

Urban mobility in perspective: new perspectives on the dynamics of the contemporary city

In recent years, studies on urban mobility have advanced significantly, with an increase in academic production and diversification of approaches. These approaches integrate urban, environmental and socio-spatial inclusion themes, highlighting the complexity and plurality of concepts associated with renewed perspectives on urban mobility. Mobility has become a central pillar of contemporary urbanization, reflecting an essential component of global urban daily life. More than just physical displacement, urban mobility represents a distinct capital, characterized by the continuous flow of people, goods and information, and its expanded understanding goes further, also encompassing crucial aspects in the structuring of cities.

Sheller and Urry (2006) point out that studies in this area have adopted a more holistic perspective, integrating environmental and social aspects. Ascher (1995, 2004) discusses the implications of changes in the speed of transportation and multiple mobilities, highlighting their effects on urban structuring and the emergence of a hypertext society, driven by information technologies. Seeking reflections from the perspective of sustainability, Banister (2011) suggests, based on a reassessment of the relationship between distance, speed and time, a new urban dynamic focused on reducing distances and speeds and interpreting urban arrangements in a renewed way. Vasconcellos (2001, 2018) redirects discussions on mobility in the Brazilian context, broadening the understanding of the subject based on data that indicates inequalities in access to the transport system. In this vein, there have been investigations from the perspective of urban mobility as justice and equity (Silva, Pinto and Bertollini, 2019; Straatemeier and Bertollini, 2020; Pereira, Schwanen and Banister, 2017) that have considered accessibility, understood as the opportunities that can be reached within a given time or travel cost, as a fundamental principle for thinking about mobility. This approach highlights urban mobility from the viewpoint of distributive justice and equity and, by considering accessibility as the key to a comprehensive reflection on mobility, sheds light on the challenges surrounding urban inequalities and democratic access to the city.



The rapid increase in the mobility of people and goods is reshaping the urban fabric, often in a context of urban fragmentation, health crises and climate change, challenging planning and daily life in cities. These transformations demand an in-depth review of how we conceive and use our urban spaces. In Latin American cities, challenges such as accelerated population growth, inadequate urban planning, limited transport infrastructure and dependence on individual vehicles are emphasized by Vasconcellos (2001), resulting in congestion, pollution and increased travel times. He points out that many large cities in developing countries have adapted in recent decades to the efficient use of the automobile, a movement strongly linked to the interests of the emerging middle classes in the process of capitalist accumulation. At the same time, there has been a decline in the public transport system, the result of an approach aimed at discouraging its use as the main means of motorized transport.

In Brazil, the critical situation of too many vehicles, daily traffic jams and increasing air pollution demands urgent attention. The lack of investment in sustainable alternatives, such as bike lanes, non-conventional fuels and effective fare integration, in favor of efficiency in public transport, exacerbates this problem, disproportionately impacting the most vulnerable populations. On the other hand, some cities have adopted significant urban mobility projects, including the creation of exclusive bus lanes and the expansion of metro networks, as well as investment in complementary and alternative modes. However, the effectiveness of these initiatives is often compromised by the fragmentation of public policies, especially regarding the intertwining of transport and land use, as well as resistance to entrenched cultural changes.

Inertia in the integration of policies and the lack of investment in infrastructure are factors that intensify these difficulties, constituting significant obstacles to the implementation of lasting solutions to the challenges of urban mobility. Faced with this panorama, a critical reassessment of current strategies is essential, prioritizing an approach that is both inclusive and sustainable in urban mobility planning. This is essential to guarantee a future with more opportunities and fairness for all population strata.

In other words, the last few decades have witnessed an adaptation to the intensive use of the car, reflecting a model of privatization of mobility linked to the interests of the elites and the emerging middle classes in the context of capitalist accumulation. Although there is routine criticism of the automobile for generating congestion and pollution, in general what we see is that investments in infrastructure for the automobile still outstrip those for public transport. This leads to unstable and insufficient transport services, which fuels a policy of dissuading its use as the main means of transportation, except for those who have no other option.

