapping) data were collected and analysed in parallel. This design facilitated cross-validation of findings and ensured that neither the breadth of quantitative coverage nor the depth of qualitative insights was compromised.

The combination of methods was deliberately selected to reflect a complex socio-political landscape of Sarajevo: quantitative data capture structural patterns of accessibility, while qualitative engagement illuminates emotional and symbolic dimensions of mobility and urban belonging.

Survey: The questionnaire was developed specifically for this research, drawing conceptually on existing frameworks of transport disadvantage and perceived accessibility (Lucas 2012; Lättman *et al.* 2016). It was piloted with a small group of respondents (n=10) to assess clarity and duration, and minor revisions were made before full deployment. Content validity was established through expert feedback from two urban mobility researchers and one Sarajevo transit practitioner. The instrument thus represents a contextually adapted and validated tool for examining perceptions of transport equity and inclusion. A structured questionnaire survey was conducted in early 2025 with 150 residents of Sarajevo, sampled to include a diverse range of neighbourhoods (inner-city and peripheral) and demographic groups. The survey gathered data on respondents' travel patterns, perceived transport problems, and experiences of connectivity or exclusion. Key questions assessed issues such as the affordability of public transport, satisfaction with service frequency and coverage, and concerns regarding personal safety. For example, respondents were asked whether they agree that "public transport infrastructure is equally accessible to all citizens" and to identify the most significant challenges they face in using the transport system in Sarajevo. The survey results provided quantitative indicators of inequality (e.g. percentage of people reporting inadequate service or high costs) and were later disaggregated by area to compare central vs. outer districts.

Interviews: In total, 40 residents participated in the interview phase, comprising 23 women and 17 men, between 19 to 72 years (mean age approximately 41). Participants represented a broad cross-section of Sarajevo's population, including students, service workers, pensioners, professionals, and unemployed individuals. Interviews were conducted in Dobrinja, Ilidža, Grbavica, Hrasnica, and Vogošća, covering both central and peripheral zones of the metropolitan area. These localities were deliberately chosen to reflect contrasting connectivity patterns - areas served by the tram and trolleybus backbone versus those reliant on peripheral bus routes - and to capture recent investments such as the tram extension toward Hrasnica and the restoration of the trolleybus line to

Vogošća. This selection maximized variation in participants' experiences and perceptions of mobility and inclusion. The study did not extend to more distant municipalities such as Ilijaš, Pazarići, or Tarčin, primarily due to logistical constraints and variations in administrative jurisdictions; however, these areas are recognised as priorities for future comparative research. Interviews explored how people navigate the city, challenges they encounter (e.g., long commute times, inaccessible stations, safety issues, financial strain), and how these challenges affect their daily lives and sense of belonging in Sarajevo. Open-ended questions encouraged interviewees to share personal narratives, for instance, instances in which they felt particularly isolated or included due to transport, or their perceptions of recent transport improvements. These narratives provided contextual depth to the survey findings, revealing the human impact of infrastructural gaps.

Participant Observation and Mapping: The researcher also engaged in participant observation through “go-along” journeys (Kusenbach 2003), riding trams, buses, and walking routes alongside local residents while observing conditions and engaging in informal conversations. Field notes were kept on issues like vehicle crowding, wait times, physical barriers (e.g., lack of ramps), and interactions among passengers. In addition, a participatory mapping exercise was conducted in a community workshop setting where residents were invited to indicate on a map the areas of the city they consider poorly connected or difficult to access, and to trace their typical travel routes. This helped visualize spatial patterns of exclusion (for example, clusters of perceived transport deserts on the city's periphery) and captured symbolic geographies (areas residents mentally classify as “far” or “disconnected”). We supplemented these primary data with an analysis of policy documents (e.g., Sarajevo Canton's 2020 Sustainable Urban Mobility Plan) and reports by international donors and local NGOs on transport projects.