In this context of disparities, unequal access to mobility emerges as a critical factor, directly influencing the social and economic inclusion of individuals. Peripheral neighborhoods, often inhabited by poor communities and ethnic minorities, face major systemic deficiencies in terms of transport infrastructure and service, restricting access to key activities such as employment, health and education.

Promoting sustainable urban mobility transcends the mere implementation of operational objectives; it is a fundamental right, reflected in the equitable distribution of the various means of transport, whether motorized or not, and the expansion of access to urban opportunities. However, the persistence of inequalities points to the need to go beyond conventional approaches, adopting innovative strategies guided by the values of democracy, solidarity and social justice.

We can cite a few themes that have sparked research into how cities can tackle the challenges of urban mobility in an integrated and sustainable way:

- **Integrated Urban Planning:** planning that considers mobility from the earliest stages can result in more accessible and sustainable cities (Cervero, 2004 and 2013; Glaeser, 2011).
- **Mobility as a Service (MaaS):** the integration of various modes of transport into a single platform, accessible via mobile apps, is emerging as an innovative solution, encompassing options such as public transport, bicycles and electric scooters, as well as shared cars (Jittrapirom et al., 2017; Utriainen and Pöllänen, 2018).
- **Public Spaces and Tactical Urbanism:** practical and cost-effective interventions, such as the installation of temporary bike lanes and the expansion of sidewalks, encourage sustainable means of transport and contribute to the humanization of urban spaces (Gehl, 2010; Lydon and Garcia, 2015).
- **Policies to Discourage Car Use:** measures such as the implementation of urban tolls, low-emission zones and the promotion of car-free days represent effective strategies to reduce dependence on private vehicles (Shoup, 2005; Newman and Kenworthy, 1999).
- **Community participation:** including the community in decisions regarding urban mobility ensures that the proposed solutions meet the real needs of the population, fostering social inclusion and strengthening the sense of belonging (Litman, 2019; Carmona, 2021).
- **Technology and Innovation:** the adoption of advanced technologies, such as autonomous vehicles, artificial intelligence for traffic optimization and integrated transport management systems, is key to overcoming urban mobility obstacles (Townsend, 2013; Ratti and Claudel, 2016).
- **Active Mobility:** encouraging the use of active means of transport, such as walking and cycling, has public health benefits, reduces pollution and improves the quality of life in urban centers (Pucher and Buehler, 2012; Newman and Kenworthy, 1999).

Many of these themes permeate the reflections in the articles in this publication, deepening them or bringing reflections more in line with the dynamics of cities in the Global South, as well as methodologies and case studies that improve new ways of looking at mobilities.

This dossier brings together a series of articles by researchers, most of whom are Brazilian, highlighting the complexity and multiple dimensions of contemporary urban mobility and offering innovative perspectives and critical analyses on the subject. The texts address fundamental aspects such as equity, urban segregation, the impacts of health and energy crises, climate change, transport infrastructure, public space planning, transport-oriented development, public policies, planning and governance, technological innovations, active mobility and micromobility, as well as exploring

the everyday experiences of diverse groups, differentiated by age, race and gender. In this way, the dossier contributes to contemporary debates on urban mobility and socio-spatial equity, broadening the scientific dialog between researchers from Latin America and other international realities.

To make the dossier easier to read and compose a sequence of interest, the articles are structured into four thematic sections.

The first section, “Views, concepts and dynamics of urban mobility”, delves into the various facets of urban mobility, highlighting the understanding of its infrastructures and the discrepancies in access, in a global scenario in which movement and connection are becoming increasingly important. This segment discusses the current mobility background, analyses the relationship between infrastructure planning and territorial dynamics in Brazil, emphasizes the importance of social participation in mobility equity and examines the role of transport networks in urban development and continuing inequalities.

Bianca Freire-Medeiros’ article, *The metropolis of network capital: socio-spatial mobilities and urban inequities*, explores access asymmetries and mobility regimes in highly connected cities. The study introduces concepts such as “dwelling in movement” and “grammar of displacements” to understand the interaction between mobilities, social structures and territories, proposing a critical look at the inequalities generated by these regimes.

Jeferson Cristiano Tavares, in *Trajectories of infrastructure in Brazil. Conceptions, operationalizations, and conceptual frameworks in perspective*, investigates the challenges between infrastructure planning and territorial dynamics, proposing innovative approaches to infrastructure projects that respect and value local characteristics, with a view to minimizing adverse impacts.

In *Social participation and mobility justice in Brazil*, Aline Fernandes Barata highlights civic participation in urban mobility planning as an essential tool for tackling mobility injustices, especially in informal settlements. The study contrasts the limited effectiveness of formally established spaces for participation with the effectiveness of community participation spaces, which emerge in response to the inadequacy of official planning.

Thales Mesentier and Romulo Orrico, in *Transportation oriented to urban development*, reflect on the impact of transport network planning on urban inequalities, suggesting that careful, accessibility-oriented planning can promote more equitable and sustainable urban development, countering the patterns of centralization and decentralization that often perpetuate social disparities.

Section 2, “Urban planning and socio-spatial inequalities”, analyzes the relationship between urban planning, mobility and socio-spatial inequalities, also considering the impact of new technologies. The articles in this block deal with the dynamics between urban planning and mobility in São Paulo, socio-spatial inequalities in the city, the role of commuting time in spatial segregation and the effect of transport apps on accessibility and urban mobility inequalities.

Deiny Façanha Costa and Paula Freire Santoro, in *Between zones and urban plans: models mobilized in the Axes in São Paulo*, explore the evolution of the relationship between urban planning and mobility in São Paulo, analyzing the interaction between urban legislation and its consequences on zoning and urban design in the city.

The article *Social inequalities, territories of vulnerability, and urban mobility*, by Eduardo Castellani Gomes dos Reis and Maura Pardini Bicudo Vêras, looks at socio-spatial inequalities in São Paulo, based on statistical data, discussing how social segregation is allied to the difficulty of entering the labor market, the search for housing and the daily struggles for equitable opportunities and mobility. It emphasizes the need for urban mobility to become a central public policy for tackling socio-spatial inequality.

Ricardo Barbosa da Silva, in *Spatio-temporal segregation: commuting time that unite and separate classes and races*, examines the role of commuting time in spatial and temporal segregation in São Paulo, showing significant differences between different social groups and areas of the city. It reveals that, in São Paulo, the longest commuting times are typical of the poorest and blackest populations in the peripheries, while the shortest times are associated with the upper classes and whites in the central areas.

Francisco Minella Pasqual and Julio Celso Borello Vargas, in *Ride-hailing apps and equity: an accessibility study in Porto Alegre/RS*, analyze the impact of transport apps on accessibility in Porto Alegre, noting that although apps increase accessibility in central areas, inequalities persist; they suggest that apps could be used to improve access to services for low-income populations.

Section 3, “Sustainable mobility, contexts and scales”, analyzes sustainable mobility and inequalities at different urban scales and contexts. The articles in this section range from academic mobility in Cuernavaca, Mexico, to the dynamics of sustainable urban mobility in small towns, cycling infrastructure in Rio de Janeiro and disparities in bike-sharing systems in São Paulo and Rio de Janeiro.

Blanca Rebeca Ramírez Velázquez, in *Trajectories of social and urban mobility: students in Cuernavaca, Morelos, Mexico*, proposes a broad view of mobility that includes social, occupational and residential aspects, focusing on academics in Cuernavaca, Mexico, and their life trajectories.

The study by André Pinto dos Santos, Juliana Silva Almeida Santos and Daniella do Amaral Mello Bonatto, *Sustainable urban mobility in small city: the case of Conde-PB*, examines sustainable urban mobility initiatives in small towns, emphasizing the importance of participatory management and the support of academic institutions, even in the absence of a Mobility Plan.