Data Analysis: Survey data were analysed using descriptive statistics and cross-tabulations. Key indicators (such as the percentage agreeing that transport is unequal or citing certain problems) were compared across different groups and areas. Qualitative data from interviews and observations were analysed thematically using coding techniques. The analysis sought convergence between quantitative and qualitative evidence; for example, a high proportion of survey respondents might report long commutes in a certain suburb, and interviews from that same

suburb would provide detailed personal accounts of those long travel times and their consequences. This triangulation enhances the validity of the findings. Throughout analysis, reflexivity was maintained, given that the lead researcher is a Sarajevo resident with professional involvement in urban planning; field notes include reflections intended to distinguish personal perspectives from participants' experiences.

Overall, the methodological combination of surveys for breadth and interviews/observations for depth was founded to be effective. The survey established that mobility inequalities are widely perceived and where they are most acute, while the interviews and mapping illustrated how these inequalities manifest in daily life and their implications for social inclusion. Ethical considerations included obtaining informed consent from all participants, ensuring anonymity in reporting personal narratives, and maintaining sensitivity to potential distress when discussing war-related memories or hardships. The next section presents the integrated results of this research, focusing on those empirical findings most pertinent to the theme of economic and spatial inequality in public transport of Sarajevo. The chosen convergent design proved particularly suitable in fragmented urban and governance context of Sarajevo. Quantitative data highlighted areas where inequalities were most pronounced, while qualitative narratives and mapping revealed why and how these disparities affect residents' everyday lives. The simultaneous collection of both strands enabled iterative interpretation during fieldwork: survey trends informed follow-up interview themes, while emergent qualitative insights helped refine the understanding of statistical patterns. This dynamic interaction between methods enhanced the robustness of the findings and grounded abstract patterns of inequality in concrete human experience.

Research Results and Discussion

Spatial Inequalities in Urban Mobility

Major themes that emerged included spatial disconnection, economic barriers, safety and comfort, governance frustrations, and symbolic meanings of transport. The data indicate a pronounced divide between Sarajevo's well-connected centre and its outlying areas in terms of mobility access. Survey results showed that an overwhelming 72% of respondents disagreed with the statement that "the public transport infrastructure is

equally accessible to all citizens”. This broad consensus reflects public recognition of spatial inequality within the transit system. Residents of neighbourhoods on the city’s periphery, such as Dobrinja, Ilidža, Hadžići, Hrasnica, and Vogošća, consistently reported longer and more complex commutes than those in central areas. Many peripheral residents must make multiple transfers or rely on infrequent bus lines to reach the city centre, transforming even moderate distances (10–15 km) into journeys of an hour or more. For example, a 30-year-old office worker from Dobrinja (west edge of the city) described spending 60–70 minutes by public transit to reach his job in the old town, a trip that would take only 20 minutes by car early in the morning. He ultimately chose to drive, despite disliking traffic, because the transit alternative effectively required him to leave home two hours before work. Such accounts underscore how inadequate transit service can incentivize those with access to private cars to drive, thereby exacerbating congestion, while those without cars simply endure lengthy commutes.

Peripheral communities not only face longer travel times but also experience a sense of social distance from the city’s opportunities. A university student from Dobrinja noted that if she stays late in the city centre with friends, she risks missing the last evening trolleybus home; on more than one occasion, she either paid for an expensive taxi or undertook an hour-long walk back to Dobrinja after midnight. To avoid this, she often leaves social gatherings early, perceiving that her residential location effectively imposes a curfew. “If public transport doesn’t support you, you self-restrict,” she explained, leading her to feel like an “outsider” within the vibrant cultural life downtown. This narrative illustrates how mobility deprivation translates into social exclusion: limited transport options constrain one’s ability to participate in the city’s economic, social, and cultural activities, fostering feelings of isolation. In contrast, residents of central areas (like Marijin Dvor or Grbavica) typically benefit from multiple tram and bus lines and can travel spontaneously with minimal planning and worry. As one Grbavica resident said, “I can decide last-minute to go out in the evening, because I know there’s always a tram or I can even walk. People in Dobrinja or Vogošća [Vogošća] don’t have that luxury.”

Importantly, not all peripheral areas are uniformly disadvantaged, and recent improvements have begun to mitigate some mobility gaps. Ilidža, a municipality at the southwest edge of Sarajevo, illustrates this trend.