Filipe Ungaro Marino, in the article *Mobility, citizenship, and inequality: analyzing the cycling infrastructure of Rio de Janeiro*, looks at the distribution of cycling infrastructure in Rio de Janeiro, comparing different districts such as Bangu and Copacabana, and discusses the relationship between cycling infrastructure and citizenship, highlighting disparities in active urban mobility.

Victor Callil, Daniela Costanzo and Juliana Shiraishi, in *Bike-sharing and inequalities: the cases of São Paulo and Rio de Janeiro*, investigate inequalities of race, gender, income and residence in bike-sharing systems, observing an increase in the participation of women and more frequent use by black, brown and indigenous people in intermodal trips. The systems, although concentrated in central areas, serve as an important tool for accessibility and urban mobility

The final section, "Inclusion, safety and diversity in urban space", discusses inclusion, safety and diversity as essential elements for improving micromobility and active mobility. The articles in this section range from the effectiveness of free public transport for the elderly to women's choice of safe routes and children's perceptions of walkability.

Renata Marè, Osvaldo Gogliano Sobrinho and Maria Ermelina Brosch Malatesta, in the article *Effectiveness of free public transport for the inclusion of older people (São Paulo)*, discuss free public transportation for the elderly in São Paulo, highlighting the increased access to services and opportunities; but they also point out challenges in the transportation system and on the streets that impact the mobility of the elderly, suggesting measures to improve the mobility of this population.

In *Sidewalks as places for socialization: urban equity for people with reduced mobility*, Rafaela Aparecida de Almeida, Leticia Peret Antunes Hardt and Carlos Hardt assess the condition of sidewalks for people with reduced mobility in Curitiba, considering aspects of accessibility, maintenance and safety. The study shows differences between technical assessments and users' perceptions, highlighting the importance of understanding individual needs and desires in the urban space.

Pedro Vitor Costa, Maria Rúbia Pereira and Cauê Capillé, in *Insurgent uses in transit architectures: actions as plan, trick, and feint*, analyze cultural, political and economic uses coupled with traffic infrastructures on the outskirts of Rio de Janeiro, discussing how architecture and urban planning can contribute to less unequal realities.

In the article *Where do women choose to walk? Female safety in public spaces*, Laís Regina Lino and Milena Kanashiro investigate the factors that influence women's choice of safe paths in public spaces in Londrina-PR, highlighting the relationship between the presence of people and the feeling of safety.

Ana Paula de Oliveira Freitas, Leandro Cardoso and Rogério Faria D'Ávila, in *Citizen science and the (re)discovery of walkability from a child and youth perspective*, develop a walkability assessment tool from a children's perspective, integrating pedestrians' perception as a determining factor and using a participatory methodology.

The selected articles and their respective sections provide a rich and multidimensional view of urban mobility, linking infrastructure, planning, social inequalities, sustainability and social inclusion, reflecting on contemporary challenges and solutions for 21st century cities.

Finally, the complementary article *Favela: the challenge of living in the São Paulo Metropolis*, by Suzana Pasternak and Lucia Maria Machado Bógus, portrays the urban evolution and inequality manifested in the favelas of the Metropolitan Region of São Paulo, highlighting the continuous growth of the periphery and the marked urban segregation in the metropolis.

Through the selection of articles in this dossier, we concluded that overcoming the challenges of urban mobility in Latin American cities, particularly in Brazil, requires comprehensive strategies that transcends merely transport infrastructure issues, encompassing social, cultural and environmental aspects. It is essential to adopt innovative and inclusive urban mobility practices, integrating them into urban planning, with the expansion of active mobility infrastructure and the implementation of public policies that encourage the conscious use of means of transport, encourage sustainable alternatives and ensure equitable access, thus contributing to fairer, healthier and more sustainable cities.

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