Serving as a terminus of the main tram line, Ilidža has seen benefited from investment in a modern transit hub. Many Ilidža residents reported adequate connectivity to central Sarajevo (albeit with crowding at peak times), thanks to the tram, yet noted limited east-west links to other suburbs. In contrast, neighbourhoods like Hrasnica (beyond Ilidža) or parts of Vogošća (a northern suburb) remained largely excluded from the tram network until very recently. For decades after the war, the trolleybus line to Vogošća, which had once tied that community to the city, was not restored, leaving Vogošća with only infrequent bus service. “It felt like we were forgotten on an island,” said a Vogošća resident in an interview, reflecting on the prolonged absence of a reliable link to the core of Sarajevo. In 2023–2024, however, the city undertook projects to extend service to these areas: the tram line was expanded to reach Hrasnica, and new low-floor trolleybuses were introduced on the Vogošća route. These investments were widely welcomed by local inhabitants. A 2024 survey found that 64% of Sarajevans regard the tram and trolley network as a “symbol of Sarajevo” and an integral part of the city’s identity. Thus, re-establishing those connections was not only a matter of convenience but also a symbolic affirmation that neighbourhoods such as Hrasnica and Vogošća are integral to the urban community of Sarajevo. One respondent described that seeing the trolleybus return to her town as akin to “being written back onto the city map.” This underscores the psychological significance of infrastructure: public transport links (or their absence) convey messages about who is included in the “imagined city” and who remains marginalised.

From a policy perspective, these spatial inequalities in mobility underscore a need for targeted improvements and integrated planning. The survey evidence, showing that 72% of respondents perceive unequal access and the consistent identification of specific problem areas provide a data-driven basis for intervention. Our findings align with mobility justice theory, demonstrating that it is not sufficient for Sarajevo to improve transport in aggregate; rather, attention must be paid to where and for whom improvements occur (Sheller, 2018; Lucas, 2012). The observed patterns underscore that spatial targeting is critical: expanding services to underserved peripheries can generate substantial social benefits by bringing previously excluded groups into the urban fold. Conversely, failure to address these gaps risks reinforcing a two-tier city, a well-connected core

and a disconnected outer ring – thereby perpetuating economic disparities (e.g. if residents in peripheral areas struggle to access quality jobs or education due to transport barriers).

Economic Barriers and Social Exclusion

Mobility inequality in Sarajevo is not only about the physical coverage of routes; it also has a pronounced economic dimension. The cost of public transport emerged as a key barrier for lower-income residents. Approximately 20% of public transit users in our survey reported that high fares were among the major challenges they face. At first glance, Sarajevo's transit fares (around 1.60 BAM, roughly €0.80, for a standard one-way ticket) might appear modest, especially compared to Western European cities. However, when considered relative to local incomes, with an average monthly wage of approximately 1000 BAM and many people earning substantially less, these costs become significant. A single mother in Grbavica explained that taking the tram and bus to run errands or attend events with her two children proved prohibitively expensive on her tight budget, particularly since transfers require multiple tickets. "We often just stay in our neighbourhood on weekends, because a trip into the centre and back for the three of us can cost 10 marks (BAM) or more in tickets," she noted, "which is a lot for me". This example illustrates a form of economic exclusion: even living in a central area near a tram line, she remained constrained from fully enjoying the city's amenities due to financial limitations, effectively creating a mobility poverty trap.

Interviewees from low-income households echoed this concern. Pensioners and unemployed persons regularly report that paying for daily transport posed a financial strain. One elderly man from a peripheral settlement recounted how he restricts his trips to the city: "Unless it's absolutely necessary, I won't spend money on the bus. I plan everything in one trip if I can, multiple stops in one go, because each ride cuts into my pension" (Fieldwork Interview 2024). These experiences corroborate the survey data and align with global research: transport costs can consume a substantial portion of income for the poor, effectively limiting their mobility (Uteng & Lucas 2018). In Sarajevo, there are monthly passes and some discounts (for students, seniors), but provision is not universal and upfront pass costs can remain a barrier. Notably, the city has not implemented free or heavily subsidized transit for low-income groups, a

policy adopted in some other cities aiming to boost equity. The lack of fare integration, for example, needing to pay separate tickets for tram and bus segments of one journey, adds to the financial burden, a point of frequent complaint. Addressing fare policy thus emerges as equally important as infrastructure expansion when considering inclusion.

Another economic aspect relates to the modal divide between car owners and non-car owners. Over the past two decades, owning a car in Sarajevo has become a marker of status and a practical advantage, given the deteriorating transit system. Those who could afford cars gained increased mobility (albeit at the cost of contributing to congestion and pollution), while those who could not were left with a declining public system. This created a feedback loop: public transport came to be perceived as the mode of the “left behind” (less affluent, elderly, etc.), which in turn justified reduced political attention and investment, further reducing service quality. The post-socialist narrative of automobile aspiration played out in Sarajevo, as in other Eastern European cities, with mobility becoming stratified by income. Our research participants highlighted this divide. A young professional living in a suburb observed that among his colleagues, taking the bus was almost stigmatized, “if you’re successful, you drive.” Meanwhile, a woman working a service job in the city centre who cannot afford a car described feeling “trapped” in her outer municipality whenever the last evening bus was missed or when services were cut back: “Those with cars don’t even think about these things,” she said, “they come and go as they please.” This scenario illustrates how income inequality translates into mobility inequality, and vice versa. In fact, some of Sarajevo’s transport initiatives explicitly acknowledge this: the Sustainable Urban Mobility Plan (2020) links improved transit to social inclusion, suggesting that making public transport more attractive and affordable can reduce the reliance on car ownership for accessing opportunities.

Micromobility innovations have introduced a new twist on both economic and digital divides. Since 2021, private companies began developing e-scooter sharing services in Sarajevo. These brightly coloured e-scooters quickly became popular among many youths and young adults for short trips. However, using them requires a smartphone and credit card (for app payment), effectively excluding those without access to such devices or financial instruments, often older people or lower-income residents. Additionally, the cost, while cheaper than taxis, is higher per kilometre

than a tram or bus fare. Thus, a new “digital mobility divide” has emerged: a 23-year-old tech-savvy Sarajevan can zip around on an e-scooter, saving time, whereas a fifty-something worker without a smartphone or someone who cannot justify the cost remains dependent on slow buses. In our survey, attitudes towards e-scooters were split, about 41% of respondents favoured banning or strictly regulating them in pedestrian areas, whereas ~29% supported their use under appropriate rules. While much of this debate centred on safety and urban space management, beneath it lies the reality that not everyone shares in the benefits of these new mobility options. Without proactive measures (like providing non-smartphone rental options or subsidies), such innovations risk “layering new options for the already privileged”, as some mobility justice scholar’s caution. In the Sarajevo context, the e-scooter episode has also exposed generational tensions: younger residents perceive them as modern and convenient, whereas many older residents view them as nuisances or even as symbols of a widening gap in how different groups experience urban mobility.

Governance and Planning Challenges

Underpinning the above issues is the highly fragmented governance structure of Sarajevo’s transport system. The research findings point to institutional factors as both a cause of existing problems and an obstacle to solutions. Interviewees with knowledge of local government (including a city council member and a transport engineer) lamented the bureaucratic complexity that slows down improvements. “We have too many cooks in the kitchen,” noted one planner, referring to how the Canton, City, and municipal authorities each have roles in transport, sometimes overlapping, sometimes with gaps. This fragmentation has tangible impacts. For example, residents of suburban settlements outside the core City of Sarajevo municipality often have no direct representation in transit planning decisions, because they fall under different jurisdictions. One suburb resident said, “Decisions about bus routes that serve us are made by people who aren’t accountable to our community.” This reflects the earlier point that invisible political boundaries can translate into very real service disparities. The canton-level government operates the public transit company (GRAS) and oversees major projects, but municipalities control local roads and can enact local policies (like the Old Town banning e-scooters). Without strong coordination mechanisms, the result has been

inconsistent policies, as seen when the Stari Grad municipality banned e-scooters in its area in 2024 while other parts of the city maintained different rules. Similarly, efforts to integrate fare systems or schedules between the Sarajevo Canton's network and the adjacent East Sarajevo network (run by the Republika Srpska) have long stalled, inconveniencing those who commute across the inter-entity boundary.

These governance issues are not merely administrative; they have direct, tangible effects on riders. For years, the lack of a unified metropolitan transport authority meant that through-routes were fragmented. As mentioned, trolleybuses or buses would literally stop short of certain communities because funding and jurisdiction ended at a line on the map. Many interviewees at the city's edges felt this acutely as a form of institutional neglect. A man from East Sarajevo (Istočno Sarajevo) recounted how he had to take one bus to the "border" and then transfer to another operated by a different company to continue into the city, doubling his hassle. "It's absurd, for a city of half a million, we act like two cities that barely talk to each other," he said, expressing frustration that politics trumped practicality. His sentiment captures how governance fragmentation breeds user frustration and exclusion: one's ease of mobility "may depend on invisible political lines", as the dissertation research concluded. Indeed, local studies have identified governance reform as essential to fixing the transport in Sarajevo. A 2020 report by the Academy of Sciences and Arts of BiH urged inter-municipal and inter-entity coordination as essential to any effective transport strategy. The Sustainable Urban Mobility Plan (2020) also acknowledges institutional fragmentation as a challenge and calls for a coordinating body or platform (Sarajevo Canton 2020).

On a positive note, there have been recent initiatives aimed at overcoming these silos. The participation of Sarajevo in the EU-funded "Living Lab" project (as part of the TRIBUTE program) is one example. By bringing together city officials, researchers, and citizen groups to pilot small-scale mobility solutions, the Living Lab created a forum for collaboration across different levels of government and civil society. Early outcomes – like trialling a new bus route with community input, showed that inclusive, cross-jurisdictional approaches can generate creative solutions and public buy-in. Furthermore, the political transition in Sarajevo has seen some improvements in transparency and intergovernmental cooperation. Interview feedback suggested that relations between the Cantonal

government and municipalities have thawed somewhat in recent years, particularly with a shared recognition that problems like traffic congestion and pollution affect everyone. The renewed investments in trams and trolleybuses since 2020, funded with help from international banks (EIB, EBRD), also signalled a policy shift: authorities agreed on joint priorities to modernize the fleet and extend lines, which required coordination and co-financing agreements.

The discussion of results thus far illustrates that Sarajevo's case aligns with and enriches the broader theoretical perspectives. The city's mobility inequities exemplify what Sheller (2018) terms the "politics of who moves", effectively, resources and rights are distributed unevenly, creating winners (car owners, central city dwellers) and losers (transit-dependent peripheral residents). Our findings reinforce that addressing these inequities is not only a matter of new buses or tracks, but also of governance reform and inclusive policy design. In a sense, the struggle of Sarajevo for an inclusive transport system is part of its larger struggle for an inclusive society after conflict. When a neighbourhood finally gets a reliable transit link, it's not just mobility that improves; residents interpret it as recognition and investment in their community's future. Likewise, when vulnerable groups (like the disabled or women at night) gain safer and easier travel, it affirms their right to the city. Conversely, continued neglect of certain areas or issues can deepen mistrust and a sense of marginalization. The next section will build on these insights to propose concrete steps Sarajevo can take to move toward mobility justice and a more equitable urban transport regime.

Conclusion and Recommendations

This study set out to explore the nexus of urban mobility, inequality, and inclusion in Sarajevo, focusing on how public transport provision (or the lack thereof) affects different communities in a post-socialist, post-conflict city. The findings present a clear picture: mobility in Sarajevo is unequal, and these inequalities have far-reaching implications. Residents in peripheral parts of the city face disproportionate challenges, including longer commutes, unreliable service, and higher relative costs, which translate into reduced access to economic opportunities and civic life. Such spatial and economic exclusion through transport functions both as a symptom and a driver of wider socio-economic disparities. Moreover,

the symbolic significance of public transport in Sarajevo is considerable. Transit infrastructure is closely tied to citizens' sense of belonging and urban identity; when a tram line reaches a neglected neighbourhood, it is perceived as an act of inclusion and recognition, whereas exclusion from the network exacerbates feelings of marginalisation and neglect.

Crucially, the Sarajevo case underscores that infrastructure constitutes social structure. The gaps in the transit system reflect and reinforce the city's historical fractures, including wartime divisions, the administrative fragmentation, and the post-socialist shifts. Yet, these gaps are not immutable. Recent improvements, such as the extension of tram and trolleybus lines and the procurement of modern low-floor vehicles, have already begun to narrow some disparities. Public response to these changes has been largely positive, indicating a latent demand for, and enthusiasm toward a more connected city. The research also highlighted the broad public awareness of inequity (as illustrated by 72% of surveyed Sarajevans who recognise the unequal accessibility of transport) and a shared desire for improvement. This provides a mandate for policymakers: citizens acknowledge the problem and are likely to support measures that promise greater fairness and efficiency in mobility.

From a theoretical standpoint, Sarajevo exemplifies the concept of mobility justice in action. It demonstrates how the distribution of mobility opportunities - who can move freely and who faces obstacles - is a matter of justice and rights within the city. The empirical evidence from Sarajevo reinforces what scholars like Sheller (2018) and Lucas (2012) have argued: to build inclusive cities, it is essential to explicitly address the uneven geographies of mobility. In Sarajevo's post-conflict context, there is also a temporal dimension to consider: making mobility equitable is part of addressing past injustices (the siege-induced isolation, the post-war neglect of certain areas) and preventing these historical divides from solidifying in the future. In other words, mobility is not just about the present movement of people, but about the city's trajectory toward a more equitable form of urbanization.

The governance analysis indicates that technical fixes alone are insufficient. Investments must be coupled with institutional coordination and community involvement. A coherent metropolitan transport vision, spanning municipal and entity boundaries, is essential to avoid duplication, ensure connectivity, and optimize resource use. Encouragingly, strategic

frameworks like the Sustainable Urban Mobility Plan (2020) explicitly articulate this vision, emphasizing accessible, affordable mobility “for all citizens” and linking it to social inclusion outcomes. The challenge ahead lies in effective implementation and sustained political will.

In closing, the Sarajevo experience offers lessons not only for BiH but for other cities in Southeast Europe and beyond that grapple with similar issues of inequality, transition, and divided governance. It shows that urban transport can either perpetuate segregation or promote integration. The difference lies in adopting a people-centred, justice-oriented approach to mobility: one that explicitly aims to connect the disconnected, remove transport barriers for the poor and vulnerable, and ensure that moving around the city a shared right rather than a privilege.

Study Limitations and Further Research

While the mixed-methods approach offered a comprehensive understanding of mobility landscape of Sarajevo, several limitations should be acknowledged.

First, spatial coverage was limited to five primary neighbourhoods (Dobrinja, Ilidža, Grbavica, Hrasnica, and Vogošća). More distant municipalities such as Ilijaš, Pazarići, Tarčin, Semizovac, Srednje, and Nišići were not included due to logistical constraints and differing administrative jurisdictions. These peripheral areas ought to be incorporated in future studies to allow for a comprehensive metropolitan comparison.

Second, although the survey sample (n = 150) captured diversity across age, gender, and locality, it was not fully statistically representative of Sarajevo’s total population. As such, the quantitative findings are best interpreted as indicative trends rather than population-level estimates.

Finally, time and resource constraints limited the scope and duration of ethnographic immersion. Longitudinal fieldwork or “before-and-after” studies following the completion of new tram or trolleybus extensions (e.g., Ilidža–Hrasnica) could yield deeper insights into how infrastructure changes affect everyday mobility and social inclusion over time.

Future research should therefore aim to broaden the geographic scope, combine subjective and objective data, and explore the long-term social impacts of transport investments, thereby advancing both empirical understanding and policy relevance of mobility justice in Sarajevo.

Recommendations

Based on the findings, the following key recommendations are proposed to advance a more inclusive and equitable public transport system in Sarajevo:

1. *Develop an Integrated Metropolitan Transport Authority:* To address governance fragmentation, stakeholders should create a coordinating body or platform that brings together Sarajevo Canton, municipalities (including East Sarajevo), and transit operators. Such an authority could oversee unified route planning, scheduling, and ticketing throughout the metropolitan area. A single integrated ticket or fare system would greatly benefit riders who currently navigate multiple jurisdictions. As noted in the ANUBiH (2020) report, inter-governmental coordination is a precondition for effective reform. An integrated authority can also better prioritize investments based on a region-wide needs basis, ensuring peripheral communities are not overlooked due to administrative boundaries.

2. *Expand Service Coverage to Underserved Areas:* Building on recent projects, Sarajevo should continue to extend public transport into areas currently considered “transit deserts.” The tram line extension to Hrasnica and the trolleybus revival to Vogošća are steps in the right direction; next steps could include improving bus frequency to settlements like Hadžići, Rakovica, or other outskirts, and creating feeder links to main tram corridors. A coverage analysis can identify any clusters of population that still lack convenient access to a transit stop (e.g. more than 500m away) and target those for new routes or on-demand shuttles. Even low-cost interventions, such as rerouting existing bus lines to loop through poorly served neighbourhoods, can make a difference. Every additional connection helps to “stitch together” the city and reduce spatial exclusion.

3. *Improve Affordability and Ticketing Options:* To tackle economic barriers, the Canton government and transport providers should consider fare reforms. Possible measures include introducing a means-tested subsidy or a discounted “social ticket” for low-income riders (e.g. unemployed individuals, large families) to ensure transport is not a disproportionate financial expense. Another step is implementing time-based transfer policies (for instance, one ticket valid for 90 minutes on any mode), which would eliminate the penalty of paying twice for one journey with connections. Modernizing the ticketing system (smart cards or mobile

payments) could facilitate such flexibility while also gathering usage and mobility data on passenger patterns. Ultimately, the goal should be that the cost of commuting is not a deterrent for job seekers or a strain on those with tight budgets. International examples show that affordable transit increases ridership and yields societal benefits by connecting people to opportunities (Lucas, 2012). Sarajevo's policymakers could pilot a program of free or half-price transit for certain groups (such as seniors during off-peak hours or youths going to school) and evaluate its effectiveness on mobility and inclusion.

4. *Prioritize Reliability, Frequency, and Quality of Service*: While this study emphasized structural inequalities, many respondents also highlighted everyday service quality issues, notably delays, overcrowding, and poor vehicle condition, as daily frustrations. Improving reliability and comfort system-wide will disproportionately help those who depend on transit (since wealthier car users are less affected by public transport quality). Therefore, investments in preventative maintenance (to reduce breakdowns), hiring and training drivers (to adhere to schedules and improve passenger service), and expanding the fleet (to ease overcrowding) are important. For example, if 38% of users cite delays and 32% cite crowding as top problems, addressing these through better operations management and slightly increased frequency at peak times would make transit more attractive and respectful for riders. Quality improvements also tie into inclusion – ensuring buses are not only running but are fully accessible (low-floor, with space for wheelchairs and strollers) and safe.

5. *Enhance Accessibility for the Vulnerable (Universal Design)*: A striking finding was the extent to which certain groups, like persons with disabilities, feel forgotten by Sarajevo's transport. To create an inclusive system, infrastructure upgrades should follow universal design principles. This includes continuing the rollout of low-floor trams and buses, installing ramps or elevators at key stations and overpasses, and improving sidewalks and crossings leading to stops. Moreover, "softer" measures like clear signage, audio announcements for the visually impaired, and driver training to assist disabled passengers can make a substantial difference. Implementing these changes not only benefits people with disabilities but also helps the elderly, pregnant women, and anyone with mobility challenges. Participants in our study frequently mentioned broken sidewalks or pedestrian obstacles as deterrents to even reaching transit.

A coordinated effort by city authorities to fix pavements and lighting around transit stops, particularly in peripheral areas, would improve both safety and accessibility. In line with this, personal security on transit must be addressed, especially for women at night. The Sarajevo Open Centre (2023) survey reporting over 90% of women felt unsafe using public transport after dark highlights an urgent issue. Solutions could include better lighting at stops, CCTV in vehicles, and perhaps a campaign or dedicated app for easier reporting of harassment. Making transit safe for women and other vulnerable users is essential for true inclusivity.

6. *Community Engagement and Participatory Planning*: Sarajevo's authorities should leverage local knowledge by involving communities in transport planning. The Living Lab approach, already piloted, could be expanded into permanent citizen advisory councils or periodic public forums on mobility. When planning a new bus route or adjusting service, consulting the residents who will use it often yields valuable insights (e.g. preferred routings, timing) that improve the outcome and build public support. In our participatory mapping exercise, residents identified "trouble spots" (like a missing pedestrian bridge or an unsafe crossing) that might not be obvious to planners working behind a desk. Incorporating such feedback can lead to targeted small-scale interventions that greatly enhance usability, for example, adding a marked crosswalk near a bus stop so that people can reach it safely. Furthermore, participation can help bridge the trust gap in this post-conflict society. If people see their input valued, such as being invited to evaluate a pilot service or co-create solutions, it can increase their sense of ownership and belonging. Sarajevo's recent Sustainable Urban Mobility Plan was formulated with stakeholder input; continuing that spirit into implementation (e.g. through workshops in various neighbourhoods) will help ensure that the plan's inclusive vision is realized on the ground.

7. *Sustained Investment and Equitable Funding*: Finally, none of the above is possible without adequate and well-directed funding. Sarajevo should pursue a sustainable financing model for public transport that might include a mix of local budget allocation, higher-level government support, and external funding (loans or grants). It is important that investment decisions be guided by principles of equity – e.g. not only investing in a shiny metro for the city centre while neglecting basic bus service in the outskirts. A balanced approach could dedicate a portion of every

major transport investment specifically to accessibility improvements or peripheral extensions. For instance, if a new tram is purchased, authorities should simultaneously fund the upgrade of a suburban bus route. Given tight budgets, innovative approaches like congestion charging or parking fees in the city centre could both manage demand and generate revenue earmarked for public transport improvements; this approach has been implemented successfully in cities such as London and Singapore. The economic case should be made that inclusive mobility has long-term societal payoffs: reducing unemployment (by connecting people to jobs), increasing consumer activity (people can reach markets and shops), and lowering social welfare costs in the long run.

By implementing these recommendations, Sarajevo can make significant strides in closing the mobility gap between its haves and have-nots. In doing so, the city would not only improve daily convenience for thousands of residents, but also advance broader goals of equity, reconciliation, and economic vitality.

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Javni prevoz i prostorna nejednakost u postkonfliktnom Sarajevu: izazovi upravljanja i inkluzivna mobilnost

Sažetak: Sarajevski sistem javnog prevoza odražava duboke prostorne i socioekonomske nejednakosti oblikovane postsocijalističkim i postkonfliktnim kontekstom. Ovaj rad analizira kako fragmentirano upravljanje i neravnomjerna dostupnost prevoza doprinose isključenosti, posebno u perifernim područjima. Na osnovu kombinovanog pristupa, ankete sa 150 stanovnika, oko 40 intervjuja, participativnog mapiranja i analize politika, istraživanje pokazuje jasne razlike između dobro povezanog centra i slabije usluženih rubnih naselja. Stanovnici prijavljuju duža putovanja, nepouzdan prevoz i ekonomske prepreke poput skupih karata. Fragmentirano upravljanje na općinskom, kantonalnom i entitetskom nivou otežava koordinisano planiranje. Javni prevoz nosi i simboličku vrijednost – nove tramvajske i trolejbuske linije doživljavaju se kao znak reintegracije. Rad zagovara inkluzivne politike mobilnosti radi veće jednakosti, kohezije i pristupa prilikama.

Ključne riječi: javni prevoz, socijalna inkluzija, prostorna nejednakost, urbano upravljanje, Sarajevo